DESIGN, IMPLEMENTATION, AND EVALUATION OF A SPORT-FOCUSED MENTAL HEALTH SERVICE DELIVERY MODEL WITHIN A CANADIAN CENTRE FOR MENTAL HEALTH AND SPORT

KRISTA VAN SLINGERLAND

Thesis submitted to the University of Ottawa
in partial fulfillment of the requirements for the degree of
Doctorate of Philosophy

School of Human Kinetics
Faculty of Health Sciences
University of Ottawa

Abstract

The overall aim of this Participatory Action Research (PAR; Chevalier & Buckles, 2013; Lewin, 1946) project was to design, implement, and evaluate a specialized sport-focused mental health service delivery model for competitive and high-performance athletes, integrated within a broader Canadian Centre for Mental Health and Sport (CCMHS). A transformative mixed methods research design (Cresswell, 2014) guided by the PAR approach was employed across three phases during which (a) a sport-specific mental health service delivery model for competitive and high-performance athletes was collaboratively designed by stakeholders (Design Phase [Study 1]), (b) the model was pilot-tested within the CCMHS (Implementation Phase [Study 2]), and (c) the model was evaluated to understand whether practitioners and service-users perceived the care delivered / received within the model to be acceptable and appropriate (Evaluation Phase [Study 3]).

Design Phase (Study 1). The purpose of study 1 was to (a) perform an environmental scan of the Canadian mental health care and sport contexts, and (b) design a sport-focused mental health service delivery model for competitive and high-performance athletes within a broader CCMHS. To meet these objectives, 20 stakeholders from the sport and mental health sectors explored (a) the availability and effectiveness of mental health care for competitive and high-performance Canadian athletes, and (b) the strengths, weaknesses, opportunities and threats associated with creating a CCMHS, via two iterations of stakeholder-led focus groups (Rio-Roberts, 2011). The resulting data informed a subsequent Group Concept Mapping (GCM; Burke et al., 2005; Kane & Trochim, 2007; Rosas & Kane, 2012) activity undertaken by stakeholders, which produced an actionable framework (i.e., concept map) organized into six clusters that visually represented the elements (e.g., services, personnel, organizational

structures) that stakeholders deemed important to include in the sport-focused mental health care model (e.g., bilingual services, a triage system, sport-specialized practitioners). In addition, the results revealed that misconceptions about the competitive and high-performance population's mental health and experience of mental illness were widespread and required clarification before significant advances could be made. This led the group to develop six principles designed to establish a common language and understanding upon which to build effective models of mental health care, improved programming, and strategic education for Canada's competitive and high-performance athletes, coaches, and organizations (Article 1). The framework that emerged from the GCM activity served to guide the remainder of the project, and supported actions (e.g., develop eligibility criteria to access services, hire a team of mental health practitioners with sport competencies [i.e., CCMHS Care Team]) to build the CCMHS and test the model during the Implementation Phase (Article 2).

Implementation Phase (Study 2). The purpose of study 2 was to pilot test the mental health service delivery model designed during the first phase of the research project. To do so, an illustrative case study (Keegan et al., 2017; Stake, 1995, 2005) was carried out to demonstrate *how* (i.e., intake, referral, and service delivery processes) the CCMHS Care Team provided mental health care to a high-performance athlete, and what outcomes resulted from this process. Data to inform the case study was gathered through a review of the service-user's clinical documents (e.g., intake summary, session notes), and qualitative interviews (n = 2) with the athlete's Collaborative Care Team lead and the CCMHS Care Coordinator. Document analysis (Bowen, 2009) was used to organize the details of the case found within clinical documents under the categories of the case study framework (i.e., intake and referral process, service-user description, integrated care plan, and outcomes), while a conventional descriptive content

analysis (Hsieh & Shannon, 2005) served to extract salient data from the interviews to further build out the case study. Results revealed that sport significantly influenced the onset and experience of mental illness for the athlete service-user. The lead practitioner's sport-specific knowledge played a significant role in the diagnosis, treatment and recovery of this athlete given the nature of the athlete's concerns and high athletic identity. Findings support the notion that specialized mental health care models and teams are necessary to address sport-related factors that can pose unique threats to the diagnosis and treatment of mental illness in athletes (Article 3).

Implementation Phase (Study 3). The purpose of study 3 was to evaluate the acceptability and appropriateness of the mental health service delivery model designed during Phase 1 and implemented during Phase 2. Qualitative data from three sources (CCMHS practitioners, CCMHS service-users, and CCMHS stakeholders) were collected and analyzed using a multi-step, multi-method process, including16 one-on-one semi-structured interviews with CCMHS practitioners (n = 10) and service-users (n = 6), and a meeting with CCMHS stakeholders (captured via meeting minutes). In addition, 47 documents (e.g., clinical, procedural) created during the implementation phase of the project by CCMHS team members (i.e., practitioners, stakeholders, members of the board of directors) were used to triangulate the other data (Carter, Bryant-Lukosius, DiCenso, Blythe, and Neville, 2014). The Framework Method (Gale et al., 2013; Ritchie and Spencer, 1994) was used to analyze, synthesize, integrate, and interpret the dataset. The deductive data analysis approach taken was guided by the seven components of acceptability developed by Sekhon and colleagues (2017), and the Canadian Medical Association's definition of appropriate care. Findings showed that the care provided and received within the CCMHS service delivery model was perceived to be acceptable and

appropriate, and each component of the model uniquely contributed to practitioner and service-user experiences. For example, the collaborative interdisciplinary approach contributed to the ethicality of the model, promoted the professional development of team members, and enabled Pan-Canadian service provision. The sport-centered nature of care was perceived to enhance the ethicality of services delivered, effectiveness of care, and affective experience of service-users. Implications for further research and practice were discussed in light of areas of the model that emerged as needing improvement (e.g., prohibitive cost of care, practitioner burden from collaborative processes and procedures).

Overall, the findings of the research project demonstrate that collaborative approaches to inquiry and practice can be successfully applied in sport to guide stakeholders in developing and testing novel models to improve the health outcomes of sport participants. The research also shows that an interdisciplinary team of practitioners can successfully deliver sport-focused mental health care that is acceptable and appropriate to service-users. Lastly, the project provides data on the first known empirical project to design, implement and evaluate a specialized mental health service delivery model applied nationwide in person and virtually with competitive and high-performance athletes experiencing mental health challenges and symptoms of mental illness.

Keywords: Participatory Action Research, Mental Health, Mental Illness, Athletes, Competitive and High-Performance Sport, Collaborative Care Model

Acknowledgements

A project as large, unprecedented, and ambitious as this one truly takes a "village" to bring to fruition, and so the number of people who have my utmost gratitude is overwhelming. First and foremost, thank you to Dr. Natalie Durand-Bush. Nat, thank you for including me in your beautiful vision for a better future for Canadian sport; for the gift of your time, expertise, and wisdom; for opening doors to a bright future for me; for your steadfast determination and perseverance when mine wavered; for your unconditional support. You began as a mentor but have grown into a friend, confidante and member of the family. May the CCMHS be an enduring tribute to D'Arcy's life, love of sport, and legacy.

Thank you to my thesis committee members Dr. Göran Kenttä and Dr. Benoit Séguin. Göran, tack for sharing the Swedish model with us, for your collaboration, enthusiasm, and unwavering support. I hope to have fika in Stockholm again soon. Benoit, thank you for your leadership and curiosity – your fresh perspective was a welcome addition to our team.

Poppy, I am so fortunate to call such a brilliant, compassionate, grounded woman my friend and colleague. The conscientiousness, non-judgement, and reliability you brought to the role of Care Coordinator (and your life in general) was truly the glue that held our team (and me!) together. Thank you for making me a better human, scholar, and friend, simply by being you!

To the CCMHS Care Team – you are the heart and soul of the Centre and have my utmost gratitude! Thank you for being outstanding practitioners, people, and colleagues; for your trust, faith, enthusiasm, and resilience in leaning into the uncertainty of starting the CCMHS. Thank you to the athletes, coaches, performing artists and support staff who chose the CCMHS, who participated in the research, and who continue to be ambassadors of the Centre and champions

for mental health in their sport communities. To CCMHS stakeholders, Board of Directors, and volunteers – thank you for the gift of your precious time, ideas, lived experience, and expertise. Thank you for believing in this idea and for rowing the boat with us through uncertain waters.

Thank you to my lab mates (past and present) Connor, Jonathan, Jen, Kylie, and Jamie, who were always willing to lend a hand, who were eager to learn, and who could always be counted on for sage advice, new ideas, and a sympathetic ear. Thank you to my wonderful friends Taylor, Christina, Lindsay, Lisa, Spencer, and Devin, for your endless support, restorative hikes, runs and workouts, for a shoulder to cry on, the best hugs, and your unconditional love.

Thank you to my family for all of your love, support, advice, and patience, and for instilling in me an unquenchable curiosity, a love of language, a deep well of determination, and appreciation for helping others. Thank you to my wonderful in-laws for supporting me, especially down the home stretch, with prepared meals, chocolate deliveries, and words of encouragement. Last, but not least, thank you to my incredible fiancé, Evan. Your wonderful way of encouraging, loving, and accepting me exactly as I am, has allowed me to flourish because I am rooted in the solid ground of our partnership.

The commencement of this dissertation also marked the start of my own journey to heal from maltreatment in sport that severely compromised my mental health. Throughout the healing process I have been searching for meaning and triumph over that experience. I can now see that the change in the sport system this work has engendered gives my experience meaning, and the more than 150 athletes, performing artists, coaches and support staff that the CCMHS has helped – they are the victory.

Statement of Contribution

I, Krista Van Slingerland, was responsible for collecting and analyzing the data in all three phases of the research project. I lead the authorship of the four resulting articles which constitute this doctoral dissertation. Dr. Natalie Durand-Bush, the thesis supervisor was directly involved in every aspect of the research. She contributed to the conceptualization of the project, co-founded the CCMHS with myself as part of this project, and provided regular support throughout the data collection and analysis processes. Dr. Durand-Bush provided constructive feedback and revision on all four articles and reviewed the entire dissertation. Drs. Göran Kenttä and Benoit Séguin (thesis supervisory committee members) provided conceptual feedback at the proposal stage of the research. The ten co-authors of the first article (including Dr. Durand-Bush and Dr. Kenttä) assisted with the conceptualization of the article and provided feedback on the written drafts. Dr. Kenttä also reviewed and provided feedback on articles 2 and 3, particularly from a clinical perspective. As the CCMHS Care Coordinator and a participant in the research, Ms. Poppy DesClouds contributed to the conceptualization of the third article, provided data through an interview, assisted in interpreting the totality of the case study dataset, and provided critical feedback on the final manuscript, especially to ensure the anonymity of the athlete-participant was respected. Inviting research participants to co-author articles to disseminate research findings is aligned with and typical of the PAR approach. Ethics approval for the research project was obtained from the Research Ethics Board of the Office of Research Ethics and Integrity at the University of Ottawa.

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PART I

Introduction

There is a common assumption that because competitive and high-performance athletes maintain high levels of physical fitness and health, they are inherently mentally healthy as well, leading to perceptions of low prevalence of mental illness in this population (Bär & Markser, 2013). However, a growing body of research demonstrates that competitive and high-performance athletes are at the same risk as the general population of experiencing mental illness (e.g., depression, anxiety). Nadia Popov, a former member of the Canadian national women's rugby sevens program, as well as several other Canadian high-performance athletes such as Clara Hughes, Adam Van Koeverden, Emily Overholt, and Brittany MacLean, have publicly shared their struggles with mental illness: "My journey wasn't meant to end on a podium. I was standing in the hallway of a therapist's office, a year before the Olympic Games, about to learn that I was one of the one in four Canadians who experience mental illness in their lifetime" (Popov, 2017).

Moreover, research suggests that some elements of sport participation (e.g., injury, competitive failure, premature or involuntary retirement, lack of funding, unsupportive coaching practices, 'win at all costs' attitudes, fear of help-seeking due to stigma) can increase competitive and high-performance athletes' risk of experiencing mental health challenges (Reardon & Factor, 2010; Reardon et al., 2019). Moderate to intense physical activity, which is said to be important for the maintenance of health and prevention of illness, can compromise health and well-being when performed at professional or elite levels without proper recovery and support (Peluso & de Andrade, 2005). At the highest levels, sport can be all-consuming, requiring significant investments of time and energy and a relinquishment of personal autonomy, leading some

athletes to develop singular identities and neglect other avenues of personal development (Hughes, & Leavey, 2012). High athletic identity has been linked to overtraining and burnout, syndromes that are reported to affect between 20 and 60% of high-performance athletes (Schwenk, 2000). Overtraining and burnout have been linked to mental illness such as anxiety, depression, and eating disorders in athlete populations (Reardon et al., 2019). Indeed, sport uniquely influences athletes' experience of, and outcomes associated with compromised mental health and mental illness (Henriksen et al., 2020; Lundqvist, 2011).

Evidence suggests that due to this distinctive influence, athletes may benefit from working with mental health practitioners who understand their unique context and specialized needs (e.g., Gavrilova & Donahue, 2018; Henriksen et al., 2020; Jewett, Kerr, & Dionne, 2020; Rice et al., 2016). Unfortunately, in Canada, very few mental health practitioners specialize in sport, leaving a gap in the availability of appropriate care for athletes struggling with mental health challenges or mental illness. For example, at the onset of the current study, the Canadian Sport Psychology Association (CSPA) listed only 29 out of 94 MPCs as being dually trained in *clinical* psychology/counselling *and* sport (i.e., 13 psychologists, 16 counsellors/psychotherapists, 0 social workers). With over 18,000 psychologists and 49,000 social workers reportedly working in Canada (Statistics Canada, 2015), this represents an incredibly small percentage of available mental health practitioners who possess the competencies to provide mental health care informed by a sport lens. It is unlikely that this small group of dually trained practitioners were meeting the demands of the millions of Canadian engaging in sport each year, one in five of whom were likely to experience a mental illness (Smentanin et al., 2011).

There are a range of practitioners who can positively contribute to mental health support and care delivered to athletes who are experiencing challenges and illness in Canada. Such

practitioners include psychologists (Canadian Psychological Association, 2018), counsellors / psychotherapists (Canadian Counselling and Psychotherapy Association, 2021), psychiatrists (Canadian Medical Association, 2017), social workers (Canadian Association of Social Workers, 2021) and Mental Performance Consultants (MPCs[1]; CSPA, 2018). Given the unique contributions of each type of practitioner (i.e., credentials and scope of practice), and given the low numbers of specialized professionals available to provide sport-focused care to competitive and high-performance athletes, a collaborative approach to service delivery could arguably help to fulfill existing gaps. Collaborative models of health and mental health care have been recommended due to evidence that this approach to care delivery improves not only access to care but also quality of care (e.g., acceptability) and patient outcomes (e.g., adherence to medication, symptom reduction; American Psychiatric Association, 2016; Kates et al., 2011).

The aforementioned gaps provided the rationale to carry out the current research project of which the aim was to design, implement, and evaluate a sport-focused mental health service delivery model integrated within a broader CCMHS to support competitive and high-performance athletes in achieving and sustaining positive mental health and recovering from mental illness.

Review of Literature

The following section will present an overview of the literature pertaining to the mental health of competitive and high-performance athletes, and what is known about this population's experience of mental illness. It will explore sport-specific factors that can impact athletes' experience of mental health and mental illness, and review what is known about help-seeking amongst athletes. Lastly, collaborative models to address compromised mental health and mental

[1] All MPCs can promote and strengthen mental health but only those clinically trained can address mental illness.

illness will be explored, with particular focus given to the strengths and weaknesses of the Canadian sport and mental health systems in the context of athletes seeking and receiving care. The section will conclude with the rationale for initiating the current research project, and an overview of the research questions and objectives that guided each project phase.

Mental Health and Mental Illness

Mental health can be understood as the sum of an individual's emotional, psychological, and social well-being (Westerhof & Keyes, 2010). Globally, mental health is characterized by a state of well-being in which individuals are capable to think, feel, and behave in ways that allow them to enjoy life, realize their potential, cope with the normal stresses of life, work productively, and contribute to their community (World Health Organization, 2014).

Emotional well-being (EWB) is a bidimensional construct reflecting the degree to which an individual perceives to experience both positive and negative affect (Keyes, 2000). Typically, positive EWB reflects high levels of positive affect and low levels of negative affect (Keyes, 2005). Psychological well-being (PWB) reflects the extent to which an individual is thriving in life (Ryff, 1989). A multi-dimensional construct, PWB is comprised of six dimensions: self-acceptance, personal growth, purpose in life, environmental mastery, autonomy, and positive relations with others (Ryff, 1995). Positive psychological functioning is characterized by the perception of more positive than negative self-attributes (Keyes, 1998). Lastly, social well-being (SWB) reflects an individual's social health, that is, their perceptions of society and functioning in public-facing life. Keyes (1998) described five dimensions of social well-being that combines the work of a number of scholars (e.g., Bandura, Maslow): social acceptance, social actualization, social contribution, social coherence, and social integration. Positive SWB reflects

the perception that society is generally engaging, one's community is safe, and that one contributes to society in a positive way (Keyes, 1998).

Aside from being multidimensional, well-being is a highly subjective experience that is both global (e.g., satisfaction with overall life) and context-specific (e.g., satisfaction with specific domains of life; Diener, Suh, Lucas, & Smith, 1999; Keyes, 2005). Subjective well-being represents more than an absence of illness; it is an individual's assessment of their quality of life and reflects the presence of positive indicators such as happiness, satisfaction with life and positive affect (Diener, 1993; Diener, 2009). Given this subjectivity, the standards upon which individuals evaluate their well-being may differ considerably from normative standards and from person to person (Diener & Ryan, 2009).

According to Keyes and colleagues (Keyes, 2005; Peter, Roberts, & Dengate, 2011; Westerhof & Keyes, 2010), the presence of mental health is described as *flourishing*, while the absence of mental health is characterized as *languishing*. Just as illness and ill-being in the context of an individual's health are described in terms of symptomology (e.g., a dry cough and runny nose are symptoms of a cold), flourishing mental health is described as symptoms of *hedonia* (emotional vitality, positive feelings towards one's life, and positive functioning; Keyes, 2005). More than simply the absence of mental illness, the indicators of positive mental health for each dimension of well-being are summarized in Table 1.

Mental illness is characterized by alterations in an individual's thoughts, feelings and behaviours, leading to significant distress and impaired functioning in personal and professional activities (PHAC, 2006; World Health Organization, 2010). Mental illness is an umbrella term that encompasses all diagnosable mental health disorders such as mood disorders (e.g., depressive disorder, bipolar disorder), anxiety disorders (e.g., post-traumatic stress disorder,

obsessive-compulsive disorder, agoraphobia), schizophrenia, eating disorders (e.g., bulimia, binge-eating disorder), and substance use disorders (Public Health Agency of Canada, 2006).

Table 1.

Indicators Reflecting Flourishing Mental Health

Dimension	Indicator
Positive emotional functioning (i.e., emotional well-being)	
Positive affect	Regularly cheerful, interested in life, in good spirits, happy, calm and peaceful, full of life.
Quality of life	Mostly or highly satisfied with life overall or in domains of life.
Positive psychological functioning (i.e., psychological well-being)	
Self-acceptance	Holds positive attitudes toward self, acknowledges and likes most parts of self and personality.
Personal growth	Seeks challenge, has insight into own potential, feels a sense of continued development.
Purpose in life	Finds own life has a direction and meaning.
Environmental mastery	Exercises ability to select, manage, and mold situations to suit personal needs.
Autonomy	Is guided by own socially accepted internal standards and values.
Positive relations with others	Has or can form warm and trusting relationships with others.
Positive social functioning (i.e., social well-being)	
Social acceptance	Holds positive attitudes toward, acknowledges, and is accepting of human differences.
Social actualization	Believes people, groups, and society have potential and can evolve or grow positively.
Social contribution	Sees own daily activities as useful to and valued by society and others.
Social coherence	Interested in society and social life and finds these meaningful and somewhat intelligible.
Social integration	Feels a sense of belonging to, and comfort from, a community.

Note. Taken from Keyes, 2005.

The most recent revision of the International Classification of Diseases (ICD-11) identifies more than 400 types of mental illnesses that vary from single, short-term episodes to chronic disorders (World Health Organization, 2018). Notably, individuals can experience symptoms of a mental illness and associated impairment at levels that fall below clinical diagnostic thresholds (referred to as *mental health challenges* in this dissertation). In the Canadian context, one in five experience a mental illness each year and one in four, during the course of their lifetime (Hanlon, 2012). Approximately four thousand Canadians die by suicide each year, a disproportionate number of them being men (Government of Canada, 2019b). Canadians aged 15-24 are the most vulnerable to mental illnesses, substance dependencies, and suicide; of significance, 53% of Canada's carded high-performance athletes belong to this cohort (Sport Canada, 2020).

Dual Continuum Model. Traditionally, mental health and mental illness have been theorized as existing at opposite ends of a spectrum of functioning, however, this promotes a limited understanding of these concepts and their relationship (Westerhof & Keyes, 2010). In response, Keyes (2002) proposed a dual-continuum model (Figure 1) that positions mental health and mental illness as related but distinct phenomena that contribute to the overall functioning of individuals throughout the lifespan. Within this conceptualization, increases in symptoms of mental illness do not necessarily correlate to decreases in symptoms of mental health (Westerhof & Keyes, 2010). Further, according to Keyes' model, a state of total mental health is characterized as *flourishing*, while an absence of mental health is described as *languishing* (Keyes, 2005). Individuals whose level of mental health does not fit either of these descriptions are said to be *moderately* mentally healthy. Interestingly, symptoms of mental illness, when coupled with *languishing* mental health produce greater functional impairment than when coupled with moderate or flourishing mental health (Keyes & Michalec, 2010). Thus, within this

more comprehensive understanding, individuals living with mental illness can maintain a high quality of life, level of functioning and well-being through the cultivation of mental health assets (factors, resources and capabilities that enhance the ability of individuals, organizations, communities, and populations to maintain and sustain well-being; Morgan & Ziglio, 2007).

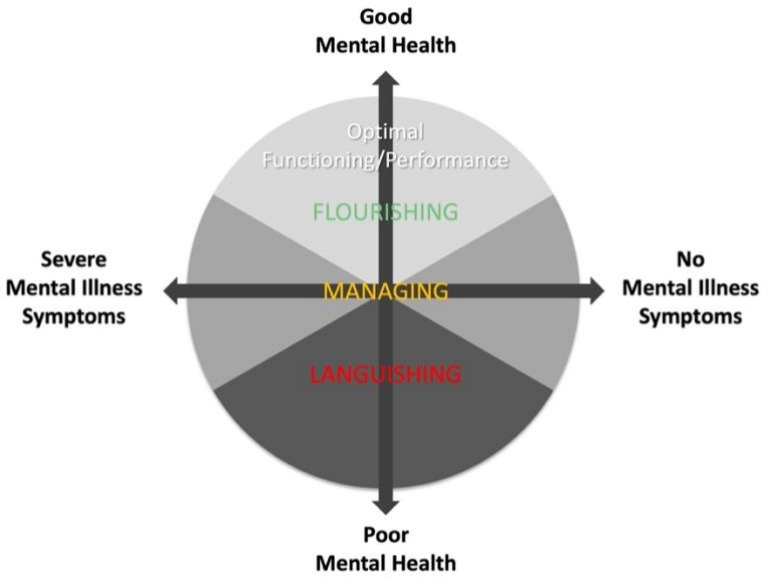

Figure 1. Dual Continuum Model (Keyes, 2002)

ɔm service-users for a recovery-oriented understanding of mental illness in response to the empirical evidence generated by mainstream psychiatry, which did not resonate with users' lived experience (Ramon, Healy, & Renouf, 2007). While the medical model of illness conceptualizes recovery as a return to pre-morbid levels of functioning, the recovery-oriented approach recognizes that symptoms of mental illness may never be fully remediated, but persons experiencing these ongoing symptoms can live a satisfying, hopeful, and autonomous life nonetheless (Mental Health Commission of Canada, 2021). Further, the dual continuum model is aligned with the participatory approach

adopted to guide this project (see *Participatory Action Research* in Part II), which gives primacy to lived experience as true and legitimate evidence (Bergold & Thomas, 2010).

The Dual Continuum Model is particularly useful for understanding, describing and addressing mental health within the sport context because it can be used to demonstrate that the experience of fluctuating levels of mental health and mental illness is universal to all people, including athletes. Thus, Keyes' (2002) model provides a basis on which to challenge the "othering" of athletes experiencing mental illness or languishing mental health as different from the norm or desired archetype (Uphill, Sly, & Swain, 2016). This is of particular importance given the stigma attached to mental health and mental illness in sport (Bauman, 2016), which will be further discussed under the *Help-Seeking* header of this section. Further, due to its assets-based approach, which highlights the importance of mental health promotion and the prevention of distress (in addition to the treatment of mental illness), Keyes' model offers a less stigmatizing framework from which to build mental health interventions in sport (Uphill, Sly, & Swain, 2016). Specific mental health interventions designed for athletes and guided by Keyes' model are, however, lacking in the literature and are thus warranted.

Canadian Sport and Mental Health

In Canada, the delivery of sport is organized into a number of "levels" according to the purpose of participation, including (a) recreational sport, (b) competitive sport, and (c) high-performance sport (Canadian Sport Policy, 2012). The aim of r*ecreational sport* is to promote fun, health, social interaction, and relaxation (Canadian Sport Policy, 2012). Participation in sport at the recreational level contributes to adults' fulfillment of 150 minutes per week of moderate intensity physical activity, per Canada's Physical Activity Guidelines (Tremblay et al., 2011). A substantial body of literature links physical activity to enhanced mental health across

the lifespan (e.g., Biddle & Asare, 2011; Penedo & Dahn, 2005). This has fueled the assumption that athletes' frequent participation in sport results in high levels of mental health and low levels of mental illness in this population. Indeed, there is some evidence to support this belief. For example, recreational sport participation has been linked to a myriad of positive psycho-social outcomes in children and adolescents, including fewer mental health problems, fewer symptoms of depression and anxiety, lower levels of suicidal ideation and fewer suicide attempts (Brown et al., 2007; Eime, Young, Harvey, Charity & Payne, 2013; Vella, Gardner, Swann, & Allen, 2019). It is less clear, however, whether these benefits to well-being extend to athletes who pursue sport at the competitive and high-performance levels, in which a number of stressors unique to sport are brought to bear on participants.

Competitive sport offers athletes the opportunity to "systematically improve and measure their performance against others in competition" (Government of Canada, 2019a, p. 3), while *high-performance sport* involves the systematic pursuit and achievement of world-class results at the highest levels of international competition (Government of Canada, 2019a). Athletes competing at these levels fulfil the following criteria, put forth by Araújo and Scharhag (2016) and adapted based on the Canadian context:

(a) They devote several hours to sport training and competitions throughout the week with the aim of improving their performance and results; the time they devote to sport(s) exceeds the time they spend pursuing other extracurricular activities.

(b) They actively and regularly participate in sport competitions at the local / regional, provincial, national, international, or professional level.

(c) They are formerly registered with a local /regional, provincial, national, or professional sport club or organization regulating sport.

Unfortunately, little research has investigated the mental health and functioning of athletes performing at the highest levels (e.g., Olympic / Paralympic; Gucciardi, Hanton, & Fleming, 2017; Rice et al., 2016; Uphill, Sly, & Swain, 2016), particularly Canadian athletes. However, Van Slingerland, Durand-Bush and Rathwell (2018) examined the mental health functioning of Canadian university student-athletes (N = 388), finding that they exhibited moderate to high levels of emotional, social and psychological well-being. Although 18% of athletes disclosed a previous mental illness diagnosis, they reported moderate mental health functioning across time. This finding supports Keyes' (2002) notion that the presence of mental illness does not automatically imply low levels of well-being and languishing.

In another study with varsity athletes, Dubuc-Charbonneau and Durand-Bush (2015) examined ill-being (i.e., burnout, stress), well-being (i.e., mental health), and self-regulation capacity levels in eight athletes participating in a season-long self-regulation intervention. Of particular relevance to the current research, the sample of athletes experienced ill-being (i.e., burnout and high levels of stress) as well as well-being levels that were below the normative standard for university students at the onset of the intervention. However, burnout and stress levels significantly decreased and well-being and self-regulation capacity levels significantly increased as the intervention progressed. This study demonstrates the value of sport psychology interventions to support athletes who are struggling with ill-being and mental health challenges.

The studies by Van Slingerland et al. (2018) and Dubuc-Charbonneau & Durand-Bush (2015) comprise a handful of investigations on the topic of mental health in a varsity sport context. More globally in high-performance sport, researchers have primarily focused on ill-being and the experience of mental illness in competitive and high-performance athletes (e.g., Reardon et al., 2019).

Mental Illness in Competitive and High-Performance Athletes

Despite the assumption that high-level athletes are impervious to mental health challenges and mental illness, a fledgling, yet growing body of research provides evidence to the contrary. For example, among high-performance athletes, researchers have reported prevalence rates of depression as low as 4% and as high as 68% (Hammond et al., 2013; Schaal, et al., 2016). Similarly, the prevalence of eating disorders in high-performance athlete populations have been found to be as high as 19% in men and 45% in women (Reardon et al., 2019). Researchers have also documented athletes' experience of burnout (e.g., Dubuc-Charbonneau & Durand-Bush, 2015; Gustafsson, Hassmén, Kenttä, & Johansson, 2008), attention-deficit / hyperactivity disorder (ADHD; e.g., White, Harris, & Gibson, 2014), and post-traumatic stress disorder (PTSD; e.g., Bateman, 2019), to name a few. On the whole, competitive and high-performance athletes experience mental illness at a similar rate compared to the general population (Åkesdotter, Kenttä, Eloranta, & Franck, 2020; Government of Canada, 2017; Kessler et al., 2007; Reardon et al., 2019). What is unique about this population, however, is the sport-specificity of antecedents and outcomes associated with compromised mental health and mental illness.

In addition to global factors (e.g., biopsychosocial influences such as genetics, personality, socio-economic status), a number of factors distinctive to sport can impose a unique negative influence on athletes' mental health and experience of mental illness if they are not adequately managed (Lundqvist, 2011). For example, injury (including sport-related concussion), overtraining, sport culture (e.g., norms associated with mental toughness, body composition, homophobia, masculinity), coaching styles, athletic identity, training demands (e.g., overloading, travel), and hazing are some elements unique to sport that can harm athletes' well-being,

exacerbate existing mental health challenges or trigger the development of new ones (Arthur-Cameselle, Sossin, & Quatromonin, 2017; Castaldelli-Maia et al., 2019; Drew et al., 2018; Gulliver, Griffiths, Mackinnon, Batterham, & Stanimiovic, 2015; Gustafsson et al., 2008; Kreher & Schwartz, 2012; Marks, Mountjoy, & Marcus, 2012; Ramis, Torregrosa, Viladrich, & Cruz, 2017; Stirling, 2008; Stirling & Kerr, 2013). Success in high-level competitive sport necessitates dedication to meet high standards and levels of competence, limiting athletes' opportunity to pursue alternative interests or social contacts beyond sport (Lundqvist, 2011; Tracey & Elcombe, 2004). Thus, as sport becomes a more central tenet of an athlete's life and identity, it stands to reason that context-specific factors can impact their well-being to a larger extent. This is notable considering that identity plays a significant role in the experience of and recovery from mental illness. For example, those who experience mental illness must contend with threats to or the loss of their identity and find new ways of making sense of their world and experiences (Buck et al., 2012). Therefore, it may be important for competitive and high-performance athletes to receive mental health care from practitioners who understand the development and outcomes associated with athletic identity.

As with the risk factors influencing athletes' well-being described above, symptoms of compromised mental health and mental illness are associated with outcomes unique to the sport context. For example, symptoms of mental illness such as anxiety disorders, depressive disorders and ADHD increase athletes' risk of injury (including sport-related concussion) and prolong recovery following injury (Alosco, Fedor, & Gunstad, 2014; Herring et al., 2016; McCrory, et al., 2008; Nelson et al., 2016). Further, symptoms of eating disorders, anxiety disorders, ADHD, and depression are associated with negative performance outcomes, skill errors and changes in psychomotor functioning in athlete samples (Gullén & Sánchez, 2009; Morgan, O'Connor,

Ellickson, & Bradley, 1988). Similarly, standard pharmacological approaches to the treatment of common mental illnesses such as anxiety and depression can produce adverse effects on athletes' health and performance, such as weight gain, dangerously low blood pressure, lethargy, and difficulty sustaining training load (Johnston, & McAllister-Williams, 2016; Paul et al., 2003; Reardon, 2016). Despite the demonstrably significant body of literature that explores mental illness in athlete populations, very few studies have been conducted with Canadian athletes. Researchers have suggested that the unique influence of sport on athletes' mental health and experience of mental illness warrants the design of sport-focused models of mental health care (e.g., Rice et al., 2016), however, no such models have been put forward in the literature to date. Importantly, the health and performance-related impacts of compromised mental health and mental illness drive fear and stigma that contribute to the high threshold for help-seeking observed among athletes (Bauman, 2016; Delenardo & Terrion, 2014; Gucciardiet al., 2017; Gulliver & Griffiths, & Christensen, 2012). One can argue that offering athletes more specialized and relevant mental health care may improve help-seeking, which may, in turn, contribute to decreasing stigma in the sport community.

Help-seeking among athletes. Despite the evidence outlined above demonstrating that competitive and high-performance athletes experience mental health challenges and disorders, there are several barriers that deter this population from seeking support. Stigma – the devaluation, disgracing, and disfavouring of individuals with mental illness (Abdullah & Brown, 2011) – is one of the most significant barriers to athletes seeking help (Gulliver et al., 2012). Sport culture, primarily norms associated with winning, mental toughness, and masculinity, underpin the stigma attached to mental illness in the world of sport (Bauman, 2016). Stigma drives the fear that seeking support may negatively impact athletes' career (e.g., being

deselected, losing playing time, or being bullied; Castaldelli-Maia et al., 2019), and can deter athletes from offering support to a struggling teammate for fear of being vicariously labelled as "weak" (Delenardo & Terrion, 2014). For example, Swedish researchers found that high-performance athletes prefer to seek support for mental health challenges from practitioners *outside* of the core medical team associated with their national team to avoid sharing this information with decision-makers who could impact their career (Akesdotter, Kenttä, Eloranta, & Franck, 2020). Other barriers to help-seeking among athletes include managing a busy schedule, a lack of availability of practitioners who understand the sport context, and previous negative experiences with providers (Gulliver et al., 2012; Lopez & Levy, 2013). Thus, those providing support to athletes struggling with mental health challenges ought to understand the unique way in which sport influences the experience and outcomes associated with mental illness for athletes (Bär & Markser, 2013; Reardon & Factor, 2010). Indeed, research has shown that athletes can benefit from working with mental health practitioners who understand their unique sport context (Gavrilova & Donahue, 2018; Jewett, Kerr, & Dionne, 2020). For this reason, a number of scholars (e.g., Rice et al., 2016) and organizations (e.g., Glick & Horsfall, 2009; Henriksen et al., 2019; Henriksen et al., 2020; Moesch et al., 2018) have advocated for the development of approaches to mental health care that are specific to the athlete population. Up until the current study was carried out, such approaches had yet to be formally developed and empirically tested.

Mental Health Care in Canada

Mental health related services, treatment and supports in Canada are delivered by a range of practitioners and volunteers who work within a fragmented health system that is often difficult to navigate (Mental Health Commission of Canada [MHCC], 2012). Canadians may access

mental health services that are insured by provincial health plans through primary (family physicians) or secondary care (psychiatrists) pathways or can access a number of private practitioners (clinical and registered psychologists, counsellors, psychotherapists, and social workers) whose fees are not covered by provincial health plans but are sometimes underwritten (up to a maximum dollar amount) by private insurers (Canadian Association of Mental Health, 2021). There are strengths and weaknesses to accessing each type of care. For example, although primary care options are covered under provincial health plans, more than 4 million Canadians do not have access to a family doctor (Statistics Canada, 2020). Further, research demonstrates that family physicians have varying degrees of comfort and competency in discussing mental health challenges and identifying mental illness in patients (McCarthy et al., 2013). Psychiatrists are medical specialists in the diagnosis and treatment of mental illness, yet they are difficult to access (wait times to see a psychiatrist are 12 months on average across the country; Canadian Mental Health Association, 2017). They prescribe to a medical model of illness that does not always resonate with patients' lived experience (Ramon, Healy, & Renouf, 2007). Private mental health care providers such as psychologists, counsellors, psychotherapists, and social workers can be costly, difficult and confusing to access, and most (except psychologists) are not trained to diagnose mental illness (Canadian Mental Health Association, 2018; Government of Ontario, 2020; Sareen et al., 2007; Statistics Canada, 2019). Given the benefits and drawbacks of each care pathway described, and the complexity of the healthcare system, there has been a movement towards collaborative approaches to the provision of mental health support that draws on the strengths of a variety of practitioners (Gillis, 2011).

Collaborative models of mental health care. Health service delivery models or frameworks are sets of abstract concepts that, together, create a vision to guide health care

practice (Alligood, 2002; Fawcett and Desanto-Madeya, 2013). Collaborative care models are team driven, population-focused, measurement guided, and evidence-based (American Psychiatric Association, 2016). Collaborative health care teams are typically comprised of professional (e.g., physicians, psychologists) and non-professional (e.g., administrators) members who apply their complementary expertise, knowledge, and skills to positively impact care outcomes (Nancarrow et al., 2013). In practice, the amount of collaboration between practitioners can be understood as occurring on a spectrum from no collaboration (i.e., independent parallel practice), to moderate (i.e., consultation or referral), or high levels of collaboration (i.e., interdependent co-provision of care; Jones & Way, 2006). Collaborative approaches are increasingly being applied to mental health service provision and typically include the integration of behavioural health specialists (e.g., psychologists) into primary care settings. This approach has shown to improve patient outcomes, reduce costs, reduce provider burden in complex cases, produce new approaches to optimize care, and reduce stigma (American Psychiatric Association, 2016; Jones & Way, 2006).

Collaborative approaches to service delivery are also commonly applied in sport settings in order to optimize athletes' physical health as well as mental and athletic performance (Reid, Stewart, & Thorn, 2004). What had not been developed, tested, and evaluated, until the current research was undertaken, was a collaborative care model applied to the mental health of athletes. Furthermore, there are limited examples in the literature of formalized collaborative approaches to care being applied to guide the practice of multiple *mental health* professionals collaborating to care for a single patient. The scarcity of mental health practitioners in Canada who are able to apply a sport lens to care combined with the specialized needs of athletes necessitated the development of such a framework.

Mental health care in sport. As previously described, competitive and high-performance athletes have unique needs (e.g., structured training programs, recovery periods, and diets; multidisciplinary coaching/support teams), creating nuances to caring for athletes with mental health challenges that are typically irrelevant in non-athlete populations (Glick & Horsfall, 2009). It is therefore unsurprising that researchers and practitioners have argued that athletes' mental health care needs are best addressed by practitioners with competencies in the domains of both sport and psychology (Uphill, Sly, & Swain, 2016). Unfortunately, there is no one professional educational program and designation in Canada providing practitioners with the competencies (i.e., knowledge and skills) to promote mental health, prevent, diagnose, and treat mental illness, and acquire a deep understanding of athletic performance and the sport context. Mental Performance Consultants (MPCs) help athletes develop "mental and emotional skills, techniques, attitudes, perspectives, and processes that lead to performance enhancement and positive personal development" (Canadian Sport Psychology Association [CSPA], 2017). However, while MPCs are trained in sport sciences and have foundational knowledge and competencies in counselling and psychology, most of them are not *clinically* trained as psychologists, counsellors, or social workers. As previously mentioned, less than one third of MPCs (i.e., 29 out of 94 CSPA Professional Members) were dually trained in 2017 at the onset of the current research. Today, in 2021, only 4 more have been added to this list. Further, very few traditional licensed mental health practitioners in Canada specialize in sport.

Figure 2 depicts a continuum of mental performance and mental health practitioners working in Canadian sport, and the mental health challenges and mental illnesses they are trained to address across a continuum of indicators (Durand-Bush, 2021; Mental Health Commission of Canada, 2017). The demonstrated lack of availability of specialized services for athletes

struggling with mental health challenges or mental illness represents a significant gap in service provision in Canada. This is why collaboration between professionals (e.g., psychologists and MPCs) is necessary to optimize Canadian competitive and high-performance athletes' mental health and athletic performance. With over 7 million Canadians regularly engaging in sport (Heritage Canada, 2013), and one in five Canadians experiencing mental health disorders every year (Smentanin et al., 2011), there could be as many as one million athletes struggling with mental health challenges on annual basis requiring timely and appropriate mental health care. It was thus imperative to address this need and void. This served as the impetus to conduct the current research.

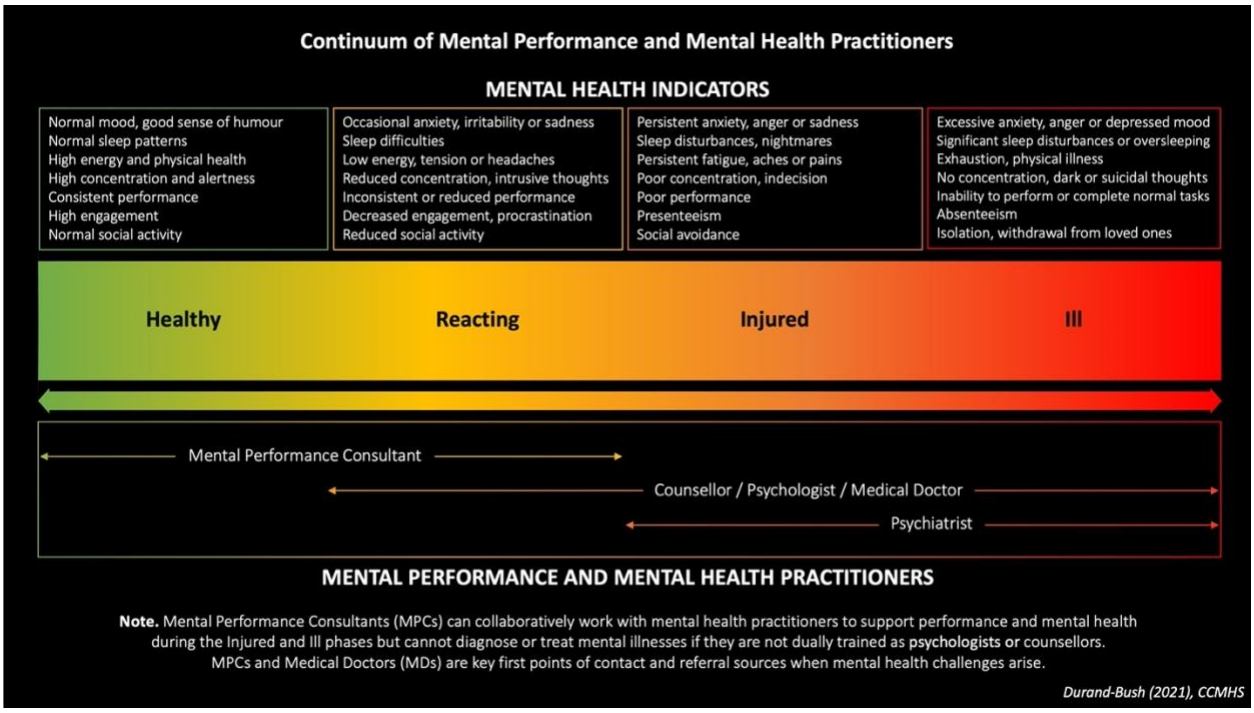

Figure 2. Continuum of mental performance and mental health practitioners working in sport in Canada (Durand-Bush, 2021).

Rationale for Current Research

In sum, it has become clear that competitive and high-performance athletes experience mental health challenges and mental illness (Reardon et al., 2019). However, there is little to no empirical data pertaining to Canadian athletes. Research and applied practice demonstrate that the context of sport uniquely influences the onset, experience, and outcomes of athletes facing these challenges (Henriksen et al., 2020; Lundqvist, 2011). Scholars and organizations have therefore called for approaches to care that are specific to athletes and competitive sport (Moesch et al., 2018; Rice et al., 2016). Collaborative care approaches have several benefits including improved patient outcomes and decreased burden to providers (Gilbody, Bower, Fletcher, Richards, & Sutton, 2006; Kates et al., 2008). However, they have never been implemented and tested to improve mental health in the context of sport. Given these benefits, and the importance of joining the forces of the limited number of dually trained practitioners to deliver sport-specific mental health care sport in Canada, a team-based collaborative approach leveraging the competencies of multiple mental health practitioners may be ideal to deliver appropriate mental health services to Canadian athletes. This was the impetus for developing and carrying out the current research, which was grounded in Keyes' (2002) model of mental health and mental illness and guided by a PAR framework to meaningfully engage individuals with lived experience of mental illness in the fulfillment of the research aims, described below.

Purpose and Research Questions

The broad aim of this research project was to design, implement, and evaluate a sport-focused mental health service delivery model integrated within a Canadian Centre for Mental Health and Sport (CCMHS) to improve mental health and mental illness in competitive and high-performance athletes. The project was guided by a PAR (Chevalier & Buckles, 2013; Lewin,

1946) approach and spanned three phases (i.e., Design, Implementation, Evaluation), each of which involved an independent study. The objectives and research questions associated with each phase and study are outlined in Table 2.

Table 2.

Overview of Objectives and Research Questions by Project Phase

Objective(s)	Research Question(s) (RQ)
Design Phase (Study 1)	
(a) Perform an environmental scan of the Canadian mental healthcare and sport contexts (b) Collaboratively design a sport-focused mental health service delivery model for competitive and high-performance athletes within a broader CCMHS	1. What are stakeholders' perceptions / experiences regarding the strengths, weaknesses, availability and effectiveness of mental health services for Canadian competitive and high-performance athletes? 2. What elements should be included in a sport-focused mental health service delivery model implemented in a broader CCMHS?
Implementation Phase (Study 2)	
(c) Pilot test the mental health service delivery model designed in Phase 1	3. How does the CCMHS Care Team apply the mental health service delivery model designed in Phase 1 to provide mental health care to a competitive or high-performance athlete?
Evaluation Phase (Study 3)	
(d) Evaluate the acceptability and appropriateness of the mental health service delivery model	4. Is the sport-centered, mental health service delivery model implemented within the CCMHS acceptable and appropriate?

PART II

Supplemental Methods and Results

The following section serves as a supplement to the methods and results sections included in the four articles in Part III of the dissertation. The purpose of this section is to provide the reader with a broad view of the methodological approach taken to carry out the research project as a whole as well as relevant additional data that were not addressed in the four articles since they focus on single objectives / research questions and are bound by journal page limits. Greater detail is provided on how the PAR approach informed the research project, how the three-phase mixed methods research design unfolded chronologically, and how the data collected and analyzed in each phase were integrated within the four articles and the general discussion. The PhD candidate acknowledges the unconventional nature of including supplemental data before presenting results, however, due to the unique, flexible, multifaceted, and co-constructed process of PAR, it does not always make sense to present PAR projects using conventional formats:

> The fact that different PAR descriptions will be organized in a wide variety of ways is welcome, appropriate, and inevitable, yet regardless of the approach they choose, authors will convey their projects most clearly and vividly by carefully thinking ahead about how to organize their report (Smith, Rosenzweig, & Schmidt, 2010, p. 1124).

Thus, the information included in this section will afford the reader a complete and clear picture of the research project in its entirety, as it occurred chronologically. The reader is invited, based on preference, to read this section first, at the same time, or after reading Part III of the dissertation in which the four articles are presented.

Multiphase Mixed Methods Research Design

A transformative multiphase mixed methods research design (Cresswell, 2014) was employed to fulfill the overall aim of the project, which was to design, implement, and evaluate a sport-focused mental health service delivery model within a Canadian Centre for Mental Health and Sport. Transformative research designs adopt an advocacy framework (e.g., PAR) in order to engage a community of people in democratic dialogue to address a concern and foster social change (Sweetman, Badiee, & Cresswell, 2010). PAR was chosen to guide the current research project and is further elaborated in the following sections.

The research project occurred over three phases (Design Phase, Implementation Phase, Evaluation Phase), which spanned 32 months (December 2017 – August 2020). While all phases were grounded in PAR, a distinct research design was employed in each phase in order to best address the associated objective(s) and research question(s). Figure 3 depicts the methodology (i.e., the general approach taken to study the topic and meet the objective(s); Sparkes, 2015), methods (i.e., the specific tools or techniques used to collect and analyze data; McMillan & Schumacher, 2006; Sparkes, 2015), and outcomes (i.e., resulting articles) of each research phase. Ethical approval was granted by the University of Ottawa Research Ethics Board for carrying out the research project (see Appendices A and B for consent forms).

Overall, greater priority was given to qualitative methods throughout the research project. The reason for this choice is twofold. First, the research project is largely exploratory in nature due to the novelty of both the field of research (particularly in Canada), and the applied outcomes that the project aimed to achieve. Qualitative methods are especially well-suited to the exploration of novel topics as they can provide a deep and nuanced understanding of a phenomenon that alerts researchers to avenues of potential future inquiry (Silverman, 2009).

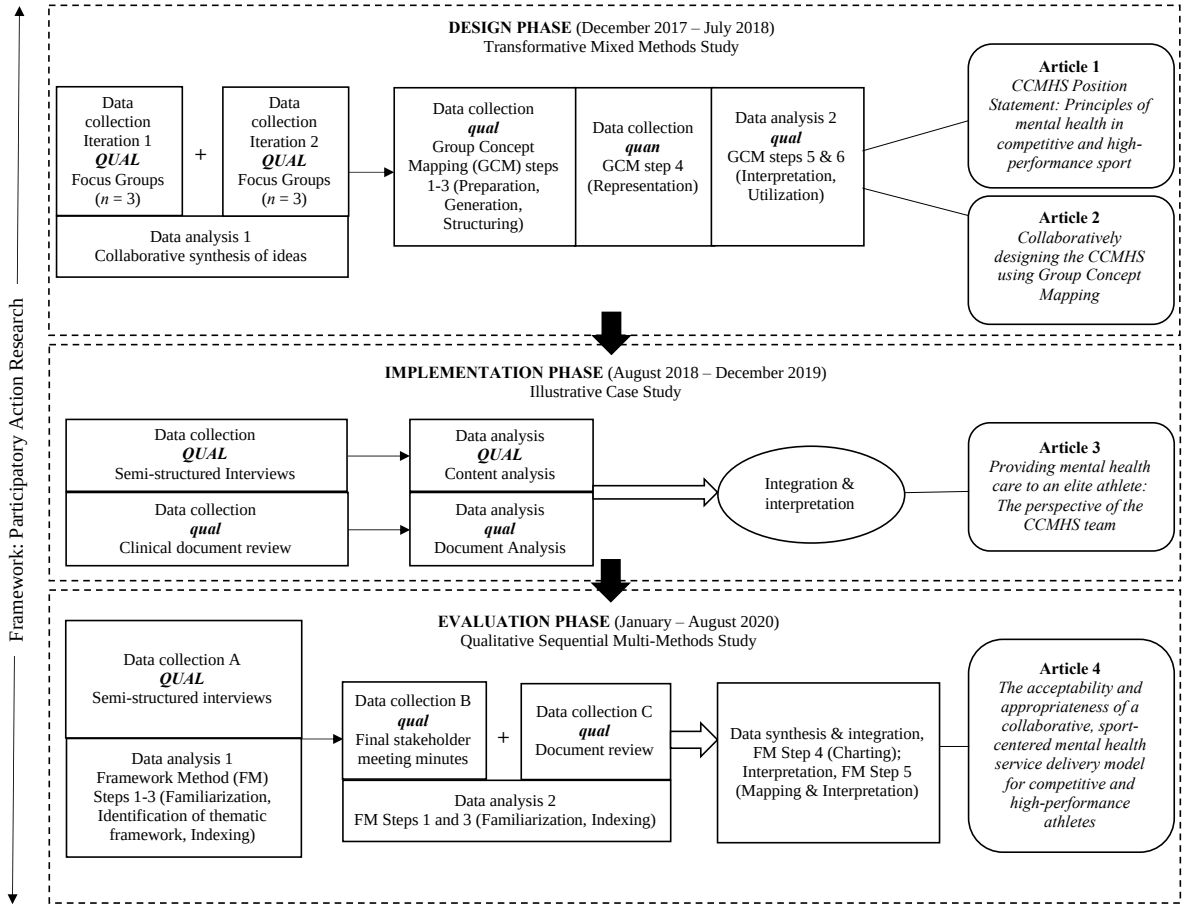

Figure 3. Research design across project phases

Second, the PAR framework, participatory paradigm, and transformative goals of the research project demanded methods that invited collaboration and gave primacy to human experiences, perspectives, and the meaning given to those experiences (Hammarberg, Kirkman, & de Lacey, 2016). This was particularly important in the present project given the goal of meaningfully engaging in the research process people living or having lived with mental illness, and/or those with vicarious lived experience of mental illness.

All three phases included qualitative data collection and analysis methods and Phase 1 (Design Phase) also included quantitative methods. The inclusion of quantitative methods in Study 1 was a pragmatic decision driven by the utility of Group Concept Mapping (GCM) as a method *and* the need to reach an objective consensus about what ought to be included in the

mental health service delivery model. The use of multidimensional scaling and hierarchical cluster analysis as part of the Structuring step of GCM ensured the results were equally representative of each stakeholders' point of view. Given the goal of PAR to dismantle social hierarchies and share power amongst diverse group members (McTaggert, 1991), the quantitative component of GCM helped to democratize the design process.

PAR. The research project was guided by PAR (Chevalier & Buckles, 2013; Lewin, 1946), a collaborative and democratic approach to the development and operationalization of knowledge, concerned with empowering individuals to facilitate social improvement through the process of knowledge acquisition (Borg et al., 2010; Schwandt, 2007). Participatory approaches to research reposition the "subjects" of inquiry as "co-researchers", embedding active participation by those with lived experience related to the research focus into the process of inquiry (Cook, 2012). PAR researchers are thus positioned as insiders studying themselves and / or collaborating with others to address an issue within their own community. The doctoral candidate and thesis supervisor were active participants in both the sport and mental health domains as researchers, practitioners and persons with lived experience of mental illness, and thus, fully participated in knowledge generation, analysis, and application throughout the project. Article 3 provides a more in-depth explanation of the doctoral candidate and thesis supervisor's ties to the sport and mental health communities.

PAR researchers draw primarily upon the participatory worldview within which knowledge is understood as embedded in the lives and experiences of community members with whom research is co-conducted (Borg et al., 2010). Levels of participation are enabled or limited by the conditions surrounding a project and experienced by individuals (e.g., time available, trust or inequalities that exist amongst participants, associated workload), and are likely to fluctuate

over time as the conditions and lives of participants change. The seven levels of PAR participation outlined by Chevalier and Buckles (2013) are described in Table 3.

In addition to being participatory, PAR is also a flexible and pragmatic approach to research, in recognition of the complexity and fluidity of real-life situations (McTaggart, 1991; Schwandt, 2007). As such, specific methods of data gathering are not prescribed, but rather, are dictated by the needs of the community of focus as discovered through the PAR cycles of planning, action, observation, and reflection (Ponterotto, 2013). Throughout the project, methodological choices were made with the dual aim of facilitating the fullest level of stakeholder participation *and* addressing the research objectives and questions within each phase of the project.

PAR was chosen to guide this research project for a variety of reasons. Firstly, the PAR approach was regarded as a way to meaningfully engage potentially marginalized individuals (i.e., persons with lived experience of mental illness) in the knowledge creation and application process. This was important because multiple factors, unique to competitive and high-performance sport, can place individuals in a vulnerable position (e.g., power dynamics in the coach-athlete relationship, norms associated with mental toughness, body composition and homophobia; Cunningham & Melton, 2011; Gucciardi et al., 2017; Sundgot-Borgen et al., 2013), particularly when they experience mental health challenges or mental illness (Delenardo & Terrion, 2014). Second, the inclusion of many voices that is a hallmark of the PAR approach (Borg et al., 2012) was seen as a means to intentionally draw on and unite a diversity of perspectives to inform the research. The inclusion of many voices was a way to bridge the gap between two domains (mental health and sport) that did not frequently intersect in research and

Table 3

Levels of Participation within PAR (Chevalier & Buckles, 2013)

Level	Description
1 – Inform and educate	Gather and share the information needed to identify problems, make plans, promote awareness on a topic or change stakeholder attitudes and behaviour.
2 – Consult	Present information, plans, and results and invite stakeholders to communicate their views on existing situations and next steps. Assess the impact of project activities after implementation.
3 – Support participation	Offer resources or incentives to engage stakeholders in the implementation of the project or program plans.
4 – Facilitate independent action	Encourage stakeholders to independently implement activities consistent with project goals.
5 – Seek group consent	Agree to pursue a plan of action only if there is informed consent from other stakeholders.
6 – Delegate authority	Transfer responsibilities to plan and carry out some activities to one or more stakeholders, within a broader joint work plan or governance structure.
7 – Decide and act jointly	Engage with all stakeholders in assessing situations, deciding what actions to take, and sharing or dividing responsibility for implementing tasks and accounting for the results achieved and resources needed.

practice and were even viewed by some as incompatible (e.g., Bauman, 2016) at the time the research commenced. Third, PAR's collaborative approach to inquiry afforded the opportunity for members of the sport and mental health domains to play an important role in the research, increasing the likelihood that the research and the outcomes (e.g., CCMHS, sport-centered mental health care model) would be accepted and adopted by the sport system following the project's conclusion (Cornwall & Jewkes, 1995). Lastly, PAR represents an approach that can be used to intentionally facilitate cultural change through research (Schwandt, 2001). Given the deeply engrained cultural norms (e.g., mental toughness; Gucciardi et al., 2017) within sport that have driven the stigma associated with mental illness, cultural change was regarded by the

doctoral candidate and thesis supervisor as important to increase acceptance of mental health challenges as well as help-seeking amongst Canada's competitive and high-performance athletes.

Stakeholder recruitment. Before the Design Phase could begin, it was necessary to identify a group of stakeholders who would participate as co-researchers for the duration of the project. Considerable time and effort were invested in identifying a list of representative individuals from the sport and mental health sectors who could make a significant contribution to the research (e.g., different types of sport and mental health practitioners, administrators, leaders, scholars, coaches, and athletes). In September 2017, 19 individuals were approached by the doctoral candidate and thesis supervisor to collaborate in the current research project. Purposive sampling (Cresswell, 2007) was used to invite stakeholders who could (a) contribute to the fulfilment of the research purpose, (b) were available and willing to participate for the duration of the project (expected minimum of two years), and (c) had an expertise[2] in sport and mental health. Recruiting individuals who had directly or indirectly experienced mental health challenges (e.g., as athletes, coaches, parents, support staff, practitioners, administrators, and/or researchers) was an important aim. Research has shown that involving service users and arguably those with indirect experience (e.g., as a caregiver) in the planning and implementation of mental health care services is associated with a number of positive outcomes such as increased acceptability and quality of services (Omeni et al., 2014). Eighteen of the 19 individuals approached to participate accepted the opportunity to join the doctoral candidate and thesis supervisor as co-researchers on the project (a list of stakeholders with their credentials and affiliations can be found in Article 1).

[2] Within the PAR approach, "expertise" is not viewed solely as an accrual of empirical knowledge on a subject; the approach also recognizes and values expertise gained through *technê* (the act of making or doing), or lived experience (Chevalier & Buckles, 2013).

Stakeholder engagement and the PAR cycle. Stakeholders were engaged in the research project through multiple stakeholder meetings (n = 5) and working group meetings (n = 3) organized to address specific issues with a subset of stakeholders. These meetings were important opportunities to formally engage stakeholders in the design, implementation, and evaluation processes. Table 4 describes each of the five stakeholder meetings, including their purpose, the number of stakeholders who attended, and the level of participation reached.

Table 4.

Stakeholder Meetings and Participation

Activity	(*n*)	Purpose	Level of Participation
		Design Phase	
Stakeholder Meeting 1 (December 2017)	20	Perform an environmental scan of the Canadian sport and mental health care contexts Develop a framework to guide the design and implementation of a sport-focused mental health care model and the CCMHS	Decide and act jointly (7)
Stakeholder Meeting 2 (March 2018)	12	Reflect on progress made since last meeting Discuss and decide how to address key service-delivery components (e.g., development of clinical protocols and guidelines)	Delegate authority (6)
		Implementation Phase	
Stakeholder Meeting 3 (October 2018)	12	Reflect on progress made since last meeting Discuss and recommend adaptations to the model and CCMHS ahead of public launch	Consult (2)
Stakeholder Meeting 4 (January 2019)	12	Reflect on progress made since last meeting Reflect on and address challenges facing the Centre and Care Team	Support participation (3)
		Evaluation Phase	
Stakeholder Meeting 5 (April 2020)	11	Reflect on progress made since last meeting Reflect on the implementation of the model, including feedback from practitioners and service-users	Consult (2)

Level of participation was based on a review of meeting minutes and the purpose of the meeting. The doctoral candidate and thesis supervisor also engaged with individual stakeholders on an ad hoc basis in instances where the stakeholders' unique skillset, network, or experience could be applied to a specific challenge or opportunity that did not require attention from the whole group (e.g., to discuss funding opportunities in the academic mental health space).

Given that PAR is a socially constructed process that must remain flexible to adapt to the fluidity of real life, no two PAR projects unfold in the same way. However, PAR is generally an iterative and cyclical process of planning, action, observation, and reflection (Kemmis & McTaggart, 1988). For example, PAR researchers might begin by collaboratively developing a flexible and strategic plan to facilitate social change (plan); they may then take action that is guided but not controlled by their plan (act); next, they may observe and record the process of acting and the effects of the actions taken (observe); lastly, they may engage in discussion to make sense of the recorded observations (reflect; Kemmis et al., 2004). With respect to the present project, researchers progressed through numerous PAR cycles (see Figure 4 below). Movement through four complete cycles of the PAR process was facilitated for the stakeholder group as a whole via the five aforementioned planned meetings (Table 4). Due to intra-individual differences in levels of participation, some stakeholders (e.g., doctoral candidate, thesis supervisor, stakeholders contributing to publications and sub-groups) completed many additional cycles of planning, action, observation, and reflection.

Design Phase (Study 1)

A transformative mixed methods research design was employed to fulfill the two objectives of the Design Phase (December 2017 – July 2018), which were to (a) perform an environmental scan of the Canadian mental health care and sport contexts, and (b)

collaboratively design a sport-focused mental health care model for competitive and high-performance athletes within a broader CCMHS. At the onset of this phase (December 2017), stakeholders (n = 20) gathered at the University of Ottawa either in person or virtually for a 2-day summit. They signed a *Collective Agreement* (Appendix C) outlining principles of engagement for the duration of the research project. The agreement clarified empirical materials to which stakeholders would have access (i.e., only those generated during stakeholder meetings), the identification of stakeholders in reports, publications, presentations and online communications, and the process through which changes to group membership and conflicts would be managed.

Methods. On Day 1 of the summit, two iterations of stakeholder-led focus groups (Rio-Roberts, 2011) formed the basis of an environmental scan of the availability and effectiveness of mental health care for competitive and high-performance Canadian athletes. Environmental scans are used to investigate external factors (e.g., social, political, economic, technological) that can impact the immediate and future success and operations of organizations or groups (Albright, 2004). The first group discussions (Iteration 1; 3 groups, n = 6-7 participants / group) focused on stakeholders' perceptions and experiences of the availability and effectiveness of mental health care in Canada for competitive and high-performance athletes. Stakeholders were grouped with peers from similar domains (e.g., athletes, coaches and IST members were in a "sport" group, psychologists and counsellors were part of a "mental health" group, and leaders in academia and sport management were part of a "leadership" group) to minimize any fear that might be involved in sharing personal experiences related to mental health with individuals of differing power or status.

During the second iteration of focus groups (Iteration 2; 3 groups, *n* = 6-7 participants / group), stakeholders were asked to discuss the strengths, weaknesses, opportunities and threats associated with creating a Canadian Centre for Mental Health and Sport. For this iteration, stakeholders were not grouped with like peers, but rather mixed so that a variety of perspectives informed each discussion. Discussions were guided by semi-structured interview guides (Appendices D and E) developed by the doctoral candidate and thesis supervisor and approved by the larger stakeholder group. Aligned with the PAR approach, each focus group was led by a different stakeholder, while a second stakeholder took notes on cue cards (one idea per card). A volunteer research assistant was also present with each group, taking notes to ensure no ideas were missed. Following each hour-long discussion, the larger stakeholder group reconvened, presented their ideas, discussed and collaboratively synthesized the results using chart paper. Following the conclusion of the focus group discussions at the end of Day 1, the doctoral candidate and a research assistant synthesized the discussion notes to create a list of *what to address* (e.g., stigma, confidentiality, funding model) and *elements to include* (e.g., services, a triage system, sport-specialized practitioners) in the design of the mental health service delivery model and CCMHS (Appendix F). The list was reviewed by the thesis supervisor, printed and given to stakeholders for the Group Concept Mapping (GCM) activity that followed on Day 2, which is comprehensively explained in Article 2 and briefly summarized below.

In order to collaboratively design a sport-focused mental health care model for competitive and high-performance athletes within a broader CCMHS, the stakeholder group (*n* = 20) participated in a GCM activity. GCM is a participatory method of data collection (Steps 1 - 4) and analysis (Steps 5 and 6) that translates thoughts and ideas and their interrelationships into an actionable objective visual representation through multivariate analyses (Burke et al., 2005;

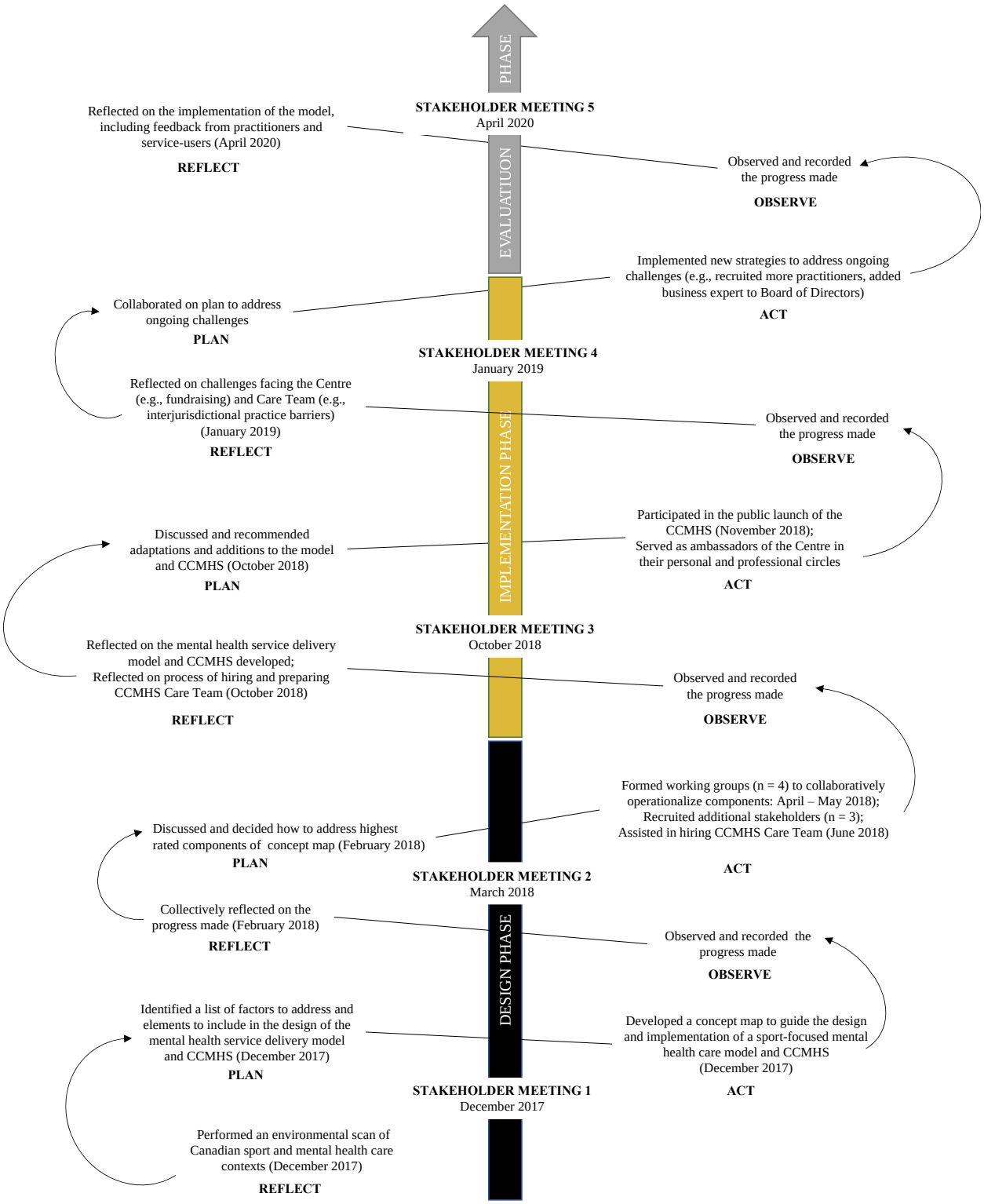

Figure 4. Stakeholder engagement through PAR cycles

Kane & Trochim, 2007; Rosas & Kane, 2012; see Appendix G for steps of GCM). A detailed account of how data were collected and analyzed using GCM is provided in Article 2 and thus, will not be further discussed here.

The GCM activity conducted on Day 2 of the summit led to the creation of a framework (i.e., concept map) that guided the Design and Implementation phases of the research project. In order to address components of the framework that were prioritized by the stakeholders, four working groups were formed following the completion of the GCM based on stakeholders' respective areas of expertise. Working groups focused on (a) developing eligibility criteria (standards for individuals to receive services from the CCMHS care team; Table 3, Article 2) and intake procedures (Figure 5, Article 2), (b) determining the skill mix necessary to deliver mental health services within the model to eligible individuals (Figure 4, Article 2) and hiring the CCMHS practitioner team (i.e., known as the CCMHS Care Team; Appendix H) (c) identifying a feasible and fair payment model (Appendix I), and (d) securing a physical location from which the Centre could operate. Snowball sampling (Patton, 2000) was used by stakeholders to engage four additional individuals from their social / professional network to contribute to these working groups. These individuals (Ed Wolkowycki, Andy Sparks, Connor Cressman, Steve Roxborough) went on to serve on the CCMHS' Board of Directors (Appendix J). A list of members of each working group and the associated deliverables can be found in Appendix K.

Any components that were not addressed by the working groups were operationalized by the doctoral candidate and thesis supervisor in concert with individual stakeholders, students, volunteers, the CCMHS Board of Directors and CCMHS mental health practitioners. For example, the CCMHS was registered as a not-for-profit organization, a business concept was developed in collaboration with consultants from Deloitte who volunteered their time and

expertise, a logo for the CCMHS was designed, a website was built, and funds were raised through corporate and individual donors.

Implementation Phase (Study 2)

The mental health service delivery model designed by stakeholders in the first phase was pilot-tested during the Implementation Phase (August 2018 – December 2019) through two cycles of planning, action, observation, and reflection (see Figure 4). Several participants were involved in meeting the objective (i.e., *Pilot test the mental health service delivery model designed in Phase 1*) and answering the research question (i.e., *How does the CCMHS Care Team apply the mental health service delivery model designed in Phase 1 to provide mental health care to a competitive or high-performance athlete?*) associated with this phase. In addition to the stakeholders who contributed to the Design Phase, participants in this phase included the Board of Directors (n = 7, see Appendix J), CCMHS Care Team (n = 16, see Table 5 for a summary of characteristics), and service-users (n = 34) who consented to partake in the research.

Table 5

CCMHS Care Team – Implementation Phase

Practitioner	Gender	Professional Designation(s)	Province / Territory of Residence	Area in which Licensed to Practice
1	F	Psychotherapist / MPC	Ontario	Canada-wide
2	F	Clinical Psychologist / MPC	Quebec	Quebec / Ontario
3	F	Registered Psychologist / MPC	Alberta	Alberta
4	F	Registered Psychologist	Nova Scotia	Atlantic Provinces[a]
5	F	MPC	PEI	Canada-wide

Table 5. CCMHS Care Team – Implementation Phase (continued)

Practitioner	Gender	Professional Designation(s)	Province / Territory of Residence	Area in which Licensed to practice
6	F	MPC (Care Coordinator)	Ontario	Canada-wide
7	F	Canadian Certified Counselor / MPC	Alberta	Canada-wide
8	M	Clinical psychologist / MPC	Ontario	Ontario
9	F	Clinical Psychologist / MPC	Manitoba	Manitoba
10	F	Clinical Psychologist	Ontario	Ontario
11	M	Clinical Psychologist	Ontario	Ontario
12	F	Psychotherapist	Ontario	Canada-wide
13	M	Family Physician	Ontario	Ontario
14	F	Certified Clinical Counselor / MPC	BC	Canada-wide
15	F	MPC	Quebec	Canada-wide
16	F	Psychiatrist	BC	BC

Note. MPC = Mental Performance Consultant; PEI = Prince Edward Island; BC = British Columbia.

[a] Atlantic provinces include Nova Scotia, New Brunswick, PEI, and Newfoundland and Labrador.

Participants contributed in several ways to meet the objective of this phase. Stakeholders, Board Members, and the CCMHS Care Team made conceptual, strategic, and operational contributions to the model and Centre throughout the Implementation period. Meaningful engagement with participants was facilitated by the doctoral candidate and thesis supervisor through two meetings with stakeholders (see Table 4 and Figure 4), seven meetings with the Board of Directors (see Table 6), and seven meetings with the CCMHS Care Team (see Table 7). Collectively, these groups identified strengths and challenges with the service delivery model

and the Centre more broadly, proposed solutions as necessary, and collaboratively applied these solutions in line with the PAR approach.

Table 6.

Board of Directors Meetings

Meeting	(*n*)	Activities	Level of Participation
		Implementation Phase	
Meeting 1 (August 2018)	7	Develop CCMHS by-laws, elect officers, admit members, and review operating provisions (e.g., banking, location of books of record, etc.). Plan CCMHS launch event, develop fundraising strategy, review practitioner team.	Decide and act jointly (7)
Meeting 2 (October 2018)	6	Provide operations update, review strengths and challenges with service provision, build fundraising plan, review and approve operating budget and application for charitable status.	Decide and act jointly (7)
Meeting 3 (January 2019)	6	Provide operations update, review strengths and challenges with service provision, discuss fundraising event ideas, present government relations plan, approve hiring of intern.	Seek group consent (5)
Meeting 4 (May 2019)	7	Provide progress update, review strengths and challenges with service provision, review recent research activities, discuss new partnerships, review operating budget.	Decide and act jointly (7)
Meeting 5 (June 2019)	7	Provide progress update, review challenges with service provision, review fundraising efforts and discuss next steps	Consult (2)
Meeting 6 (August 2019)	8	Provide progress update, review fundraising event challenges, review finances, review proposed community engagement financials, review governance to date, restructure board roles.	Decide and act jointly (7)
Meeting 7 (November 2019)	8	Provide progress update, review and approve re-submission of charitable status application, review fundraising efforts, discuss strengths and challenges with program delivery (e.g., workshops).	Consult (2)

Table 6. Board of Directors Meetings (continued)

Meeting	(*n*)	Activities	Level of Participation
		Evaluation Phase	
Meeting 8 (January 2020)	7	Provide progress update, review financials, review and discuss fundraising efforts, discuss educational initiatives.	Consult (2)
Meeting 9 (April 2020)	7	Provide progress update, perform impact / profitability assessment of CCMHS lines of business, review fundraising efforts, review financials.	Support participation (3)

Note. Both the doctoral candidate and thesis supervisor participated in all Board Meetings.

Table 7.

CCMHS Care Team Meetings

Meeting	(*n*)	Activities	Level of Participation
		Implementation Phase	
Meeting 1 (August 2018)	9	Introduce team members, answer questions about contracts, review and discuss service delivery policies and procedures.	Inform and educate (1)
Meeting 2 (September 2018)	10	Review suggested changes to intake survey, demographic form, consent forms, policies and procedures, review intake process, discuss comprehensive assessments and establishment of care plans.	Seek group consent (5)
Meeting 3 (October 2018)	8	Provide updates on training sessions for practitioners, review and discuss care team allocation procedures, review and approve updated intake and collaborative care process timeline, discuss provincial practice restrictions.	Inform and educate (1) Consult (2)
Meeting 4 (December 2018)	9	Review billing procedures, discuss parental consent procedures, discuss additions to consent forms, discuss practitioner perceptions of strengths and weaknesses of the model thus far.	Consult (2) Seek group consent (5)
Meeting 5 (January 2019)	7	Review functional impairment eligibility criteria, review and discuss MPC role on CCTs, review intake and screening process.	Inform and educate (1)

Table 7. CCMHS Care Team Meetings (continued)

Meeting	(*n*)	Activities	Level of Participation
Meeting 6 (April 2019)	10	Provide update on other CCMHS programs, review care process procedures, discuss subsidization of services.	Inform and educate (1) Consult (2)
Meeting 7 (July 2019)	8	Discuss taking on a mentee, discuss augmenting eligibility criteria, review and discuss challenges with virtual care platform, review care process procedures.	Consult (2)
		Evaluation Phase	
Meeting 8 (June 2020)	15	Discuss policy on providing information for potential / actual legal case, introduction to new virtual care platform, discuss email protocols.	Consult (2) Facilitate independent action (4)
Meeting 9 (July 2020)	13	Participate in grand round case study presentation by a practitioner.	Inform and educate (1)

Note. Both the doctoral candidate and thesis supervisor participated in all Care Team Meetings.

Figure 5 provides a timeline of all meetings facilitated with CCMHS stakeholders, the Board of Directors, and CCMHS Care Team across all three phases. Detailed meeting minutes were recorded for each of the meetings. Some of these documents (n = 7) were relevant for the Evaluation Phase of the research. Specifically, they were analyzed and used to triangulate the interview data gathered from practitioners and service-users, which are presented in the *Evaluation Phase* section and in Table 4 of Article 4.

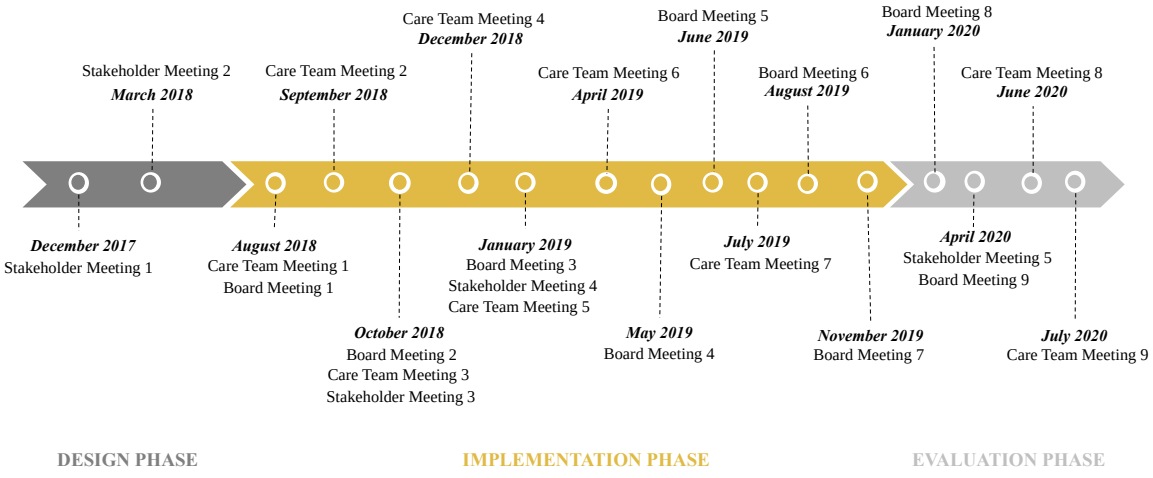

Figure 5. Timeline of meetings with stakeholders, the CCMHS Board of Directors, and CCMHS Care Team across research project phases

To answer the research question associated with this phase, an illustrative case study (Keegan et al., 2017; Stake, 1995, 2005) was carried out with two CCMHS practitioners and one service-user. The purpose of the case study was to examine the process by which the CCMHS Care Team provided mental health care to a female high-performance athlete. The case study approach provided an empirical framework within which to describe events associated with the intake, referral, and service delivery processes, examine outcomes, and reflect on lessons learned (Harrison et al., 2017). It served to shed light on the complex mental health and sport-related issues experienced in the athlete's real-life setting (Merriam, 2009; Stake, 2006). The case study research team was comprised of the doctoral candidate, thesis supervisor, CCMHS Care Coordinator, and a member of the doctoral candidate's thesis supervisory committee. A description of each case study team member and participant is included in Article 3.

Methods. Data were collected from two sources: (a) the athlete's clinical documents and (b) qualitative interviews with the practitioners involved in the athlete's care. Clinical documents were generated by the athlete's Collaborative Care Team (CCT). According to the mental health care model designed by stakeholders during the first phase, each CCMHS service-user is assigned a CCT *lead* practitioner and a *support* practitioner by the CCMHS Care Coordinator, whose role is to complete intake assessments, assign clients to care teams, serve as a neutral touchpoint for clients, assist practitioners in applying CCMHS policies and procedures, and manage data to support ongoing research and evidence-based practice. Durand-Bush and Van Slingerland (2021) described the rationale for including two practitioners on each CCT as follows:

> [The assignment of a lead and support practitioner] helps to ensure that a practitioner is available should an urgent matter arise, specific needs are addressed by whichever CCT

> member is most appropriate (based on area(s) of specialization), different time-zones are accommodated, provincial restrictions regarding care provision (e.g., psychologists must be registered in the province in which their client resides) are respected, and a culture of learning and professional development amongst practitioners is fostered. (pp. 85-86)

As Durand-Bush and Van Slingerland (2021) explained, collaboration between practitioners occurs on a spectrum according to a number of factors including the nature of a service-user's presenting concern(s), the geographic location of both practitioners and service-user, and practitioners' preferences.

The doctoral candidate started by reviewing the service-user's clinical documents (e.g., intake summary, demographic summary, session notes) to familiarize herself with the client and the case. She used document analysis (Bowen, 2009) to begin organizing the details of the case under the categories included in the case study framework (i.e., intake and referral process, service-user description, integrated care plan, and outcomes) within a working document. Document analysis is a systematic approach to reviewing and evaluating printed and electronic material that involves locating, selecting, interpreting, and synthesizing data (e.g., quotations, passages) to organize information into themes, categories, or case examples (Labuschagne, 2003).

Next, she performed qualitative interviews ($n = 2$) with the athlete's Collaborative Care Team lead (a registered psychologist and professional member of the Canadian Sport Psychology Association [CSPA]) and the CCMHS Care Coordinator (a PhD candidate and professional member of the CSPA with additional training in mental health, e.g., Mental Health First Aid) to gather practitioners' account of the case and their reflections on the opportunities and challenges this particular case presented. The supporting practitioner on this CCT was not interviewed for

the case study because she did not have any interaction with the client. A semi-structured interview guide (Appendix L) informed by the categories included in the case study framework guided the conversations.

The doctoral candidate performed a conventional descriptive content analysis (Hsieh & Shannon, 2005) to extract salient data from the interviews to inform the case study, which she added to the working document. The other members of the case study research team acted as "critical friends", reviewing, reflecting upon, and challenging the doctoral candidate's interpretation of the data until the team agreed that the interpretation was coherent and plausible (Smith & McGannon, 2018). The lead practitioner reviewed the article prior to submission for publication to ensure the athlete's anonymity was protected and the case study research team's representation of the case was accurate. She elected *not* to be an author on the publication to further safeguard the service-user's privacy. The results of the case study are presented in Article 3.

Evaluation Phase (Study 3)

The aim of the Evaluation Phase (January – August 2020) of the research project was to evaluate the acceptability and appropriateness of the mental health service delivery model designed during Phase 1 and implemented over 32 months during Phase 2. Evaluations of the acceptability and appropriateness of health care services provide valuable insight into the quality of such services. High quality mental health care services provide "accepted and relevant [syn. appropriate] clinical and non-clinical care aimed at reducing the impact of the disorder and improving the quality of life of people with mental disorders" (World Health Organization, 2003, p. 2). Acceptability "reflects the extent to which people delivering or receiving a healthcare intervention consider it to be appropriate, based on anticipated or experiential cognitive and

emotional responses to the intervention" (Sekhon, Cartwright, & Francis, 2017, p. 95). Appropriate care on the other hand, is "the right care, provided by the right providers, to the right patient, in the right place, at the right time, resulting in optimal quality care" (Canadian Medical Association [CMA], 2015, p. 2).

During the eight-month evaluation period of the research project, meetings continued to occur between the PhD candidate, thesis supervisor, stakeholders, CCMHS Board of Directors and CCMHS Care Team (see Tables 4, 6, and 7 and Figure 5). Though these meetings were important from an operational standpoint, they were not integrated as data in the evaluation of the service delivery model as they extended beyond the completion of the data collection period. This is further explained below and in Article 4. Overall, data from three sources (CCMHS practitioners, CCMHS service-users, and CCMHS stakeholders) were collected and analyzed using a multi-step, multi-method process (Figure 3) to answer this phase's research question. An overview is provided below to give insight into additional details that are not included in the fourth article.

Methods. The research question associated with this phase was: *Is the sport-centered, collaborative mental health service delivery model implemented within the CCMHS acceptable and appropriate?* The evaluation of the model was guided by the seven components of acceptability developed by Sekhon and colleagues (2017): (a) affective attitude, (b) burden, (c) ethicality, (d) intervention coherence, (e) opportunity costs, (f) perceived effectiveness, and (g) self-efficacy. These constructs are defined within Table 1 of Article 4. Similarly, CMA's (2015) definition of appropriateness (i.e., service characteristics, provider characteristics, client characteristics, contextual characteristics), also guided the evaluation of the service delivery model. These concepts informed the development of interview guides (see description below)

used to collect data from the participants as well as the deductive data analysis performed using the Framework Method, which is described in a subsequent section (Table 8; Gale, Heath, Cameron, Rashid, & Redwood, 2013; Ritchie and Spencer, 1994).

Data collection A - Interviews. The doctoral candidate conducted a total of 16 one-on-one semi-structured interviews with CCMHS practitioners (*n* = 10; Appendix M) and service-users (*n* = 6; Appendix N). To participate and have sufficient knowledge from which to evaluate the service-delivery model, CCMHS practitioners were required to have delivered a minimum of three sessions of care to one or more service-users. At the time the interviews were conducted, three members of the CCMHS Care Team had left the CCMHS due to a lack of time they had to commit to the Centre given their busy private practices, leaving a total of 13 practitioners on the team. Two of the remaining practitioners were unavailable to be interviewed, and one had never provided care to a CCMHS client due to lack of demand in her region and therefore was not eligible to participate. The 10 practitioners who were interviewed were registered / clinical psychologists (*n* = 3), counselors / psychotherapists (*n* = 4), and MPCs (*n* = 3). Nine of them were professional members of the CSPA. In terms of the service-users interviewed (*n* = 6), a summary of their characteristics (e.g., gender, sport type, number of care sessions completed) is provided in Table 3 of Article 4 and will not be revisited here.

Data analysis – Iteration 1. Data gathered through the interviews described above were preliminarily analyzed in order to present findings to CCMHS stakeholders at their final meeting (April 2020) and cycle of the PAR approach (reflect). The doctoral candidate performed the first three steps of the Framework Method (Gale et al., 2013; Ritchie and Spencer, 1994; see Table 8 below), generating a deductively derived working analytical framework that was applied to the interview and document data (see Data Collection B and C and Data Analysis Iteration 2).

Table 8.

Framework Method Steps (Gale et al., 2013)

Step	Description
1. Familiarization	Verbatim transcription. Using audio recording, or the transcript and any contextual or reflective notes, researchers become familiar with the data. Listening to audio or reading transcripts several times is helpful. Researchers can record any analytical notes, initial thoughts or impressions.
2. Identification of a thematic framework	Apply paraphrases or a label (i.e., code) to passages deemed to be important. In deductive studies, the codes may be pre-defined (e.g., by an existing theory, or specific areas of interest to the project). Along with creating a holistic impression of the interview dialogue, coding line-by-line can alert the researcher to comments that may ordinarily be missed because they are not clearly expressed or don't "fit" with the rest of the account. Coding may be undertaken by hand or using Computer Assisted Qualitative Data Analysis Software (CAQDAS; e.g., NVivo) If multiple coders are involved, they should meet after coding the first few transcripts to compare the labels they have applied and agree on a set of codes to apply to all subsequent transcripts. Codes may be grouped into categories, which are then clearly defined. This forms a working analytical framework. It is likely that several iterations of this framework will be required before no additional codes emerge.
3. Indexing	The working analytical framework is applied by indexing remaining transcripts using the existing categories/codes.
4. Charting	Data are "charted" into a matrix (either using a spreadsheet or built-in modules within CAQDAS). Charting involves summarizing the data by category from each transcript. Good charting requires striking a balance between reducing the data and maintaining its original meaning and feel. The chart should include references to interesting, relevant, and/or illustrative quotations.
5. Mapping and Interpretation	Gradually, the characteristics of and differences between the data are identified, perhaps generating typologies, interrogating theoretical concepts or mapping connections between categories to explore relationships.

Data collection B – Stakeholder Meeting 5. The doctoral candidate shared a summary of each theme of the framework, including supporting quotations, with stakeholders (n = 11) at the Stakeholder Meeting 5 in April 2021. Stakeholders' impressions and reflections were solicited

and captured via meeting minutes. The analytical framework was then used again to analyze these meeting minutes during the second iteration of data analysis, described below.

Data collection C – Documents. A total of 86 documents, created by members of the CCMHS during the implementation phase, met the following criteria and were therefore gathered for further analysis during the next step: (a) they were created by a CCMHS team member (i.e., practitioners, stakeholders, members of the board of directors), (b) they were contained within the CCMHS' electronic database, (c) they were created during the implementation phase of the project (August 2018 – December 2019).

Data analysis – Iteration 2. During this iteration of data analysis, the doctoral candidate used Steps 1 and 3 of the Framework Method to begin analyzing the data gathered during Data Collections B and C (i.e., 87 documents; minutes from last stakeholder meeting + 86 documents in CCMHS database). She began by familiarizing herself with the documents, determining if they triangulated (i.e., confirmed or expanded the findings; Carter, Bryant-Lukosius, DiCenso, Blythe, and Neville, 2014) the data provided by the practitioners and service-users who were interviewed during Data Collection A. At this time, the doctoral candidate also removed any clinical documents that did not pertain to the six service-users interviewed. In the end, 48 documents (Table 4 of Article 4), including the meeting minutes taken during Data Collection B, were further analyzed. Given that a thematic framework was already deductively derived from the guiding concepts of acceptability and appropriateness and that the purpose of document analysis was to triangulate the interview data, Step 2 of the Framework Method (identification of a thematic framework) was unnecessary to repeat here. Rather, the existing thematic framework was applied to the 48 documents included in the analysis using NVivo (i.e., Indexing, Step 3).

Data analysis – Synthesis and integration. To reduce and summarize the entire dataset, coded passages (from interview transcripts) and excerpts (from documents) were charted into a matrix in Microsoft Excel (Step 4: Charting). Each column of the matrix represented a distinct theme of the framework, while each column featured passages and excerpts from a single source of data. Organizing the data in this manner allowed the PhD candidate to summarize each theme, drawing on passages and excerpts to support her summary.

Data analysis – Interpretation. Lastly, Step 5 (Mapping and Interpretation) of the Framework Method was applied. During this final step, the doctoral candidate took a "step back" from the data to view the "larger picture". She observed where evidence converged and diverged, how the responses of distinct groups compared (e.g., service-users vs. practitioners), and whether data from the documents corroborated the perceptions of practitioners and service-users gathered through interviews. In this way, the entire data set was used to answer the research question and fulfil the purpose of this phase. The doctoral candidate presented her interpretation of the data to the thesis supervisor and five other research colleagues who offered critical feedback and encouraged reflexivity (Smith and McGannon, 2018).

Trustworthiness

A number of strategies were used to ensure the overall trustworthiness of the research project. First, the doctoral candidate took a number of steps to prepare to conduct the research. For example, she completed graduate classes (e.g., statistical analysis, qualitative analysis) to ensure she had a strong foundation in both quantitative and qualitative traditions. She also gained experience using quantitative methods through her Master's research in which she investigated the levels and prevalence of mental health functioning of Canadian student-athletes (Van Slingerland et al., 2018). Furthermore, she conducted four mixed-methods research projects in

her professional career assisting clients in the sport, healthcare and education domains to evaluate the impact of their well-being-based programming (e.g., mindfulness program implemented with high-school students). The doctoral candidate and thesis supervisor attended an online training session to learn how to use the software to conduct the Group Concept Mapping activity that took place during Phase 1.

From an organizational standpoint, the doctoral candidate co-founded the Student-Athlete Mental Health Initiative (SAMHI), a charity dedicated to promoting the wellness and mental health of post-secondary student-athletes. This enabled her to develop key competencies that served her well in the creation of the CCMHS and incorporating it as a not-for-profit organization with charitable status. From an athletic perspective, the doctoral candidate was a successful varsity athlete who understood the demands and challenges inherent in competitive sport. On a more personal note, she also struggled with mental illness, giving her the vantage point of speaking from lived experience as a stakeholder participant in this research. This not only increased her connection with other stakeholders and members of the CCMHS but also strengthened the credibility, meaning and value of this research project.

To promote personal and epistemological reflexivity, the doctoral candidate kept a reflective journal throughout the research project (Bergold & Thomas, 2012; Borg et al., 2012). She used this journal to record personal reflections (e.g., how personally held beliefs, values, social identities, or experiences shaped the research; how she felt she was perceived by stakeholders) and epistemological observations (e.g., how decisions regarding research questions and methodological choices created "boundaries" in the research, such as facilitating or limiting stakeholder participation). Given the participatory nature of the research project, she noted multiple lived experiences and perspectives and knowledge that emerged throughout the process.

Stakeholders, including the doctoral candidate, were forced to be reflexive, consider multiple points of view, and share ownership of the project as they collaboratively discussed, debated, and acted to meet project objectives.

PART III

Results

The following section presents the results of the research project, organized into four separate articles (see Figure 3). Article 1 (Study 1) serves to establish a common language among members of the Canadian sport and mental health communities through a position statement on mental health in competitive and high-performance sport. Article 2 (Study 1) demonstrates the empirical process by which stakeholders collaboratively designed the sport-focused mental health service delivery model and CCMHS. Article 3 (Study 2) presents a case study that reveals the process by which practitioners applied the mental health service delivery model with a high-performance athlete experiencing mental illness. Article 4 (Study 3) presents an evaluation of the mental health service delivery model, showing how the elements of the model contributed to or detracted from its perceived acceptability and appropriateness. All articles are structured and formatted according to the specifications of the journal in which they were published (Articles 1, 2, and 3) or accepted for publication with minor revisions (Article 4).

Article 1: Canadian Centre for Mental Health and Sport (CCMHS) Position Statement: Principles of Mental Health in Competitive and High-Performance Sport

Van Slingerland, K. J., Durand-Bush, N., Bradley, L., Goldfield, G., Archambault, R., Smith, D., … Kenttä, G. (2019). Canadian Centre for Mental Health and Sport (CCMHS) position statement: Principles of mental health in competitive and high-performance sport. *Clinical Journal of Sport Medicine, 29*(3), 173–180. doi:10.1097/JSM.0000000000000665

Abstract

The brave decision made by many Canadian athletes to share their experience with mental illness has fed a growing dialogue surrounding mental health in competitive and high-performance sport. To affect real change for individuals, sport culture must change to meet demands for psychologically safe, supportive, and accepting sport environments. This position statement addresses mental health in competitive and high-performance sport in Canada, presenting solutions to current challenges and laying a foundation for a unified address of mental health by the Canadian sport community. The paper emerged from the first phase of a multi-disciplinary Participatory Action Research (PAR) project, in which a sport-focused mental health care model housed within the Canadian Centre for Mental Health and Sport (CCMHS) is currently being designed, implemented, and evaluated by a team of 20 stakeholders, in collaboration with several community partners and advisors.

Key Words: mental health, mental illness, sport, athletes, Participatory Action Research

A growing body of anecdotal and empirical evidence sheds light on the fact that athletes are not impervious to mental health challenges or disorders (Schinke, Stambulova, Si, & Moore, 2018). In recent years, many athletes have come forward to share their experiences with depression, anxiety, suicide, and abusive coaching. Athletes often compete within sport cultures that stigmatize mental health, discouraging help-seeking and contributing to sport dropout (Rice et al., 2016). Furthermore, many choose to suffer in silence because they are concerned that practitioners will not understand their unique needs and challenges. Ideally, athletes would have access to mental health professionals who know and understand competitive sport (Lopez & Levy, 2013). Indeed, the European Federation of Sport Psychology (FEPSAC) recently advocated for models of mental health care that are evidence-based and include practitioners who are clinically trained and who have a thorough knowledge of the nature of high-performance contexts (Moesch et al., 2018). Yet, very few psychiatrists, psychologists, and psychotherapists specialize in sport in Canada, representing an important gap in mental health care service provision for this population. With 7.2 million Canadians regularly engaging in sport (Heritage Canada, 2013), and one in 5 individuals annually experiencing a mental health disorder in Canada (Smentanin, 2011), there could be as many as 1.4 million Canadian athletes struggling with mental health challenges each year.

Integrated support teams (ISTs) are common in competitive sport. At a high-performance level, ISTs are built into Canadian sport models to ensure that athletes are positioned to achieve peak performances (Canadian Sport Institute Ontario [CSIO], 2015). Likewise, at a competitive level, athletes strive to maximize performance by assembling support teams and seeking the services of various practitioners in the community. However, these support teams seldom include practitioners who can address aspects of athletes' mental health and well-being beyond

performance. Considering Sport Canada's commitment to athletes' physical, mental, and emotional well-being (Sport for Life, 2017), and the objectives of the *Physical Activity and Sport Act* (S.C. 2003, c. 2) to encourage the full and fair participation of all Canadians in sport and to support the pursuit of excellence of those wishing to attain higher performance levels, one is left to wonder whether the Canadian sport system is adequately supporting its participants' mental health needs.

In September 2017, a multidisciplinary working group (herein "the group") was established to investigate mental health care service provision for competitive and high-performance athletes in Canada, with the objective of identifying and addressing gaps in care. The group consists of 20 stakeholders from the realms of sport sciences, medicine, health, psychology, counseling, and philanthropy. The group adopted a Participatory Action Research (PAR) approach to collaboratively problematize, design, implement, and evaluate a novel sport-focused mental health care model (herein "the model") housed within a Canadian Centre for Mental Health and Sport (CCMHS) that rests on 3 pillars of success: integrated care, research, and community engagement. As part of the problematizing and design phase, a 2-day research summit was organized to perform an environmental scan of the current Canadian sport and mental health care systems to assess the availability and effectiveness of mental health care services for competitive and high-performance athletes in Canada. Through this process, the group identified that misconceptions about the mental health of this population are widespread, and these must be clarified before substantial advances can be made. The group believed that it was important to establish a common understanding on which to build effective models of mental health care, improved programming, and strategic education for Canada's competitive

and high-performance athletes, coaches, and organizations. This provided the rationale for creating this position paper based on the findings of the 2-day summit.

Establishing common language among members of our Canadian sport and mental health communities was perceived by the group to be essential to advance both research and practice in this area. Language is a means of communicating shared values, beliefs, and customs (New South Wales Department of Education, 2000). Moreover, language can be used to create or reduce stigmatization (Rüsch, Angermeyer, & Corrigan, 2005). This position statement first includes definitions of key concepts driving conversations of mental health and mental illness in sport. Such terminology can be used to align cultures in efforts to reduce stigma and engage practitioners to develop effective mental health care programs for competitive and high-performance athletes.

Glossary

Competitive Athletes

Competitive athletes are individuals who fulfill the following criteria (adapted from Araújo and Scharhag (2016) based on the Canadian context):

1. They devote several hours to sport training and competitions throughout the week with the aim of improving their performance and results; the time they devote to sport(s) exceeds the time they spend pursuing other extracurricular activities.
2. They actively and regularly participate in regulated sport competitions at the local/regional, provincial, national, international, or professional level.
3. They are formally registered in a local/regional, provincial, national, or professional sport club or organization regulating the sport.

Competitive Sport

Competitive sport involves activities in which athletes have the opportunity to systematically improve and measure their performance against others in competition in a safe and ethical Manner (Coaching Association of Canada, 2021; Sport Canada, 2012).

High-Performance Sport

High-performance sport involves activities in which athletes systematically achieve world class results at the highest levels of international competition through fair and ethical means (Sport Canada, 2012).

Mental Health

Mental health is characterized by a state of psychological, emotional, and social well-being in which individuals are capable to feel, think, and act in ways that allow them to enjoy life, realize their potential, cope with the normal stresses of life, work productively, and contribute to their community (Public Health Agency of Canada, 2006; World Health Organization, 2019).

Mental Health Disorders

Mental health disorders (syn. mental illness) are characterized by alterations in individuals' feeling, thinking, and behaving, leading to significant distress and impaired functioning in personal and professional activities. It collectively refers to all diagnosable mental disorders such as depression, anxiety disorders, schizophrenia, eating disorders, and substance use disorders. (Public Health Agency of Canada, 2006; World Health Organization, 2019)

Mental Health Literacy

Mental health literacy refers to individuals' knowledge and beliefs about mental disorders, which assist in the recognition, management, or prevention of their symptoms or that of others (Jorm et al., 1997).

Psychiatrists

Psychiatrists are medical doctors (MDs) who are licensed to practice and who are certified in psychiatry by the Royal College of Physicians and Surgeons of Canada or by a provincial college, or they hold other specialist qualifications in psychiatry as recognized by the Canadian Psychiatric Association. Psychiatrists are qualified to diagnose mental health disorders and often use medication to help manage these disorders. Some psychiatrists also do psychotherapy, similar to psychologists (Canadian Medical Association, 2017).

Psychologists

Psychologists hold a master's and/or doctoral degree in psychology and are certified by the College of Psychology for the province in which they practice. They are trained to use psychological tests to assess and diagnose mental health disorders, as well as problems in thinking, feeling, and behaving. They help people overcome or manage these problems using a variety of treatments or psychotherapies (Canadian Psychological Association, 2018).

Psychotherapists

Psychotherapists typically hold a master's degree in psychology or counseling and are trained to assess (but not diagnose) and treat cognitive, emotional, or behavioral disturbances by psycho-therapeutic means, delivered through a therapeutic relationship based primarily on verbal or nonverbal communication (College of Registered Psychotherapists of Ontario, 2018).

Mental Performance Consultants

Mental Performance Consultants (MPCs) hold a master's and/or doctoral degree in sport psychology or a related field. They have knowledge and skills in sport sciences, psychology, and counseling. Mental Performance Consultants provide individual or group consultations geared toward improving sport performance and overall functioning and well-being. They do not

diagnose or treat mental health problems, unless they have received the same training as that of psychologists or psychotherapists (Canadian Sport Psychology Association, 2018).

Sport-Integrated Support Teams

Integrated support teams are multidisciplinary teams of sport science, sport medicine, and sport performance professionals supporting coaches and athletes in their goal for international success. Integrated support teams include experts in exercise physiology, mental performance, biomechanics and performance analysis, sport nutrition, strength and conditioning, sport medicine, and sport administrators (CSIO, 2015).

Review of Literature

For decades, the public and health care professionals alike assumed there was a low prevalence of mental illness in athletes (Bär & Markser, 2013). However, as more evidence accrues, it is increasingly clear that athletes are not immune to experiencing mental health disorders (Moesch et al., 2018; Van Slingerland, Durand-Bush, & Rathwell, 2018). Indeed, athletes suffer from mental illness (e.g., mood and anxiety disorders) at the same rate as the general population (Cornejo, 2013). For example, athletes experience depression (Doherty, Hannigan, & Campbell, 2016) and also die by suicide (Baum, 2005). Sport-specific factors (e.g., pressure to win, abusive coaching, injury, and transition in and out of sport) can exacerbate existing psychological challenges or trigger the development of new ones (Neal et al., 2013; Stirling & Kerr, 2013), including eating disorders (Sundgot-Borgen & Torstveit, 2004), substance abuse (Morse, 2013), and exercise addiction (Kurimay, Griffiths, Berczik, & Demetrovics, 2013). For example, when psychologically abusive coaching behaviors are normalized as contributing to team or individual success, athletes can suffer from posttraumatic stress disorder (Wenzel & Zhu, 2013). Furthermore, physical injury can trigger problematic

emotional reactions in athletes, including depression, sleep disturbances, and disordered eating (Putukian, 2016). Concussions, caused by a sudden impact to the head or body, may increase athletes' risk of depression (Chen, Johnston, Petrides, & Ptito, 2008) and suicide (Fralick, Thiruchelvam, Tien, & Redelmeier, 2016). Although the causation between concussions or repeated impacts and chronic traumatic encephalopathy remains unproven, there continues to be case reports suggesting a possible correlation (Gardner, Iverson, & McCroy, 2014). Finally, career termination can cause difficult and potentially traumatic changes for athletes, which may lead to the experience of distress warranting psychological assistance (Lavallee, Nesti, Borkoles, Cockerill, & Edge, 2000; Taylor, Ogilvie., & Lavallee, 2006).

Despite an identified risk and need for mental health interventions, athletes tend not to seek help for mental health challenges (Rice et al., 2016). Several barriers have led to this tendency, including stigma and a lack of specialized support. Stigma refers to the devaluation, disgracing, and disfavoring of individuals with a mental illness (Abdulluh & Brown, 2011). Stigma exists at the individual (i.e., self-stigmatization), interpersonal (i.e., social stigma), and systemic levels (Livingston, 2013). Self-stigmatization occurs when individuals with negatively stereotyped characteristics (e.g., mental illness) adopt negative attitudes toward themselves and is associated with hopelessness, reduced self-esteem, disempowerment, and decreased quality of life (Livingston & Boyd, 2010). Social stigma (i.e., interpersonal) is expressed through interpersonal behavior and creates a social standard of acceptable ways of behaving toward members of an oppressed group (Lavallee et al., 2000). Research examining the experiences of people living with mental illness shows the subtle yet significant expressions of stigma that occur across multiple domains of these individuals' lives (Suto et al., 2012). Structural stigma refers to the "rules, policies, and practices of social institutions that arbitrarily restrict the rights of, and

opportunities for, people with mental illness" (Livingston, 2013, p. 9). Sport is one such institution where the dominant cultural ideology (driven by historical, social, and financial factors) can result in the exclusion, bullying, or harassment of athletes experiencing symptoms of mental illness (Delenardo & Lennox-Terrion, 2014).

As a result of stigmatizing attitudes and beliefs held by leaders (e.g., coaches and teammates), athletes who seek psychological support face perceived or actual risk of losing playing time, their starting position, or even their place on a team (Bauman, 2016). This sort of bullying, harassment, and discrimination is prohibited under Canadian human rights legislation (Canadian Human Rights Act, S.C. 2008). However, because most athletes are not considered employees, the duty of care owed to them by coaches and athletic organizations is not well established. Although internal policies and procedures prohibiting these forms of maltreatment may exist within sport organizations, power inequities between athletes, coaches, and sport organizations are a strong deterrent to athletes enacting such processes (Tomlinson & Strachan, 1996). It is therefore unsurprising that athletes reported in one particular study that the fear of stigma for seeking mental health services, the fear of teammates finding out that they are in treatment, and the fear of being considered weak prevented them from getting assistance (Lopez & Levy, 2013). Similarly, Zakrajsek and Zizzi (2007) found that the fear of being negatively labeled as having psychological problems predicted coaches' intentions to refuse sport psychology services for themselves or their athletes.

Athletes who do seek help face the same challenges that prevent 50% of Canadians from receiving adequate treatment (Patten et al., 2016), including prolonged wait times (Office of the Auditor General of Ontario, 2016), the unaffordability of private care (Mohr et al., 2010), limited access to transportation or treatment centers, and a shortage of mental health professionals (van

der Vaart et al., 2014). Moreover, for gifted and talented populations such as competitive and high-performance athletes, the perception that practitioners generally lack understanding of their specialized characteristics and environmental demands is a significant deterrent to help seeking (Givens & Tjia, 2002; Levy & Plucker, 2003). Indeed, student-athletes identified a familiarity with or participation in sport as their number one preferred quality in a counselor (Lopez & Levy, 2013). Unfortunately, very few psychotherapists, clinical psychologists, and psychiatrists in Canada specialize in sport. Although MPCs have knowledge and competencies in the areas of sport, counseling, and psychology, most of them are not clinically trained and can therefore not diagnose or treat mental health disorders. As a result, the availability of practitioners with dual competencies in clinical psychology and sport sciences in Canada is extremely limited.

Mental illness diagnoses can be complicated by the very nature of sport. For instance, what may be considered pathological food monitoring in nonathletes, can be adaptive and even necessary for high-performance athletes (Reardon & Factor, 2010). Glick and Horsfall (2009) highlighted the need for specialized mental health care services for athletes to address issues such as athletic identity, competitive pressure, and obsessive passion, which can pose unique threats to practitioners attempting to make accurate diagnoses. Furthermore, athletes may be reluctant to adhere to regimens of psychotropic medication once they experience side effects such as weight gain and ataxia (i.e., reduced coordination of movement), which could threaten their athletic performance (Glick & Horsfall, 2009). They may also fear taking prescribed medications that are actually banned by the World Anti-Doping Agency, as this could result in their disqualification or embargo from competition without proper therapeutic use exemptions. With a lack of specialized sport-focused mental health care teams in Canada, the current provision of mental health services for athletes likely does not account for the important

aforementioned sport-related factors nor the complexities of diagnosis and treatment that are unique to this population (Levy & Plucker, 2003; Reardon & Factor, 2010). Rice et al. (2016) advocated for the development of models of mental health care that are specific to the athlete population to foster improved mental health, effective treatment of mental illness, and gains in athletic performance. It is noteworthy that several groups have taken positions to protect the mental health of athletes (e.g., International Society of Sport Psychology, FEPSAC, and National Collegiate Athletic Association). However, none have considered the Canadian context. Furthermore, although these groups discussed clinical and nonclinical symptoms in elite athletes, optimal treatment models, and interventions applicable at the individual level, they have not addressed system-level changes required to reduce stigma, improve help-seeking, and increase psychological safety in competitive and high-performance sport. With this in mind, a working group was created to explore this and to develop an integrated sport-focused mental health care model for Canadian athletes.

The Working Group and Collaborative Participatory Action Research Approach

A group of 20 stakeholders (Table 1) was strategically assembled to provide perspectives from multiple key sectors associated with and contributing to participation in competitive and high-performance sport in Canada. The group of 11 women and 9 men spanning the age of 18 to 65+ years includes: (1) competitive and high-performance athletes, coaches, and support staff (e.g., youth and Paralympic athlete, sport medicine physician, athletic therapist, and MPCs), (2) mental health care practitioners (e.g., psychologist, psychiatrist, and psychotherapist), and (3) expert researchers, administrators, and managers in the fields of sport and mental health (e.g., university professors, directors of sport services and mental health organizations).

Table 1.

Stakeholders (in alphabetical order)

Stakeholder	Affiliation
Anna Abraham	Registered Psychotherapist; Varsity Mental Health Coordinator, University of Ottawa Sports Services
Roger Archambault	Director of High-performance, University of Ottawa Sports Services; Retired national biathlon coach
Lindsay Bradley	Primary care sport medicine physician, Carleton University Sport Medicine Clinic; Team physician, Carleton Ravens Women's Rugby and Women's Basketball, Ottawa Fury FC, Ottawa 67s; Board Member Canadian Paralympic Committee
Keana Bush	Youth soccer athlete; Mental health advocate
Jennifer Bushell	Registered Kinesiologist; Athletic Therapist and Managing Partner, 360Centre360; Triathlete and coach
Samantha Delenardo	President and Co-Founder, Student-Athlete Mental Health Initiative; Retired varsity athlete
Natalie Durand-Bush	Co-founder CCMHS; Full Professor, School of Human Kinetics, University of Ottawa; Co-Founder and Mental Performance Consultant, Canadian Sport Psychology Association (CSPA); Executive Board Member, Association for Applied Sport Psychology (AASP)
Carla Edwards	Founder and Chief Sport Psychiatrist, Synergy Sport + Mental Health; High-performance Mental Health Advisor, Swimming Canada; Retired varsity athlete
Mario Gaetano	Educator and coach, Ottawa Catholic School Board; Mental health advocate; Current University of Ottawa and past Carleton University assistant coach; Head coach, Canada Topflight Academy women's basketball program
Gary Goldfield	Registered Psychologist; Mental health researcher, Senior Scientist, CHEO Research Institute; Associate Professor, Pediatrics, Psychology, Human Kinetics, and Population Health, University of Ottawa

Table 1. Stakeholders (in alphabetical order) (continued)

Stakeholder	Affiliation
Patrick Grandmaître	Head coach, University of Ottawa men's hockey team; Retired varsity athlete; 2x national silver medalist, QMJHL and professional hockey player
Göran Kenttä	Tenured lecturer and mental health researcher, The Swedish School of Sport and Health Sciences; Sport Psychologist and Sport Psychology Head, The Swedish Sport Confederation; Director, Swedish Elite Sport Mental Health Clinics; Adjunct Professor, University of Ottawa; Retired elite athlete and coach
Zul Merali	President and CEO, Royal Ottawa Hospital Institute of Mental Health Research; Full Professor, Faculty of Medicine and Faculty of Social Sciences, University of Ottawa
Paul Noble	Senior Manager, True Sport, Canadian Centre for Ethics in Sport
Kevin Rempel	2013 World Champion and 2014 Sochi Paralympic bronze medalist in sledge hockey; Author of Still Standing - When You Have Every Reason To Give Up, Keep Going; Founder of the Sledge Hockey Experience
Benoit Séguin	Director, School of Human Kinetics, University of Ottawa; Supervising professor, International Olympic Academy and Russian International Olympic University; Retired varsity athlete
Danika Smith	Student-Athlete Services and Compliance Officer, University of Ottawa Sports Services; Retired varsity athlete
Shauna Taylor	Executive Director, PacificSport Okanagan Sport Centre; Certified Clinical Counselor; Chair and Mental Performance Consultant, Canadian Sport Psychology Association; Adjunct Professor, University of British Columbia
Krista Van Slingerland	Co-founder CCMHS; PhD Candidate, School of Human Kinetics, University of Ottawa; Co-Founder, Student-Athlete Mental Health Initiative; Retired varsity athlete
Penny Werthner	Dean, Faculty of Kinesiology, University of Calgary; Advisor, Canadian Olympic Committee; Past Chair, Mental Performance Consultant, Canadian Sport Psychology Association; Olympian

A PAR approach guided the research conducted by this group. As a collaborative form of inquiry, PAR is based on the assumption that knowledge is embedded in the lives and experiences of individuals (Borg, Karlsson, Kim, & McCormack, 2012) and should be coproduced by those in the community that will be affected by the outcomes of the research (Bergold & Thomas, 2012). Considered *experts by experience* (Cromby, Harper, & Reavy, 2013), the stakeholders work in the sport and mental health sectors and have lived experience in these domains (e.g., as practitioners, coaches, service users, and parents), enabling them to understand key factors that should be considered when designing sport-focused mental health care interventions. They have signed a collective agreement to mutually work together to generate knowledge with the aim of improving practice (Cook, 2012).

The Summit

The 2-day research summit was held on November 30 and December 1, 2017, from 9:00 AM to 4:30 PM at the University of Ottawa where the 2 lead researchers (first 2 authors) currently work. In advance of the summit, the stakeholders were provided with substantial background documentation, including a comprehensive literature review on what is known to date about mental health and mental illness in athletic populations, the Canadian health care and sporting contexts, and collaborative models of care.

The following research questions guided discussions during the summit:

1. What are the issues/experiences of stakeholders regarding the *availability* and *effectiveness* of mental health services for Canadian competitive and high-performance athletes?
2. What specialized collaborative mental health service delivery model can be feasibly designed and implemented in a Canadian Centre for Mental Health and

Sport (CCMHS) to promote mental health and treat mental illness in this population?

Day 1: Focus Group Discussions

To address the research questions, 2 focus group sessions (morning and afternoon) were conducted. The morning session focused on the availability and effectiveness of mental health care services for Canadian athletes. The afternoon session focused on stakeholders' perceptions of the strengths, weaknesses, opportunities, and threats associated with creating a CCMHS and sport-focused mental health service delivery model. To allow every stakeholder to contribute to discussions and in keeping with recommended focus group sizes (Rio-Roberts, 2011), the larger group (N = 20) was split into 3 focus groups (n ~ 6-7) for both the morning and afternoon sessions. The composition of these groups differed between sessions to allow stakeholders to interact with different members. One member from each group was provided a semi-structured interview guide (Castillo-Montoya, 2016) to facilitate the discussion. All group discussions were audio-recorded, and a graduate student took notes and highlighted major themes on flip chart paper that emerged within each group. After the small group discussions in both morning and afternoon sessions, the larger group reassembled to discuss, challenge, and identify the most salient themes in response to the research questions. The lead researchers then ensured that there were no redundancies between the themes and included a final list in one document, which they shared with each stakeholder that evening in preparation for day 2.

Day 2: Group Concept Mapping Exercise

On day 2, the 20 stakeholders participated in a group concept mapping exercise that was informed by the major themes derived on day 1. The aim of this participant-led process was to

transform thoughts and ideas (i.e., themes) and their interrelationships into an objective visual conceptual model (Kane & Trochim, 2007). It served to identify and conceptualize key elements of the mental health service delivery model and CCMHS to guide the planning and implementation phases of the overall research project (Trochim, 1989). The concept mapping exercise was performed "live" using CS Global MAX software (Concept Systems, 2017) that each stakeholder installed on their personal laptop computer. It unfolded throughout the day based on the following 6 steps (Kane & Trochim, 2007): (1) preparation (i.e., establishment of research goals, focal question, and rating scales), (2) generation (i.e., initiation and management of brainstorming process followed by synthesis of generated statements to produce a set of approximately 100 statements for subsequent sorting and rating), (3) structuring (i.e., sorting of statements into logical/meaningful piles and rating of statements based on their perceived importance), (4) representation (i.e., generation of point map, cluster map, and cluster rating map based on similarity matrix generation, multidimensional scaling analysis, and hierarchical cluster analysis performed using software), (5) interpretation (i.e., discussion and selection of cluster solution and labels deemed to be the most relevant for project goals and future practical application of conceptual model), and (6) utilization (i.e., discussion of use of the conceptual model to inform next phases of the research project).

The 2 lead researchers completed training to facilitate this exercise and a Concept Systems support staff was available throughout the exercise for assistance. The exercise led to 106 unique statements regrouped under 6 specific clusters: (1) Service Delivery [41 statements], (2) Communications and Promotion [21 statements], (3) Business, Policy, and Operations [21 statements], (4) Partnerships [9 statements], (5) Research [6 statements], and (6) Education and Training [8 statements]. The in-depth results of the concept mapping exercise, which are

addressed in another paper, led to the development of 6 principles to improve mental health services, programing, and policy in Canadian sport.

The Principles

The following 6 principles are intended to challenge stigma and to provide guidance for individuals, teams, organizations, and practitioners working within Canadian competitive and high-performance sport. The principles complement the values set out in Canada's *Sport for Life* framework (e.g., physical, mental, cognitive, and emotional factors contribute to athletes' holistic development and success; Sport for Life, 2017), and align with the strategic directions of Canada's *Mental Health Strategy* (e.g., promotion and prevention, recovery and rights, access to services, and leadership and collaboration; Mental Health Commission of Canada, 2011). They serve to contribute to the fulfillment of policies and mandates set out in the *Physical Activity and Sport Act* [(S.C. 2003, c.2, s 3(c), s 4(1))] (e.g., to assist in reducing barriers faced by all Canadians that prevent them from being active; to facilitate a sport environment where all persons are treated with fairness and respect and are provided the opportunity for full and fair participation). Finally, these principles take into consideration the ethical principles and obligations that guide professional associations whose members provide care and support for athletes (e.g., sport medicine physicians, psychiatrists, psychologists, psychotherapists, and MPCs).

Principle 1: Athletes Are Susceptible to Experiencing Mental Health Challenges and Disorders

Sport organizations, health professionals, coaches, parents, and athletes must acknowledge that:

1. Athletes are at risk of experiencing mental health challenges and disorders.

2. Mental health and mental illness are separate constructs that influence each other but do not preclude one another (i.e., athletes with a mental illness who receive appropriate care can have a high level of mental health).
3. Athletes' mental health impacts their performance and daily functioning.
4. To optimally perform, athletes with mental health challenges and disorders should be provided the same level of support they receive when they are physically injured.
5. Athletes should engage in regular self-care to maintain optimal mental health, in the same way they strive to maintain their physical health.

Principle 2: Sport Organizations Have a Duty to Protect the Mental Health of Athletes

1. Sport organizations must support and provide opportunities for athletes, coaches, and staff to increase their mental health literacy.
2. Sport organizations must reflect upon their structures, processes, and policies in an effort to understand and rectify any inherent issues contributing to mental health stigmatization, harassment, bullying, and discrimination.
3. Stakeholders in Canadian sport must collaborate to establish clear and inclusive mental health policies and best practice guidelines that protect athletes with mental health challenges and illnesses.

Principle 3: Coaches Have a Duty to Foster the Mental Health of Their Athletes

1. Coaches must safeguard the mental health of their athletes as well as their own to provide and sustain a healthy training and competitive environment.
2. Coaches must be aware of the definition, causes, and manifestation of psychological, emotional, and physical abuse, and ensure that their coaching philosophy and strategies are not abusive and harmful to athletes.

3. Sport organizations must invest resources to help coaches integrate appropriate mental health standards and practices in their coaching.

Principle 4: Competitive and High-Performance Athletes Seeking Care for Mental Health Challenges or Disorders Are Best Served by a Specialized Interdisciplinary Mental Health Care Team

1. Athletes have unique sport demands that influence their mental health care needs. These must be taken under consideration in mental health care initiatives.
2. Collaborative mental health care teams integrating certified/registered practitioners with knowledge and experience in sport, psychology, and psychiatry must be created to best assess and address athletes' mental health needs in a timely and reliable manner.
3. Given the dynamic and diverse contexts in which competitive and high-performance athletes perform (e.g., time and geographical constraints), members of specialized interdisciplinary mental health care teams must be flexible and offer both in-person and telehealth services.

Principle 5: Truly Comprehensive Integrated Support Teams in Sport Include at Least One Practitioner Who Can Address Mental Health Challenges and Mental Illness in Athletes

1. Existing or newly created ISTs in competitive and high-performance sport must include a qualified mental health care practitioner who can address clinical or subclinical symptoms as they arise (e.g., psychologist, psychiatrist, physician, psychotherapist, and MPC).

2. Unqualified individuals who do not have an official degree or diploma in a mental health–related field (e.g., psychology, counseling, and psychiatry) from an accredited institution must not be allowed to provide mental health care and counseling to athletes.

Principle 6: Institutions Offering Programs to Train Mental Health Professionals Have a Duty to Provide Opportunities to Develop Sport-Specific Competencies

1. Academic institutions (e.g., universities and colleges) must expand their educational programs to allow practitioners to specialize and develop competencies in sport, similar to other existing areas of specialization (developmental psychology, correctional psychology, counseling psychology, experimental psychology, forensic psychology, organizational psychology, and neuropsychology).
2. Specialized sport psychology programs providing education and training to mental health professionals must address foundational elements of sport sciences, and include extensive internship opportunities in sport that are supervised by qualified individuals who have experience working in this environment.

Conclusions

This position statement serves to address concepts and principles deemed vital to improve mental health and mental illness in competitive and high-performance sport in Canada. By laying a foundation for a unified discourse, the Canadian sport community can more actively challenge the status quo and move from mental health *talk* to mental health *action***.** The 6 principles highlighted in this article were elicited from the first phase of a multidisciplinary PAR project, of which the ultimate aim is to offer an effective, evidence-based, collaborative, and sport-focused mental health care model within the CCMHS to address the mental health and mental illness needs of competitive and high-performance athletes.

The CCMHS will be the first of its kind in Canada. It will provide important opportunities to test theory and advance knowledge and practice in a crucial area of health that warrants attention. Notably, the CCMHS will address a significant gap in mental health care available to Canadian competitive and high-performance athletes. Through both mental health care and preventative streams, the CCMHS will contribute to Sport Canada's mandate to develop healthy Canadian athletes across the lifespan. It is hoped that the CCMHS and this position statement will be used to inform the policies and actions of leading sport organizations (e.g., the Canadian Olympic Committee, the Canadian Paralympic Committee, USports, and the Canadian Sport Psychology Association), who have identified mental health as an increasing unmet area of concern for athletes. Improving the mental health of athletes through effective coaching, support teams, and programs should be a top priority for the entire Canadian sport system.

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Article 2: Collaboratively designing the Canadian Centre for Mental Health and Sport (CCMHS) using Group Concept Mapping

Van Slingerland, K. J., Durand-Bush, N., & Kenttä, G. (2019). Collaboratively designing the Canadian Centre for Mental Health and Sport (CCMHS) using Group Concept Mapping. *Journal of Applied Sport Psychology, 33*(1), 98-122. doi: 10.1080/10413200.2019.1704938

Abstract

Mental health researchers and practitioners alike have recognized that there are special considerations and challenges involved in diagnosing and treating mental illnesses in athletes. However, very few clinical psychologists and psychiatrists in Canada specialize in sport, representing a significant gap in mental health care service provision for this population. In this study, a group of expert sport and mental health stakeholders (*n*=17) employed a Participatory Action Research approach to design a specialized sport-focused mental health care model integrated within the Canadian Centre for Mental Health in Sport (CCMHS). Stakeholders engaged in focus group discussions to perform an environmental scan of the Canadian sport and mental health care contexts that laid the foundation for a Group Concept Mapping (GCM) exercise. Using the Concepts Systems software, stakeholders individually produced statements that described the elements to include in a sport-specific mental health care model implemented within the CCMHS. A total of 106 unique statements were organized into 6 themed clusters, focusing on: (1) Service Delivery [41 statements], (2) Communications and Promotion [21 statements], (3) Business, Policy, and Operations [21 statements], (4) Partnerships [9 statements], (5) Research [6 statements], and (6) Education and Training [8 statements]. These findings were operationalized to establish a sport-centered mental health care model and the CCMHS itself - the first Centre of its kind in Canada. GCM is seldom used to conduct sport research, thus the validity and reliability of this methodology was assessed.

Lay Summary: In this study, 17 sport and mental health expert stakeholders participated in group concept mapping to design a sport-focused mental health care delivery model. The group produced 106 unique statements that were organized into six strategic priority areas and operationalized to establish the Canadian Centre for Mental Health and Sport.

Background

There is a growing consensus that athletes struggle with mental health challenges and mental illness at the same, or a higher rate, than the general population (Reardon et al., 2019). Despite this identified risk, athletes tend to seek help at a lower rate than their non-athlete peers (Rice et al., 2016). One factor contributing to this higher threshold for help-seeking is a lack of mental health services designed specifically to serve sport populations. This is a notable gap, considering that athletes have identified a lack of mental health care practitioners who understand the context of competitive sports as a deterrent to help-seeking (Lopez & Levy, 2013). Unfortunately, there is no regulated profession in Canada whose members possess foundational training in sport science *and* are qualified to diagnose and treat mental illness. While Mental Performance Consultants (MPCs; professional members of the Canadian Sport Psychology Association) can address well-being and performance concerns in athletes, most of them are not clinically trained. On the other hand, the majority of professionals who can diagnose and/or treat mental illness (e.g. psychiatrists, clinical and registered psychologists, psychotherapists/counsellors) have no background in sport and therefore lack an understanding of the nuances of caring for athletes.[3] Given this void, it is necessary for different professionals (e.g. psychologists and MPCs) to collaborate in order to provide sport-informed mental health support to Canada's athlete population (see Van Slingerland et al., 2019 for a fulsome discussion on the proposed nature of this collaboration). As a result of the aforementioned gaps, the purposes of this study were to first perform an environmental scan of the Canadian mental health care and sport contexts and then use the results of this scan to design a sport-focused mental

[3] For more information on the scope of practice of each of the professions mentioned, please refer to Van Slingerland et al. (2019), in which the boundaries of competence of psychology-related professions in Canada are outlined.

health care model implemented within a broader Canadian Centre for Mental Health and Sport (CCMHS) dedicated to the mental health of competitive and high-performance athletes.[4]

Mental Health of Athletes

While an abundance of literature demonstrates that participation in recreational sport and mild to moderate physical activity can positively impact mental health and reduce symptoms of mental illness (e.g. Biddle, & Asare, 2011; Penedo & Dahn, 2005), the same cannot be said of competitive sports participation. There has long existed the assumption that because competitive and high-performance athletes are in peak physical health, they are impervious to mental health challenges. But as an increasing number of high-profile athletes publicly disclose their experience with mental illness (e.g. decorated Olympians Michael Phelps and Clara Hughes, professional hockey player Clint Malarchuk; see the Mental Health Awareness Collection in the Players' Tribune for more examples), this myth is slowly being busted. Researchers too, have begun to explore athletes' mental health (e.g. Van Slingerland, Durand-Bush, & Rathwell, 2018), demonstrating that competitive and high-performance athletes experience depression (Doherty, Hannigan, & Campbell, 2016; Gorczynski, Coyle, & Gibson, 2017), burnout (Gustafsson, DeFreese, & Madigan, 2017; Uusitalo et al., 2004), eating disorders (Gapin & Kearns, 2013; Martinsen & Sundgot-Borgen, 2013), and suffer debilitative psychological consequences as a result of sexual abuse (Johansson & Lundqvist, 2017; Papathomas & Lavallee, 2006). Research bears mixed results regarding the prevalence rates of mental illness in athlete samples compared to the general population. For example, researchers have found prevalence rates of eating

[4] As outlined in Van Slingerland et al. (2019), competitive sport involves activities in which athletes have the opportunity to systematically improve and measure their performance against others in competition in a safe and ethical manner (Government of Canada, 2019). High-performance sport involves activities in which athletes systematically achieve world class results at the highest levels of international competition through fair and ethical means (Government of Canada, 2019).

disorders spanning from 0 to 19% in male athletes and 6 to 45% in female athletes (Bratland-Sanda & Sundgot-Borgen, 2013), which far outpace rates in the general population (Joy, Kussman, & Nattiv, 2016). On the other hand, researchers have reported prevalence rates of depression as low as 4% (Schaal et al., 2011) and as high as 68% (Hammond et al., 2013) in elite athlete populations, which are rates that mirror those observed in the general population (Gorczynski et al., 2017).[5] Interestingly, what can distinguish athletes and the general population, particularly in the diagnosis and treatment of mental health challenges and mental illness, are sport-specific factors.

Sport-specific factors challenging athletes' mental health. In addition to the more traditional elements that influence the general population's mental health (e.g. biological, psychological, and social factors), there are unique aspects of competitive and high-performance sport participation considered to be risk factors for experiencing psychological concerns (Schinke, Stambulova, Si, & Moore, 2018). Coaching style (Blanchard, Amiot, Perreault, Vallerand, & Provencher, 2009; Reinboth & Duda, 2006), overtraining (Kenttä, Hassmén, & Raglin, 2006; Meeusen et al., 2013), injury (Putukian, 2016), transitions out of sport (Park, Lavallee, & Tod, 2013; Taylor, Ogilvie, & Lavallee, 2006), and expectations of significant others for success (Mountjoy, Rhind, Tilvas, & Leglise, 2015) are examples of such influencers. There are also aspects of sport participation that can complicate the diagnosis and treatment of athletes experiencing mental illness, such as athletic identity, competitive pressure, weight requirements, and obsessive passion (Baum, 2013; Glick & Horsfall, 2009). For these reasons, athletes (e.g. Lopez & Levy, 2013) and researchers alike have called for mental health supports

[5] To gain a fuller picture of mental health challenges in competitive and high-performance athletes, readers are directed to the International Olympic Committee's recent consensus statement and review of literature on the mental health of elite athletes (Reardon et al., 2019).

that account for the unique realities faced by competitive and high-performance sport populations.

Rice et al. (2016) advocate for the development of models of mental health care that are specific to the athlete population in order to foster improved mental health, effectively treat mental illness, and improve athletic performance. The first known model of this kind in the world was developed and implemented in a clinic in Stockholm, Sweden in 2015 to provide mental health care to Swedish National Team athletes and coaches (Moesch et al., 2018). The success of this Swedish clinic, combined with a recognized need for sport-specific support by the Canadian sport community, provided the impetus for the creation of the Canadian Centre for Mental Health and Sport (CCMHS, "the Centre") and a sport-focused mental health care model for competitive and high-performance athletes. In order to subject the development of the CCMHS to an empirical process, a three-phase Participatory Action Research (PAR) project to design, implement, and evaluate the Centre was devised. The present study was undertaken during the design phase, which was guided by the following objectives: (a) perform an environmental scan of the Canadian mental healthcare and sport contexts, and (b) collaboratively design a sport-focused mental health care model for competitive and high-performance athletes within a broader CCMHS.

Methodology

Participatory Action Research

The present study is grounded in Participatory Action Research (PAR; Lewin, 1946), a collaborative mode of inquiry that unites people of varying power, status, and influence to address a common concern and evaluate the results of strategies implemented in practice (McTaggart, 1991). PAR is a derivative of action research anchored in the belief that the process

of doing research can itself drive social change (Schwandt, 2001). Action researchers are pragmatists who act as outside agents of change (Herr & Anderson, 2005), assisting groups in creating and operationalizing knowledge to positively impact the community (Borg, Karlsson, & Kim, 2010). Conversely, participatory approaches position researchers as insiders studying themselves or collaborating with other insiders to examine a problem specific to their community (Herr & Anderson, 2005). Morever, participatory research is inherently values-driven, and as such, does not require researchers to bracket their biases, but rather welcomes their experience as true and legitimate evidence (Guba & Lincoln, 2005). Thus, participatory research is led by stakeholders whose lived experience is recognized as integral to the relevancy and impact of the inquiry (Lucock, Barber, Jones, & Lovell, 2007). The union of these two approaches results in a collaborative and cyclical research process of planning, acting, observing, and reflection (Kemmis & McTaggart, 1988).

PAR researchers view reality as relative, local, and socially constructed by community members whose interpretations provide the foundation of knowledge and action (Guba & Lincoln, 2005; Kilgore, 2001). The primary epistemological assumption of PAR, which is aligned with the participatory paradigm (Heron & Reason, 1997) that guided the current research, is that knowledge is embedded in the lives and experiences of individuals (Borg, Karlsson, Kim, & McCormack, 2012). The process of knowledge production, therefore, involved democratic dialogue, in which co-researchers collaboratively identified and challenged the status quo in an effort to transform local reality to better support human flourishing (Denzin & Lincoln, 2011; Guba & Lincoln, 2005). PAR offers an approach to inquiry that challenges researchers to critique what "is", and imagine and design what "could be" (Cook, 2012).

Participant stakeholders. This study stems from a multi-phase project associated with the first author's doctoral research to design, implement and evaluate the CCMHS. Twenty individuals (including all three authors) from the realms of sport, mental health, and academia formed the stakeholder group leading the project (see Table 1). Ethics approval was obtained from the host institution to conduct all phases of the research. Given that stakeholders are positioned as co-researchers rather than research subjects, and that the aim of PAR is to gather and use knowledge from a diverse group of people, it is customary to identify stakeholders to demonstrate how various knowledge fit together (Bergold & Thomas, 2012). Before the project began, all stakeholders signed a *Collective Agreement* (the "agreement") that denoted the principles of engagement under which the group would work. The agreement addressed: (a) respect and open communication, (b) access to empirical material, (c) identifiability in reports, publications, presentations, and social media, (d) reflection on the research process, (e) changes to group membership, (f) representation, (g) the consensus decision-making model (Robinson, 2006), and (h) mediation. Importantly, the agreement specified that stakeholders' involvement and contribution to the project would be acknowledged in reports and publications. In signing the collective agreement, stakeholders provided their informed consent to be identified. Nonetheless, the agreement stipulated that non-gender specific information or pseudonyms would be used in the main text of accounts (e.g., quotations) so that readers are unable to attribute comments to particular stakeholders. This was upheld in all publications related to this research.

Seventeen members of the broader stakeholder group were available to participate in the current study. Stakeholders were strategically selected based on their knowledge and experience with mental health challenges and disorders (e.g., they are service-users; they work, manage, and/or conduct research with service-users or related programs), their ability to contribute to the

Table 1

List of stakeholders (in alphabetical order)

Stakeholder	Affiliation
Anna Abraham	Registered Psychotherapist; Varsity Mental Health Coordinator, University of Ottawa Sports Services
Roger Archambault	Director of High-performance, University of Ottawa Sports Services; Retired national biathlon coach
Lindsay Bradley	Primary care sport medicine physician, Carleton University Sport Medicine Clinic; Team physician, Carleton Ravens Women's Rugby and Women's Basketball, Ottawa Fury FC, Ottawa 67s; Board Member Canadian Paralympic Committee
Keana Bush	Youth soccer athlete; Mental health advocate
Jennifer Bushell	Registered Kinesiologist; Athletic Therapist and Managing Partner, 360Centre360; Triathlete and coach
Samantha Delenardo	President and Co-Founder, Student-Athlete Mental Health Initiative; Retired varsity athlete
Natalie Durand-Bush	Co-founder CCMHS; Full Professor, School of Human Kinetics, University of Ottawa; Co-Founder and Mental Performance Consultant, Canadian Sport Psychology Association (CSPA); Executive Board Member, Association for Applied Sport Psychology (AASP)
Carla Edwards	Founder and Chief Sport Psychiatrist, Synergy Sport + Mental Health; Highperformance Mental Health Advisor, Swimming Canada; Retired varsity athlete
Mario Gaetano	Educator and coach, Ottawa Catholic School Board; Mental health advocate; Current University of Ottawa and past Carleton University assistant coach; Head coach, Canada Topflight Academy women's basketball program
Gary Goldfield	Registered Psychologist; Mental health researcher, Senior Scientist, CHEO Research Institute; Associate Professor, Pediatrics, Psychology, Human Kinetics, and Population Health, University of Ottawa
Patrick Grandmaître	Head coach, University of Ottawa men's hockey team; Retired varsity athlete; 2x national silver medalist, QMJHL and professional hockey player

Table 1. List of stakeholders (in alphabetical order) (continued)

Stakeholder	Affiliation
Göran Kenttä	Tenured lecturer and mental health researcher, The Swedish School of Sport and Health Sciences; Sport Psychologist and Sport Psychology Head, The Swedish Sport Confederation; Director, Swedish Elite Sport Mental Health Clinics; Adjunct Professor, University of Ottawa; Retired elite athlete and coach
Zul Merali	President and CEO, Royal Ottawa Hospital Institute of Mental Health Research; Full Professor, Faculty of Medicine and Faculty of Social Sciences, University of Ottawa
Paul Noble	Senior Manager, True Sport, Canadian Centre for Ethics in Sport
Kevin Rempel	2013 World Champion and 2014 Sochi Paralympic bronze medalist in sledge hockey; Author of Still Standing - When You Have Every Reason To Give Up, Keep Going; Founder of the Sledge Hockey Experience
Benoit Séguin	Director, School of Human Kinetics, University of Ottawa; Supervising professor, International Olympic Academy and Russian International Olympic University; Retired varsity athlete
Danika Smith	Student-Athlete Services and Compliance Officer, University of Ottawa Sports Services; Retired varsity athlete
Shauna Taylor	Executive Director, PacificSport Okanagan Sport Centre; Certified Clinical Counselor; Chair and Mental Performance Consultant, Canadian Sport Psychology Association; Adjunct Professor, University of British Columbia
Krista Van Slingerland	Co-founder CCMHS; PhD Candidate, School of Human Kinetics, University of Ottawa; Co-Founder, Student-Athlete Mental Health Initiative; Retired varsity athlete
Penny Werthner	Dean, Faculty of Kinesiology, University of Calgary; Advisor, Canadian Olympic Committee; Past Chair, Mental Performance Consultant, Canadian Sport Psychology Association; Olympian

research process, and their willingness to participate. Half of the (n = 10) stakeholders identified as service-users (i.e. people who identify themselves as current or former users of mental health services), 80% (n = 16) were currently or formerly competitive or high-performance athletes,

60% (*n* = 12) were currently or formerly competitive or high-performance coaches, 30% (*n* = 6) were (or have been) mental health care service providers (i.e. certified Counselor, licensed psychologist, or psychiatrist), and 40% (*n* = 6) were (or have ever been) mental performance service providers (i.e. mental performance consultant). In late November 2017, 17 of the 20 stakeholders who were available gathered at the University of Ottawa for a two-day summit to design the mental health care model and CCMHS. On the first day, 15 stakeholders participated in person, while two participated remotely via Skype. Three stakeholders who attended the first day of the summit in person were unavailable to contribute on the second day.

Methods

Specific procedures of knowledge gathering are not prescribed within the PAR approach, as is, for example, within Grounded Theory (Corbin & Strauss, 2015). Rather, PAR researchers rely on a wide variety of methods as they come to understand community needs through the planning, action, observation, and reflection process (Ponterotto, 2013). The use of multiple methods of data collection allows for the triangulation of findings, facilitates effective problem-solving, and allows researchers to avoid the pitfalls of any one method (Bergold & Thomas, 2012). As a result, each PAR project is unique and may rely on a number of qualitative and/or quantitative methods (Ponterotto, 2013). Such was the case with the present study, which combined focus group discussions (Wilkinson, 1998) and group concept mapping (Trochim, 1989a), using a sequential transformative mixed methods design (Cresswell, 2014; Figure 1) to collaboratively identify and subsequently address the state of mental health care available to Canadian athletes. Mixed methods research involves the collection, analysis, and integration of both quantitative and qualitative data, thereby drawing interpretations based on the combined strengths of both data sets (Cresswell, 2014). Researchers using a transformative design employ

an orienting lens to engage in research that brings about change in a marginalized or underrepresented community (e.g. athletes with mental health challenges and mental illness; Mertens, 2003).

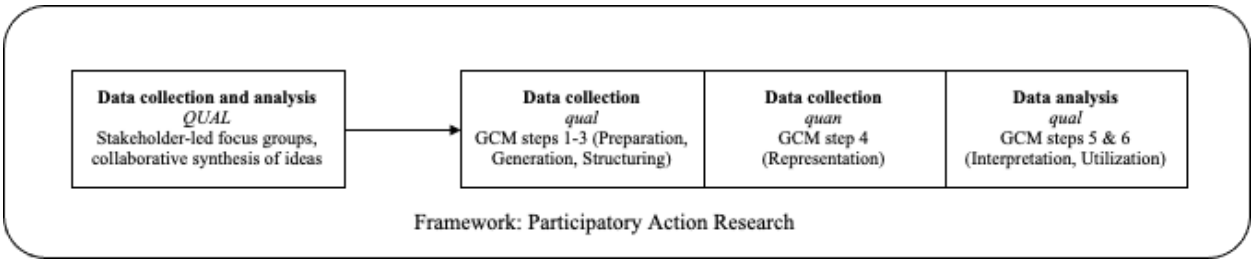

Figure 1. Sequential transformative mixed methods design.

Focus group discussions

On the first day of the summit, stakeholders participated in two focus group discussions (3 groups, n = 6-7 participants, ~60 minutes each) to lay the groundwork for a Group Concept Mapping (GCM) exercise performed on the second day. The purpose of the focus group discussions was to meet the first objective of the design phase of the larger project (i.e. to perform an environmental scan of the Canadian mental health care and sport contexts). Environmental scans are used to investigate external factors (e.g. social, political, economic, technological) that can impact current and future success and operations of organizations or groups (Albright, 2004). They lead to an increased understanding of current issues and challenges to make informed plans for the future (Graham, Evitts, & Thomas-MacLean, 2008).

Focus groups were chosen to capture stakeholders' unique experiences while also eliciting an exploration of shared perspectives (Morgan, 1988). Discussions were informed by a semi-structured interview guide designed by the first two authors and approved by the stakeholder group. Given that PAR is concerned with facilitating authentic participation and empowering marginalized community members, focus group procedures were modified to increase

congruence with these goals (Makosky Daley et al., 2010) and enhance trustworthiness (Morrow, 2005). For example, each discussion group was moderated by a stakeholder (not necessarily with research experience) [6] who identified as a service-user. Service-users are often considered a vulnerable population [i.e. they face discrimination, intolerance, subordination, and stigma (Nyamathi, 1998), thus, the integration of service-users into research contributes to the restoration of the credibility and authority of a group that has been historically marginalized by psychiatric labeling (Russo, 2012)]. Furthermore, results were collaboratively discussed and synthesized by the entire stakeholder group. Importantly, co-analysis enhanced trustworthiness by avoiding misrepresentation of participant meaning (Forbat & Henderson, 2005).

The first focus group discussion centered around stakeholders' perceptions and experiences of the *availability* and *effectiveness* of mental health care in Canada for competitive and high-performance athletes. During the second focus group discussion, stakeholders deliberated on the strengths, weaknesses, opportunities, and threats to creating the CCMHS. Each group summarized their ideas on cue-cards as discussion occurred, while a research assistant silently observed and took notes for each group to ensure no ideas were missed or lost. Stakeholders within the discussion groups then presented their results to the larger group, which were synthesized into a unique list comprising a total of 86 ideas. This list was comprised of what to address in the design of the CCMHS, including the sport-focused mental health care model, and specific elements to include in the CCMHS and model. Examples of what to address in the design of the CCMHS include stigma, confidentiality, a funding model, eligibility criteria, an intake and referral process, and geographical constraints. Examples of elements to include within the CCMHS are bilingual services, sport-specialized practitioners, a multidisciplinary team, an

[6] Each group included at least one experienced researcher who was instructed to assist the moderator if necessary

evaluation model, a triage system, and peer-to-peer programing. The list was printed for each stakeholder and emailed to the remote participants, who consulted it during the Generation stage of the GCM activity (see below).

Group Concept Mapping

On the second day of the summit, stakeholders participated in a GCM exercise to produce an actionable framework (i.e. sport-focused mental health care model within a broader CCMHS) that addressed the issues and challenges identified during the first day. The GCM is a participatory mixed methods approach that marries qualitative individual and group processes with quantitative multivariate analyses to transform thoughts and ideas and their interrelationships into an objective visual representation (Burke, O'Campo, Peak, Gielen, McDonnell, & Trochim, 2005; Kane & Trochim, 2007; Rosas & Kane, 2012). In program and organizational planning, concept mapping is used to identify the elements (e.g. goals, needs, resources) that will eventually make up a framework to guide the planning and implementation processes (Trochim, 1989a). GCM is often used when an issue in research (e.g. mental health in sport) is at an exploratory stage (Johnsen, Biegel, & Shafran, 2000). As such, this method was particularly appropriate for the present project. GCM has been applied extensively as a program planning tool in healthcare (e.g. Anderson, Day, & Vandenberg, 2011), and while it has been used to plan programs with recreational and physical activity components (e.g. Bergeron & Levesque, 2014), to our knowledge, it has not been applied in competitive and high-performance sport.

Data collection and analysis for the GCM exercise occurred over seven hours (9am-4 pm) using the Concept Systems® Global MAX™ web-based platform, which computerizes each of the steps in real-time (much as SPSS computerizes the process of statistical analysis). A software

license was purchased in advance of the summit and stakeholders registered for an account with a unique username and password. The GCM activity was led by the first two authors, who received e-training (live webinar) on the facilitation of GCM with the Concept Systems software prior to the summit. While the majority of projects follow the process enumerated by Kane and Trochim (2007), there are also a significant number of researchers who have adapted this framework to meet the demands and constraints of their unique project (Johnsen, Biegel, & Shafran, 2000). The GCM exercise unfolded across the following six steps: (a) preparation, (b) generation, (c) structuring, (d) representation, (e) interpretation, and (f) utilization (Kane & Trochim, 2007), the last two of which generated the results of this study and will be presented in the Results section.

Step one: preparation. The preparation step of GCM serves to identify research goals, participants, brainstorming focus question(s), and rating scales (Burke et al., 2005). Stakeholders were selected ahead of the summit as described above. For efficiency, the first two authors drafted research goals, a focal question, and rating prompt, which were discussed and refined with stakeholders before proceeding to the second step. The goals of the activity were to: (a) obtain a list of participant-generated items (e.g. specific practitioners, services provided, funding scheme) that are deemed necessary for the creation of a feasible mental health care model that could be implemented within a CCMHS; and (b) determine how important each item is for the design of the model and center. Participants agreed that these goals accurately reflected their understanding of the purpose of the GCM activity and thus, accepted the goals without amendment.

The following focal question was designed to elicit information to address the primary research question: *Generate short phrases that describe the elements (e.g. services, personnel,*

organizational structures) that should be included in an athlete-specific mental health care model and team. Participants requested that "and team" be removed from the focal question as they perceived the team as being part of the model. Additionally, stakeholders asked that *implemented in a CCMHS* be added to enhance specificity and clarity. Therefore, the final focus question read: *Generate short phrases that describe the elements (e.g. services, personnel, organizational structures) that should be included in an athlete-specific mental health care model implemented in a CCMHS*. Lastly, the following rating prompt was presented to the group for consideration: *Rate each item (on a scale from 1 to 5) based on how important it is to include in the mental health care model that will be piloted in Phase 2 of the project (i.e. how much priority it should be given).* Stakeholders agreed with this prompt and therefore, no modifications were made.

Step two: generation. During the Generation step, the role of the facilitators was to (a) introduce GCM and the brainstorming process, (b) manage the brainstorming session, and (c) lead the synthesis (i.e. reduce and/or edit) of the generated statements to produce a set of statements for subsequent sorting and rating. Kane and Trochim (2007) suggest that 100 statements or fewer are optimal to limit redundant content and preserve group energy.

Brainstorming. This part of the GCM exercise was done individually on participants' laptop computers using their account credentials. Participants were instructed to answer the focal question by entering statements of 140 characters or less directly into the online software. As stakeholders could see other participants' statements as they were entered, they were instructed not to criticize or question the legitimacy of the ideas of others during brainstorming, as disputes about statements would be settled at a later stage.

***Idea synthesis*.** The purposes of synthesizing the ideas generated by participants during brainstorming are fourfold (Kane & Trochim, 2007): (a) obtain a list of unique ideas, with only one idea represented by each statement, (b) ensure that each statement is relevant to the focus of the project, (c) reduce the statements to a manageable number for stakeholders to sort and rate, and (d) edit statements for clarity and comprehension across the entire stakeholder group. To aid in this process, the software produced a Brainstorm Report that displayed all statement entries (*N* = 360). Stakeholders used this report to collaboratively reduce and edit the raw statements to a unique set (*n* =106).

Step three: structuring. The structuring step involved two conceptual tasks performed individually by each stakeholder via the Concept Systems software: (a) provide perceptions of the similarities between statements (sorting) and (b) rate each statement on a predetermined dimension by answering the rating focus prompt for *each* statement (rating). Stakeholders were instructed to sort the 106 unique statements into as many "piles" as possible that made sense to them (this function plays out much like a computerized game of Solitaire, Burke et al., 2005), with each pile consisting of at least two statements. Next, participants answered the rating prompt for each statement by assigning the statement a numeric value on a Likert scale from 1 (not important) to 5 (extremely important) based on their perception of the statement's importance to include in the sport-focused mental health care model within the CCMHS.

Step four: representation. The representation stage was carried out by the first two authors using the Concept Systems software. The software used the raw data produced by the stakeholders during the Structuring stage to perform three core analyses (i.e. similarity matrix generation, multidimensional scaling analysis, and hierarchical cluster analysis – readers wishing to know more about these analyses are directed to Kane and Trochim, 2007). The results of these analyses formed the basis of materials (i.e. point map, cluster map) used by stakeholders during the interpretation step. *Point maps* plot each statement as a separate point on a map based on how they were sorted by participants (Figure 2).

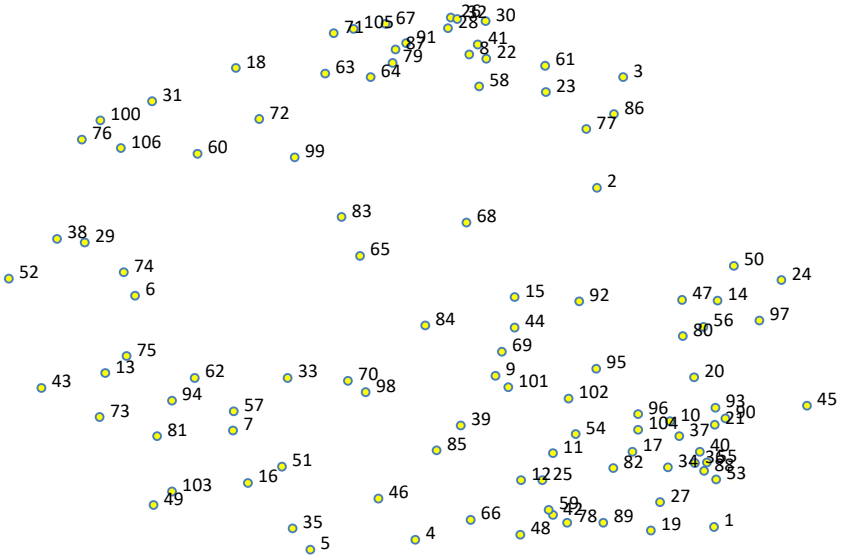

Figure 2. The point map resulting from the sorting and rating step. Note. Numbers on the map correspond to statement numbers. The distance between statements indicates how often they were sorted together by participants (i.e., how related participants recognized statements to be to one another).

The distance between points demonstrates how likely statements were to have been sorted together (i.e., closer points were sorted together more frequently; Trochim, 1989a). *Cluster maps* are derived by grouping or partitioning the statements on the point map into clusters that

represent similar constructs (i.e., hierarchical cluster analysis, Yim & Ramdeen, 2015). This provides a visual representation of the "higher order conceptual groupings of the original set of statements" (Trochim, 1989a, p. 7). The hierarchical cluster analysis reduces data by classifying them into homogenous groups one at a time in a series of sequential steps (Blei & Lafferty, 2009). At each iteration of the hierarchical cluster analysis, either a new cluster is formed, or a statement is linked to an existing cluster, with the goal of increasing within-group homogeneity and the heterogeneity between groups (Yim & Ramdeen, 2015).

Clusters were given software-generated names based on aggregate titles assigned to piles during the sorting stage by stakeholders. Because a set number of clusters is not specified at the outset of this procedure, various grouping structures (i.e., cluster solutions) are possible. Choosing which grouping structure makes most sense for the project at hand was done in collaboration with participants during the Interpretation step (Trochim, 1989a).

Results

Step five: interpretation. During this step, five cluster solutions (i.e., 5 clusters, 6 clusters, 7 clusters, 8 clusters, 9 clusters) were presented to stakeholders. Kane and Trochim (2007) note that there is no scientific way to choose the optimal cluster solution; this is rather done at the group's discretion. In this case, the stakeholders considered the options based on the project goals and anticipated practical application of the results, deciding that a 6-cluster solution was most appropriate (Figure 3). Next, stakeholders discussed the automatically generated cluster names and came to a consensus to modify the title of three, resulting in the following clusters: (a) service delivery [41 statements, average rating of 3.96], (b) communications and promotion [21 statements, average importance rating of 3.37], (c) business, policy and operations [21 statements, average importance rating of 3.97], (d) partnerships [9 statements, average

importance rating of 3.51], (e) research [6 statements, average importance rating of 3.63], and (f) education and training [8 statements, average importance rating 2.67]. Finally, the group reviewed the statements in each cluster, manually moving statements to other clusters when there was a consensus to do so. This process of manual manipulation supports Kane and Trochim's (2007) assertion that although GCM relies on technology, the process cannot be completely programed because the human experience of the process is essential to its value. Consensus throughout all aspects of the GCM exercise was reached using Robinson's (2006) framework for consensus-based decision-making outlined within the group's Collective Agreement.

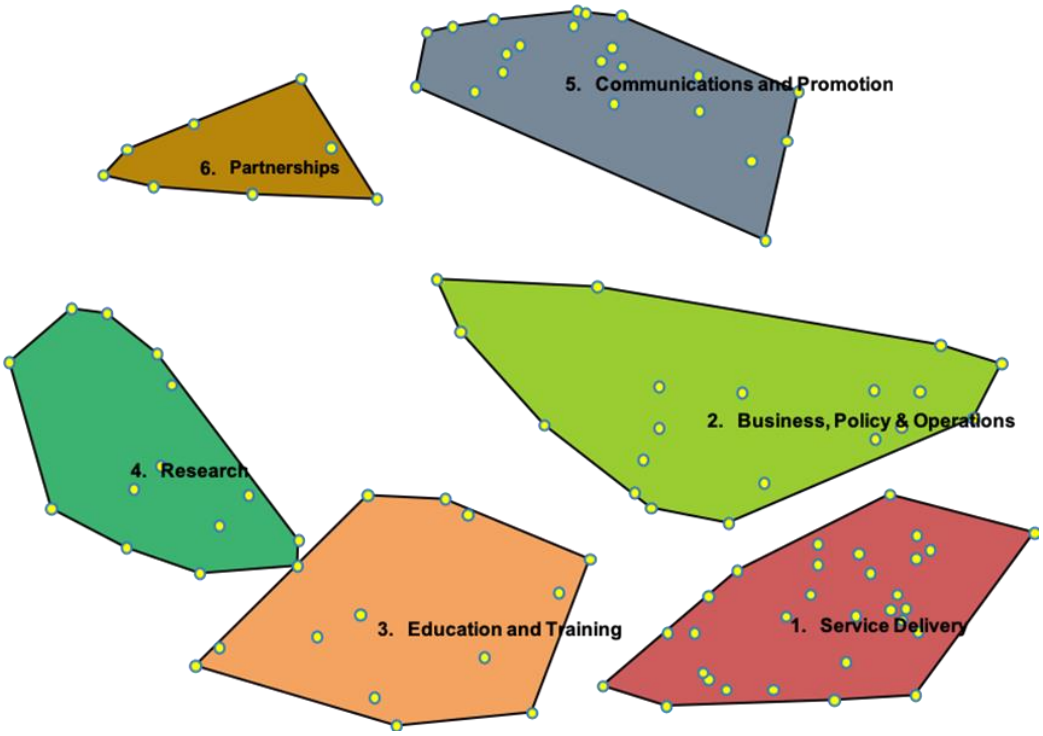

Figure 3. The 6-cluster concept map selected by stakeholders. Note. Individual statements are represented by green dots. Proximity of statements within a cluster: closer proximity indicates a stronger degree of similarity between statements. Cluster size: based on the proximity of statements; a larger cluster indicates more distance between statements.

The validity and reliability of the GCM results were assessed using indicators enumerated by Rosas and Kane (2012), who suggest that markers of both external and internal representational validity may be used to evaluate GCM results. *External representational validity* is "the extent to which a conceptualized model mirrors the reality it is purported to represent" (Rosas & Kane, 2012, p.237). Indicators of external validity include: (a) the extent to which the set of raw statements represents the topic under inquiry, (b) the use of multiple data collection and analysis methods, and (c) the inclusion of independent participants with diverse perspectives (Cacy, 1996). The procedures and results of the current study support these criteria. For example, stakeholders were given the opportunity to collaborate to modify the focus prompt to better represent study objectives, reduce the number of raw statements to a final manageable set for sorting and rating, and refine the final concept map so that it would be the most applicable to address the mental health of athletes in subsequent phases of the project. In response to Cacy's (1996) second criteria, a sequential transformative mixed methods approach was used to collect both qualitative and quantitative data. Lastly, individuals of varying nationalities, ages, genders, races, sport and professional backgrounds served as participants in this study (Table 1), representing many of the key stakeholders in Canadian sport and mental health sectors.

Internal representational validity is "the degree to which the conceptualized model reflects the judgements made by participants in organizing information to produce the model" (i.e. "goodness-of-fit"; Rosas & Kane, 2012, p. 237). In concept mapping, goodness-of-fit is indicated by configural similarity (Dumont, 1989; Trochim, 1989b) and stress values (Kruskal & Wish, 1978). *Configural similarity* is represented by the Pearson's Product-Moment correlation between the original similarity matrix (shows the number of participants who sorted each pair of statements together) and a matrix of the Euclidean distances between statements on the final

concept map (Rosas & Kane, 2012). The average squared correlation of the input similarities and the scaled distances from the multidimensional scaling coordinates (i.e. configural similarity) was 0.51 and statistically significant, $t(1) = 117.51$, $p<.001$. This indicates that on average, 51% of the variation in the way stakeholders sorted statements was accounted for by the final cluster solution. The variation explained by our final map (51%) was higher than the average across the studies synthesized by Rosas and Kane (2012; 44%), reflecting better fit than established norms.

Stress values represent the degree to which a multidimensional scaling solution fits the original similarity matrix (Kane & Rosas, 2018), with lower values reflecting a better congruence of raw data and cluster solution (Davison, 1983). Our 6-cluster solution was associated with a stress value of 0.29, further supporting the internal representational validity of our results. For example, Rosas and Kane (2012) performed a pooled analysis of 69 concept mapping studies, finding that the average stress value reported was 0.28. Similarly, Kane and Trochim (2007) reported a 95% confidence interval for stress values lying between 0.21 and 0.37, indicating that maps with stress values that fall within this range will be readily interpretable. Moreover, Sturrock and Rocha (2000) determined that multidimensional scaling solutions where 100 objects have been scaled have a less than 1% chance of being a random configuration when stress values are 0.39 or lower.

Reliability in concept mapping can be understood as the consistency of participant input and can be assessed by computing item and rater reliability estimates. Because we were primarily interested in the structure of the data, the reliability of the way stakeholders sorted statements was assessed, rather than the reliability of their importance ratings. *Sorting reliability* reflects "the extent to which the structural arrangements, both individually and collectively, reflect an assumed normatively typical arrangement" (Rosas & Kane, 2012, p. 237). We

compared our findings to those of Trochim (1993) and Rosas and Kane (2012) who synthesized 38 and 67 GCM studies, respectively, to establish normative values of reliability. Four tests were used to estimate the sorting reliability of our results: (a) split-half reliability of sorting data [r_{SHT}], (b) split-half reliability of the total map (r_{SHM}), (c) individual-to-total reliability [r_{IT}], and (d) individual-to-map reliability [r_{IM}]. To calculate the split-half reliabilities, participants were randomly separated into two equal subgroups, labeled A and B (Trochim, Cook, & Setze, 1994). Point maps, based on sort data, were then generated for each group. Next, total sort matrices (T_A and T_B) and multidimensional scaling maps (X_A and X_B) were generated for each subgroup. The sort matrices of each split-half group were correlated (r=0.609) and the Spearman-Brown correction was applied to obtain the split-half reliability of the sorts (r_{SHT} = 0.757), reflecting how similarly each group sorted the statements. The r_{SHT} of the current study (0.70) is slightly less than averages observed by Trochim, Cook, and Setze (1994; r_{SHT} = 0.833) and Rosas and Kane (2012; r_{SHT} = 0.87), though remains above the threshold for acceptability (Rosas & Kane, 2012). Next, to compute the split-half reliability of the final map configuration, we correlated XA and XB (r = 0.446), and then applied the Spearman-Brown correction (r_{SHM} =.67). Similarly, the split half total map reliability is consistent with average values observed by Trochim, Cook, and Setze (1994, r_{SHM} = 0.55) and Rosas and Kane, (2012, r_{SHM} = 0.67). Of note, lower values are expected for r_{SHM} (relative to r_{SHT}), as this value is calculated using processed data, rather than the raw data used to generate r_{SHT} (Trochim, Cook, and Setze, 1994). Lastly, individual-to-total matrix reliability was computed. Individual sort matrices were first correlated to the total similarity matrix ($0.324 \geq r \leq 0.593$). These values were averaged (r = 0.412) and then corrected using Spearman-Brown (r_{IT}=0.90), indicating that individual sorts were highly correlated to the total sort matrix. The individual-to-total matrix reliability of 0.90 in this study is consistent with

the findings of Trochim, Cook, and Setze (1994), who found an average r_{IT} of 0.93, and Rosas and Kane (2012), who found an average r_{IT} of 0.96 in their respective reviews. Given acceptable split-half reliabilities and the strong indicators of individual-to-total matrix and individual-to-map reliability, we did not pursue further reliability tests. In sum, the estimates of validity and reliability generated in this study are demonstrably strong, providing solid preliminary evidence that GCM is an effective method of gathering and representing the collective ideas of stakeholders to address mental health in sport.

Step six: utilization. Following the summit, the stakeholders met in February 2018 to discuss how the map could be used to inform planning efforts and the next phases of the research project. The group used the highest rated statements to determine which statements would be actioned immediately (n = 22; Table 2) during the utilization step. Stakeholders then divided into working groups based on their respective areas of expertise to collaborate on operationalizing the statements. Four groups were formed, focusing on (1) eligibility criteria (statement 1), (2) electronic medical records (statement 102), (3) physical location (statement 49), and (4) methodology of payments (statement 6), respectively. The project leads (i.e., first two authors) led the address of any statements that did not fall within the scope of the above groups, such as incorporating the CCMHS as a not-for-profit organization (statement 74), designing a website (statement 77, www.ccmhs-ccsms.ca.), and developing a hiring process to establish a team of mental health care practitioners with sport competencies (statements 48, 78, 89). Stakeholders also engaged individuals within their personal networks with areas of expertise (e.g. business strategy, governance, law) that were not already fulfilled by the current stakeholders. As a result of this snowball sampling (Patton, 2002), three additional stakeholders joined the project. These

individuals joined working groups to meet goals such as creating a business concept and drafting contracts to employ practitioners within the Centre.

Discussion

The purpose of this study was to engage a group of expert stakeholders to collaboratively design a sport-focused mental health care model to be implemented within a broader Canadian Centre for Mental Health and Sport. The results of an environmental scan and Group Concept Mapping activity both revealed and addressed gaps in the Canadian sport and mental health care systems, providing an actionable framework to address some of the identified shortcomings.

Table 2

Highest Ranked Statements from the GMC Exercise

Number	Statement	AI
Service Delivery		
78	Practitioners in the CCMHS should have dual competencies in clinical experience AND sport	4.69
89	Create multidisciplinary team including psychiatrists, psychologists, psychotherapists, and mental performance consultants	4.69
48	Include well-trained multidisciplinary service providers delivering evidence-based care, ideally with multicultural competencies	4.63
84	Provide evidence-based care	4.63
1	Establish standardized eligibility criteria to access services within CCMHS and referral plan for those who don't meet the criteria	4.56
59	Establish structure, frequency, duration, parameters of care for multidisciplinary service delivery model	4.56
Communications and Promotion		
77	Develop user-friendly website that clearly identifies target audiences on website (ex. athletes, coaches, parents, service providers)	4.125

Table 2. Highest ranked Statements from GCM Exercise (continued).

Number	Statement	AI
Business, Policy, and Operations		
6	Develop a comprehensive business plan and funding model, that includes fundraising, billing, grants and donations	4.6875
54	Have well-defined policies to maintain confidentiality (e.g., when sponsors pay for care)	4.6875
29	Establish funding model to include all sectors (private, federal, donors, foundations, grants)	4.4375
35	Establish shared values for multidisciplinary team	4.4375
57	Define organizational structure of CCMHS	4.375
74	Incorporate as a non-for-profit organization to be able to get funding from community	4.375
60	Develop and communicate vision, mission, core values, and primary goals	4.3125
16	Retain lawyer that will help to navigate legal issues associated with CCMHS (ex. liability, privacy)	4.25
5	Establish evaluative processes/protocols	4.1875
49	Establish physical location with easy and comfortable access (wheelchair accessible, parking, transit) and environment	4.1875
62	Develop board of directors or advisory committee to guide decision making and best practices	4.125
102	Use an electronic health records system	4.125
Partnerships		
76	Create strategic partnerships with key organizational stakeholders to elevate profile and procure funding for CCMHS	4.375
100	Create partnerships with sport organizations and sport communities	4
106	Work with partners to develop a position paper to engage leading sport organizations on the importance of mental health and CCMHS	4

Note. AI = Average importance rating

The distribution of statements within clusters provides insight into the collective vision of stakeholders regarding how to address the identified gaps in the Canadian mental health care and

sport systems. With 38% of the statements captured in the *Service Delivery* cluster, the results of this study demonstrate that stakeholders envisioned sport-focused mental health care delivery as the crux of the CCMHS' activities. Several statements within this cluster (n = 8) referred to an interdisciplinary team approach to care provision, with adequate training and sport experience/competencies (e.g., training in sport sciences, previous experience as an athlete or coach to understand the competitive or high-performance environment) deemed primordial in the delivery of services. This particularly stemmed from the gap in current mental health care provision for athletes in Canada that was identified during the focus group discussions.

Statements in the service delivery cluster led to the development of a person-centered interdisciplinary collaborative care model (Figure 4) featuring practitioners whose scope of practice ranges from sport performance and well-being (i.e. MPCs) to the diagnosis and/or treatment of mental illness (i.e. psychotherapists/counsellors, psychologists, and psychiatrists). The person-centered nature of the model supports a movement during the last two decades prioritizing person-centered approaches in primary care and mental health care settings, reflecting a broader cultural shift toward individualism and equality of power in patient-provider relationships (Gask & Coventry, 2012). Moreover, the holistic and comprehensive approach to care within the collaborative model is reflected in the sports literature, which calls to view athletes as people first and athletes second (Booher & Thibodeau, 2000). Based on the envisioned model and the other statements within the service delivery cluster, eligibility criteria (Table 3) and an intake process and care pathway (Figure 5) were also developed.

Respecting the service delivery model, 16 practitioners (i.e. three MPCs, four psychotherapists/counselors, seven psychologists, one psychiatrist, and one family physician), located coast-to-coast, were contracted and currently provide care on a part-time basis through

the CCMHS. Seven practitioners have dual certifications; for example, they are an MPC *and* have a psychotherapist (i.e. counseling) designation. All other practitioners have, at a minimum, experience or in-depth knowledge of competitive and high-performance sport environments. Importantly, all practitioners are members in good standing within their respective profession and abide by their professional body's ethical code of conduct when providing care. One practitioner (an MPC) acts as the Care Coordinator whose role is to assess eligibility, administer the intake interview and survey, and assign a collaborative care team to service-users. Since interdisciplinary care programs were first introduced, the care coordinator role has been essential to ensuring that client needs are met and integrated services are provided within mental health systems (Hannigan, Simpson, Coffey, Barlow, & Jones, 2018). Every CCMHS service-user is assigned a team of two practitioners at minimum to promote integrated and comprehensive care (i.e. a lead and support practitioner). Teams are allocated based on practitioner expertise (e.g.,

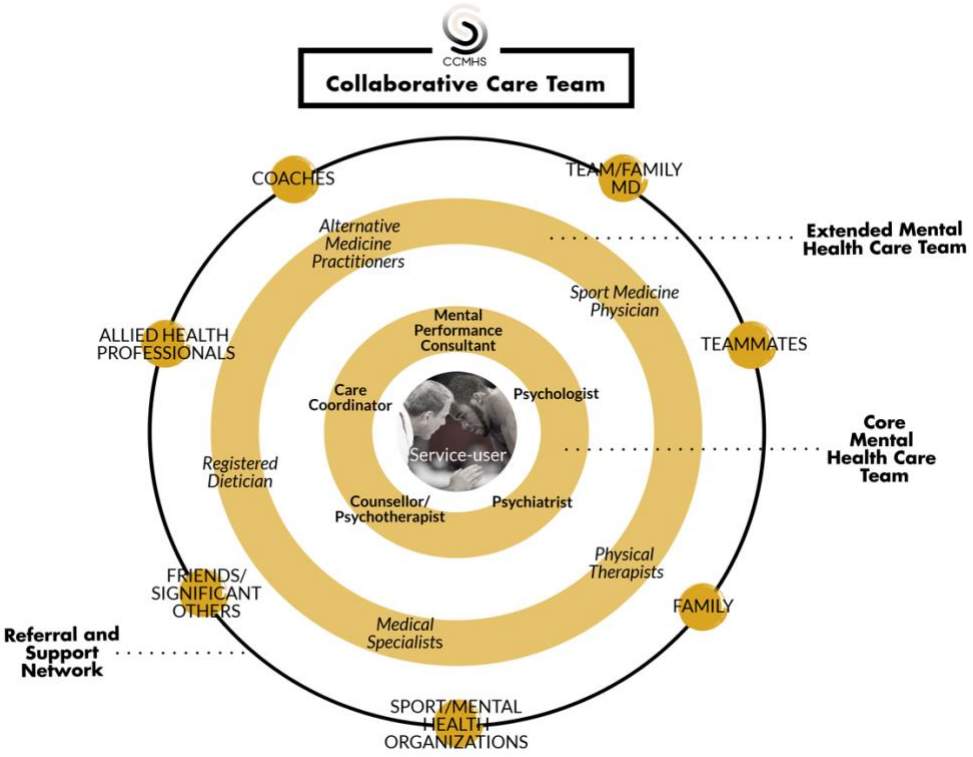

Figure 4. Collaborative care model designed by stakeholders based on statements from the Service Delivery cluster.

Table 3

Eligibility Criteria to Access CCMHS Mental Health Care Services

Age
Athletes must be 16 years of age or older.
Sport Participation
Athletes who fulfill the following four criteria[7] are eligible: 1. They devote several hours to sport training and competitions throughout the week with the aim of improving their performance and results; the time they devote to sport(s) exceeds the time they spend pursuing other extracurricular activities. a. This is assessed based on a self-report questionnaire.
Sport Participation
2. They devote several hours to sport training and competitions throughout the week with the aim of improving their performance and results; the time they devote to sport(s) exceeds the time they spend pursuing other extracurricular activities. a. This is assessed based on a self-report questionnaire. 3. They actively and regularly participate in regulated sport competitions a. While in season, athletes compete regularly in sport at the provincial[8], national, international, or professional level; this can vary by sport and is assessed on a case-by-case basis. b. Injured athletes who intend to return to play and who meet the criteria set out in 2a. are eligible to receive services. c. Athletes who have exited sport (as defined in 2a.) involuntarily (e.g., due to a career-ending injury) up to 12 months before their referral is obtained are eligible to receive services. 4. They are formally registered in a local/regional, provincial, national, or professional sport club or organization regulating the sport. a. This is verified through proof of payment or proof of registration with the club or organization.

[7] Adapted from Araújo and Scharhag (2016)
[8] Athletes who compete exclusively at the high-school level are not eligible

Table 3. Eligibility Criteria to Access CCMHS Mental Health Care Services (continued)

Clinical Symptoms & Functional Impairment
1. Athletes must be experiencing clinical and/or sub-clinical symptoms and functional impairment in their daily life and/or athletic performance[9]. a. Clinical symptoms and functional impairment are assessed using a stepped approach involving an intake interview and a self-report screening tool. b. Athletes who meet the clinical symptoms and functional impairment threshold are assigned to a collaborative care team who establishes the care plan.

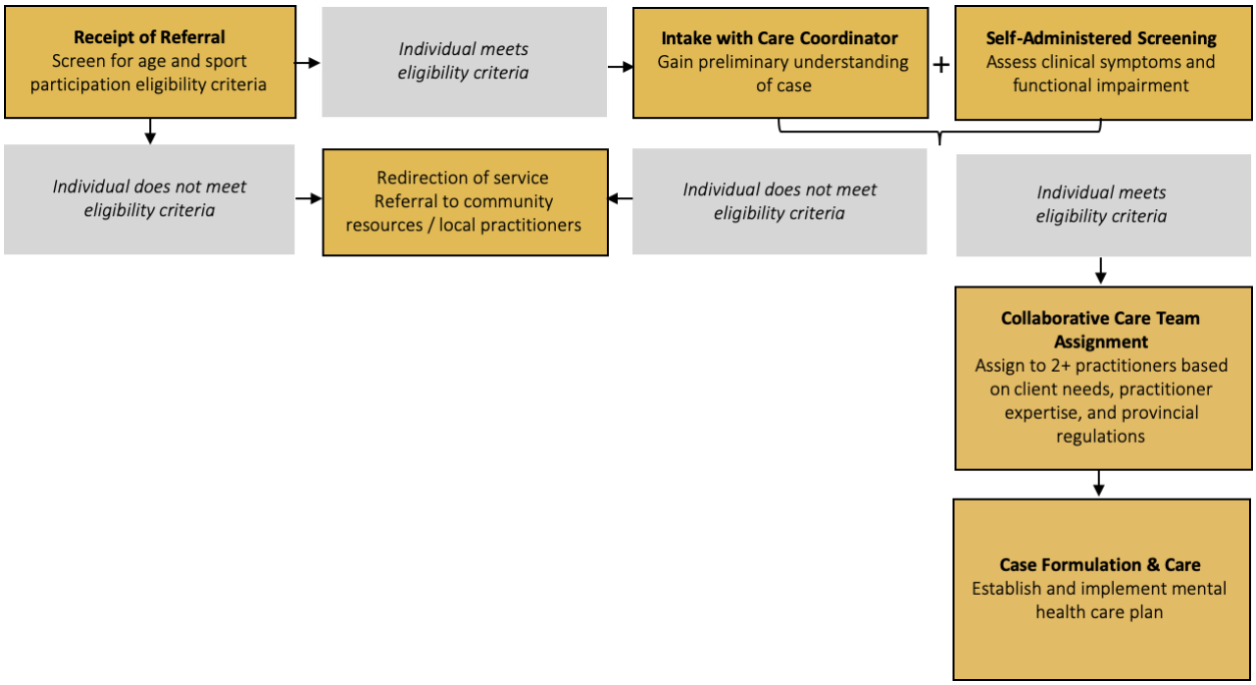

Figure 5. CCMHS intake process and care pathway.

eating disorders), geographic location (e.g. psychologists and psychiatrists can only treat clients who reside within of the province in which they are licensed to practice), and client preferences (e.g. practitioner gender). This was deemed important as it has been shown that when client preferences are met, communication, patient satisfaction, and quality of care perceptions are enhanced (García, Paterniti, Romano, & Kravitz, 2003).

[9] Athletes who are a danger to themselves or unable to care for themselves at time of intake (e.g., acutely suicidal, manic, psychotic) will be referred to hospital with the option to be re-assessed for eligibility following stabilization

Collaboration between practitioners varies based on each client and can range from the team lead acting as the primary care provider while leveraging support from the second practitioner to discuss challenges as they arise, to both practitioners having individual sessions with a client (e.g. an MPC assists in managing mental health challenges to sustain optimal sport performance while a psychologist uses Cognitive Behavioral Therapy techniques to heal a traumatic experience that is driving the client's challenges). This flexibility is important to maximize the person-centered nature of the care provided and meet clients' unique needs (Canadian Medical Protective Association, 2019). Respecting Canadian provincial regulations (e.g. Personal Health Information Protection Act, 2004, S. O. 2004, c. 3, Sched. A) and CCMHS policy, client information is shared via a secure electronic medical records system where practitioners record case notes following every client and team encounter.

With regards to addressing the other clusters, there was prominence placed on the *Communications and Promotion* cluster (19% of statements), which was not surprising given the limited public information regarding athlete mental health and services. Creating different channels (e.g., website, social media, webinars; e.g. www.ccmhs-ccsms.ca) to promote mental health was deemed vital to increase help-seeking and decrease stigma in sport (Gulliver, Griffiths, & Christensen, 2012). Importantly, communications strategies to promote mental health literacy have been successful in reducing the stigma associated with mental health and substance use disorders (National Academies of Sciences, Engineering, and Medicine, 2018). Stigma reduction is an integral part of mental health promotion, which seeks to leverage individual, social, and environmental qualities that lead to improved health and well-being (WHO, 2002).

A similar focus was placed on *Business, Policy, and Operations* (18% of statements) given that the CCMHS was envisioned as a not-for-profit organization. The structures and policies that flow from an organization's governance model is the backbone of non-profit organization management and dictates important aspects of organizational function such as strategic focus and fundraising capacity (Siebart & Reichard, 2004). Statements in this cluster provided direction to stakeholders to establish a Board of Directors, develop a business concept (including a funding model and payment method for services), incorporate as a not-for-profit entity with the Canadian Government, and locate a physical home for the Center (i.e., House of Sport in Ottawa, Canada). All of these actions were considered necessary for the success of the CCMHS. The stakeholders' expertise and efforts to obtain all necessary information to transform the statements into concrete actions in the Utilization step of this phase cannot be overemphasized.

The remaining 25% of statements were distributed between the *Partnerships, Research, and Education and training* clusters. Stakeholders viewed the establishment of partnerships as a strategy to increase CCMHS' legitimacy and procure stable funding, both important aspects of long-term sustainability. Likewise, given the relative novelty of the field of mental health in sport, and the importance of evidence-based practice in mental health care (Kettlewell, 2004), incorporating research into the core activities of the CCMHS was viewed as fundamental for quality control. Finally, there is mounting evidence that there is a lack of mental health literacy amongst sport participants and support staff (Breslin, Shannon, Haughey, Donnelly, & Leavey, 2017; Sebbens, Hassmén, Crisp, & Wensley, 2016), providing support for the inclusion of education and training initiatives within the CCMHS' mandate. The *Partnerships, Research, and Education and training* clusters, along with the *Service Delivery* cluster have formed the three pillars of the CCMHS: Integrated Care, Research, and Community Engagement. The purpose of

the organization has flowed from these three focal points to: (a) deliver specialized, interdisciplinary mental health services in-house and through telehealth in an effective, timely and reliable manner, (b) lead research in mental health and mental illness in sport, and (c) engage individuals and organizations to change the culture of sport by revolutionizing perceptions of mental health and mental illness.

Strengths, Limitations, and Future Directions

Results of this study were used to create and implement the second sport-focused mental health care organization in the world, demonstrating the strength and value of the study design and participants. Specifically, the use of a sequential transformative mixed methods design led to the creation of a culturally relevant mental health care model that could feasibly be implemented in the Canadian context. Moreover, the participatory nature of the research and GCM method allowed stakeholders to gain a sense of agency in the development and outcomes of the project. Stakeholders' evolving feelings of ownership were evident over the two-day summit based on their use of language. For example, stakeholders were using "you" to indicate ownership at the outset of the project (e.g. *How will you decide who is eligible to receive mental health care services?*); but this vocabulary changed to "we" by the end of the study (e.g. *How will we fund the next phase of the project?*).

Notwithstanding the utility and quality of the results, the study bears limitations. Methodologically, one limitation of using a sequential transformative mixed methods design is that little has been written about this approach to date (Cresswell, 2014). Thus, there was a lack of guidance from the literature as to how to use a theoretical framework to guide methods or how to coherently move between phases of data collection. Likewise, we encountered some challenges during data collection and analysis, which was hindered by the shortcomings of video

conference technology (e.g. lapses in audio) impairing the ability of remote participants to fully contribute to discussions. Furthermore, following the summit, one participant communicated that some of the jargon used during the GCM activity was "over her head". This illuminates the challenges inherent in working in multidisciplinary groups in which members vary in experience, education, personality, and age. In the future, before undertaking GCM, groups should take time to establish a common language amongst participants. Lastly, while GCM as a method is philosophically congruent with the PAR approach, in practice, some inconsistencies may arise. Specifically, while GCM can be conducted manually, the process is considerably more feasible and efficient when computerized. Unfortunately, the cost of the software may be prohibitive to some researchers, depending on the availability of research funds. This is counter to the values of inclusivity and accessibility upon which PAR is based. Where costs are covered by a research institution, researchers run the risk of establishing clear margins between themselves (as privileged) and community members (as needed to be "empowered"), potentially undermining the values of agency and ownership that are foundational to the PAR approach.

For researchers or groups wishing to create similar sport-focused mental health care models and organizations in their own countries, the importance of conducting an environmental scan cannot be overstated. While there are similarities between the Canadian and Swedish models (e.g. types of services provided), the CCMHS differs from its Swedish counterpart in its financial model, community initiatives, mental health care regulations, and modalities of care offered. Thus, in order for a similar model to be successfully implemented elsewhere, the unique aspects of local culture, governmental structures, models of healthcare, legislation, and geography must be considered. Future research ought to evaluate the effectiveness of such models of mental health care provision to better understand their strengths, limitations, and long-term feasibility.

Conclusion

The purpose of this PAR study was to design a sport-focused mental health care model implemented within a broader Canadian Centre for Mental Health and Sport (CCMHS). To this end, a group of stakeholders participated in focus groups to conduct an environmental scan of the Canadian mental health care and sport contexts, which informed a GCM exercise to identify elements that should be included in an athlete-specific mental health care model implemented in a CCMHS. The exercise resulted in a concept map describing six strategic areas of focus that could be actioned by stakeholders to deliver sport-focused mental health care. Overall, the mixed methods approach used helped to capture the depth and diversity of collective views of the stakeholders and to draw from their experience and expertise to produce a framework that has guided the implementation of the CCMHS to date.

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Article 3: Providing Mental Health Care to an Elite Athlete: The Perspective of the Canadian Centre for Mental Health and Sport (CCMHS) Team

Van Slingerland, K. J., Durand-Bush, N., DesClouds, P., & Kenttä, G. (2020). Providing mental health care to an elite athlete: The perspective of the Canadian Centre for Mental Health and Sport (CCMHS) team. *Case Studies in Sport and Exercise Psychology, 4*(S1), S1-26. https://doi.org/10.1123/cssep.2019-0022

Abstract

There are few specialized mental health clinics to address the unique needs of high-performance athletes struggling with mental illness. The Canadian Centre for Mental Health in Sport (CCMHS) was recently created to fill this gap. It is the first center in Canada to offer collaborative sport-focused mental health care services designed to help athletes and coaches achieve their performance goals while prioritizing their mental health. This case study examines the process of providing mental health care to a female elite athlete through the CCMHS, including the referral, screening, and treatment process, as well as the outcomes of this care. Cognitive-behavioral therapy focused on exposure-response prevention was predominantly used to help the athlete improve and manage anxiety and symptoms of obsessive-compulsive disorder. Both opportunities and challenges associated with providing collaborative care to the athlete via a telehealth platform were observed.

Keywords: collaborative care, counseling, mental illness, obsessive-compulsive disorder

American swimmer Michael Phelps, Canadian rower Silken Laumann, and Swedish hockey player Robin Lehner all have something in common. They are accomplished elite athletes who have courageously shared their battle with mental illness to change the landscape of mental health in sport. Indeed, we are living in an era in which we can no longer turn a blind eye to mental health challenges in sport (Reardon et al., 2019). Athletes want and deserve adequate resources and support to navigate the complex demands, ongoing pressures, and high expectations they face as they try to achieve their dreams and goals. The enduring public view that high-performance athletes are infallible and exempt from mental illness is false (Van Slingerland et al., 2019). Athletes, like the rest of the population, are susceptible to mental health problems and illnesses. Statistics show that every year, an average of one in five Canadians will experience a mental health challenge (Smetanin et al., 2011).

This means that in any given year there could be as many as four athletes on a roster of 20 who are struggling to perform in their sport and daily tasks. Coaches, support staff, and administrators must consider the impact that impaired functioning can have on athletes' performance and long-term health. It is well documented that elite athletes must constantly respond and adapt to stressors in their environment, creating vulnerabilities that do not exist for the general population (Schinke, Stambulova, Si, & Moore, 2018). As such, various sport-specific factors can exacerbate existing mental health problems or trigger the development of new ones. Some of these factors include grueling year-round training and competition programs, protocols with insufficient recovery leading to overtraining or burnout, unhealthy dietary regimens, dysfunctional sport cultures, excessive travel, early specialization demands, injuries, inadequate funding, and abusive coaching, as well as transitions into and out of sport (Blanchard,

Amiot, Perreault, Vallerand, & Provencher, 2009; Kenttä, Hassmén, & Raglin, 2006; Meeusen et al., 2013; Park, Lavallee, & Tod, 2013; Putukian, 2016; Taylor, Ogilvie, & Lavallee, 2006).

Evidence shows that athletes' mental health problems should be addressed by practitioners who understand the competitive sport environment and can interact in this context, as necessary (Lopez & Levy, 2013; Naoi, Watson, Deaner, & Sato, 2011; Ponnusamy & Grove, 2014; Roberts, Faull, & Tod, 2016). Currently, there are few practitioners in Canada who are formally trained in both sport sciences and clinical psychology, and there is no central (e.g., online) mechanism that connects Canadians to sport-specific mental health resources. Thus, athletes, coaches, and their families may not be aware that such practitioners exist or know how to locate and access them.

Interdisciplinary mental health care models and specialized centers have begun to surface as a best practice in mental health support for competitive and high-performance athletes (Moesch et al., 2018); however, no such models existed in Canada until the Canadian Centre for Mental Health and Sport (CCMHS) was founded in 2018. By (virtually) housing a team of sport-specialized mental health care practitioners, the CCMHS is able to avoid some of the pitfalls that have plagued the Canadian provision of mental health support for decades. For example, poor communication between practitioners in a patient's circle of care (e.g., family physician and psychiatrist), difficulty accessing timely psychiatric assessment, and poor continuity of care are hallmarks of the fragmented Canadian health care system (Gervais, n.d.). Through the use of a shared system of electronic medical records (EMR; note: there is no pan-Canadian EMR system—each medical practice keeps its own patient records and there is no continuity across providers, even within the same city) and bimonthly team meetings, the CCMHS has been able to provide timely and effective mental health care to its clients.

The CCMHS Model of Care

The CCMHS employs professionals from sport and mental health domains who deliver care in an evidence-based sport-centered mental health care model to improve mental health in competitive athletes and coaches. The CCMHS is the first specialized center in Canada to prioritize both the mental health and the performance of competitive and high-performance sport participants in its service delivery, research, and education initiatives. The center provides access to a one-of-a-kind comprehensive team of practitioners offering collaborative sport-focused care in-house and via a secure telehealth platform (Canadian Centre for Mental Health and Sport, 2018). The team currently includes 16 mental health and mental performance specialists living across Canada with competencies, knowledge, and experience in competitive sport (i.e., three registered Canadian Sport Psychology Association [CSPA] mental performance consultants [MPCs]; seven psychologists and four counselors/psychotherapists, seven of whom are also registered CSPA MPCs; one psychiatrist; and one family physician). Collaborative models of care are accepted as best practice in support provision for mental health and addiction issues (Bullock, Waddell, & Wilson, 2017; Gregory, 2009; Kates et al., 2011). Among other advantages, collaborative models leverage the strengths and differences of multidisciplinary practitioners in an individual's circle of care to provide the most comprehensive support available. In Canada, psychiatrists, psychologists (registered and clinical), psychotherapists, counselors, and MPCs are distinct practitioners with unique training and thus different skills, approaches to care, and points of view (see Van Slingerland et al., 2019 for more information on the distinctions between practitioners). Moreover, CCMHS practitioners have varying backgrounds and experiences in sport (e.g., individual vs. team sport, level of competition, work with specific sports), an additional layer of expertise that affects the "fit" and therapeutic alliance

a client is able to form with CCMHS practitioners. Thus, the center assigns a minimum of two practitioners (i.e., a lead and a support) to each collaborative-care team (CCT) to maximize the specialization of support available to clients, ensure that a practitioner is always available should an urgent matter arise, accommodate time-zone differences, respect provincial restrictions on care provision (e.g., psychologists must be registered in the province in which their client resides), and foster a culture of learning and professional development among practitioners. In all cases, the collaborative model is explained to prospective clients, who sign a consent form allowing information sharing between the CCMHS practitioners on their CCT.

Methodology

The purpose of this illustrative case study was to examine the process by which a CCT provided mental health care to a female elite athlete through the CCMHS, including the referral, screening, and treatment process, as well as the outcomes of this care. This type of case study was selected primarily to describe specific events and examine outcomes and lessons learned (Harrison, Birks, Franklin, & Mills, 2017). The overall objective was to increase readers' understanding of complex (mental health and sport) issues experienced in real-life settings (Merriam, 2009; Stake, 2006).

This case study is derived from a larger project to design, implement, and evaluate the CCMHS using a participatory-action research (PAR) approach. PAR is a pragmatic and collaborative mode of inquiry situated within the participatory paradigm (Bergold & Thomas, 2012). According to the participatory worldview, reality is relative, local, and socially constructed by community members, whose interpretations provide the foundation of knowledge (Kilgore, 2001). The primary epistemological assumption of PAR is that knowledge is embedded in the lives and experiences of community members (Borg, Karlsson, Kim, & McCormack,

2012). Considered experts because of their experience, community members (i.e., stakeholders) become co-researchers whose values and experiences inform the PAR process of planning, action, observation, and reflection (Kemmis & McTaggart, 1988; Kilgore, 2001). The case study presented is therefore a product of the PAR process.

The Case-Study Team

Authors

The study was carried out by the four authors, who have diverse backgrounds and experiences related to sport and mental health and play different roles in the CCMHS. The first author, Krista Van Slingerland, is currently conducting her doctoral research (the aforementioned larger project) and is executive director of the CCMHS. Krista became interested in this area of study after her own struggles with mental illness as a university athlete and focused her master's thesis work on the mental health of Canadian university athletes. She also cofounded the Student-Athlete Mental Health Initiative in 2013, a charity devoted to promoting and protecting the mental health of Canada's university athletes.

The second author, Natalie Durand-Bush, is a sport psychology professor and scientist in the School of Human Kinetics at the University of Ottawa. She supervises Krista's doctoral work. Her areas of interest and specialization include psychological-skills training and assessment, mental health, and coaching psychology. Dr. Durand-Bush has taught graduate counseling and mental training courses for the past 2 decades. She is also a professional member of the CSPA and has been practicing as an MPC for 25 years. As a result of the increasing mental health challenges she has witnessed in athletes and coaches with whom she interacts in her private practice and research, as well as the current gaps in integrated sport-focused mental health care in Canada, Dr. Durand-Bush cofounded the CCMHS with Krista in 2018. The two

women have been spearheading the CCMHS's various mental health care, research, and community-engagement programs in collaboration with their extensive team. Dr. Durand-Bush has expertise in case-study research and has supervised several students conducting this type of inquiry.

The third author is Poppy DesClouds, who serves as the CCMHS care coordinator. She holds a master of human kinetics degree with specialization in intervention and consultation. She is currently completing her doctoral studies on athletes' use of smartphones and mental health, under the supervision of Dr. Durand-Bush. DesClouds is a professional member of the CSPA and works as an MPC with competitive and high-performance athletes. She is also a part-time professor at the University of Ottawa and Algonquin College. As the CCMHS care coordinator, she participated in the current case study and served as a liaison between the authors and CCT.

Göran Kenttä, the fourth author, is an associate professor of sport psychology in the Swedish School of Sport and Health Sciences in Stockholm, Sweden and the head of sport psychology for the Swedish Sport Confederation. He is also an adjunct professor in the School of Human Kinetics at the University of Ottawa. Dr. Kenttä's research has focused on stress, recovery, and health issues such as burnout and the overtraining syndrome in elite sports. More currently, his research and clinical practice comprehensively address psychological disorders in sport. Dr. Kenttä has founded two sister mental health clinics specializing in elite sports in Sweden, which serve as a hub for his research and practice. He is a member of the CCMHS stakeholder team and has significantly contributed to the ongoing design, implementation, and evaluation of the CCMHS.

Collectively, the four authors have intimate knowledge of the CCMHS collaborative-care model and day-to-day operations of the center. All have first-hand lived experience with mental

illness through their personal and/or professional lives. The first three authors have navigated the Canadian mental health care system, and all four have insight into international models of mental health service provision. The authors have aimed to be as transparent as possible in this case-study while not compromising the anonymity of the CCMHS practitioners and the athlete who received care.

The CCT

In addition to the authors, this case study involved the CCMHS CCT lead (i.e., registered psychologist and MPC), the client (i.e., elite athlete), and the CCT support (i.e., registered counselor and MPC; see details below). All participants provided their consent to participate in this study, as per the research ethics board's approval.

Methods

The data were collected via clinical documents provided by the CCT lead (who represented the CCT) and the care coordinator, as well as through individual semi-structured interviews (Rubin & Rubin, 2005) conducted by the first author with each these two individuals.

Clinical Documents

The first author collected the care coordinator's intake notes, including her summary of the intake assessment measures that the client completed (see Intake and Referral Process for more information). These notes shed light on the client's demographic information; history (sport, work, school, medical, injury, mental illness); current concerns, with perceived impact on sport performance and daily life; and symptoms of mental illness experienced based on intake assessment scores.

The first author also collected the clinical documents provided in the EMR by the CCT lead, which described the therapeutic process: date, duration, and modality of session delivery

(i.e., in-person vs. telehealth); targeted mental health and mental illness challenges (e.g., depression, sleep, self-harm); therapeutic approach(es) used (e.g., cognitive-behavioral therapy [CBT], acceptance-commitment therapy); self-regulation and psychosocial skills developed (e.g., emotional regulation, stress/pressure management); session summary and evolution since the last session (e.g., social support, athletic performance); interventions, exercises, or assessments performed (e.g., mindfulness exercise); and medication.

The clinical documents were analyzed using document analysis (Bowen, 2009), a systematic procedure for reviewing and evaluating printed and electronic material. In document analysis, documents are examined to locate, select, interpret, and synthesize data (e.g., excerpts, quotations, passages) to organize information into themes, categories, or case examples (Labuschagne, 2003). The first author performed the analysis of these documents based on the categories outlined herein and synthesized the results into a working document. The other three authors fulfilled the role of critical friends, working through several iterations with the first author as they applied, discussed, debated, and reflected on their understandings to arrive at a coherent and plausible interpretation of the data (Smith & McGannon, 2018). The clinical documents and interpreted data were used to triangulate information gleaned from the interviews (Bowen, 2009).

Interviews

The first author conducted an individual face-to-face semi-structured interview (Rubin & Rubin, 2005) with the care coordinator and the CCT lead, using a guide comprising general and probing questions. The aim of the 30-min in-person interview with the care coordinator who works on site in the CCMHS office was to obtain more in-depth information regarding the referral and screening process undertaken with the client and to provide contextual data to further

understand the client and the role of the care coordinator within the CCMHS model of care. The 45-minute face-to-face online interview with the CCT lead, who works at a distance, was to gain insight into her counseling philosophy, mental health care plan implemented with the client, perceived intervention outcomes, and experience providing mental health support in the CCMHS collaborative-care model. Note that the CCT support practitioner was not interviewed, as she did not have direct contact with the client in this case. As stipulated in collaborative-care models (Kates et al., 2011), she provided advice and built mutual support that served to increase the CCT's capacity for care.

The first author performed a conventional descriptive content analysis (Hsieh & Shannon, 2005) of the interview data to extract salient information and themes to inform the case study. As with the analysis of the clinical documents, the other three authors played the role of critical friends to challenge and help refine the first author's interpretations (Smith &McGannon, 2018). Any data that could potentially compromise the athlete's anonymity and confidentiality were not included in this study. As another reflective and precautionary step, the manuscript was reviewed by the CCT lead to ensure that each aspect of the case was accurately depicted, and the athlete was not identifiable.

Intake and Referral Process

The client in this case study learned about the CCMHS from a teammate and referred herself through the CCMHS's online system (www.ccmhs-ccsms.ca/refer) by submitting a self-referral form. Once submitted, the self-referral form was received, reviewed, and processed by the care coordinator. After assessing the client for first-level eligibility (i.e., age [16 years or older], sport [national sport organization–sanctioned], and competitive level [provincial level and

up]), the care coordinator opened a client file in the EMR system and contacted the client to schedule an intake session.

The client and care coordinator were located at a distance from one another, so the intake session was completed using the secure online telehealth platform Livecare. In this session, the care coordinator and client reviewed and filled out two information and consent forms pertaining to CCMHS research and collaborative-care services. They discussed pertinent client demographics; the client's perceived reason for referral, sport history, current sport status, history of core concerns, and current core concerns; the intersection of sport and the core concerns; and the athlete's support system (including external medical and psychological supports), previous experience with psychological care, and perception of how CCMHS might help. Throughout this intake session, the care coordinator took detailed notes and included them in the client's EMR for the prospective care team and made a preliminary assessment of client eligibility, client needs, and best fit for referral. After an explanation of the referral procedure, approximate timelines, and next steps, the client and care coordinator completed their session, and the client was sent a link to the CCMHS online intake survey. The intake survey is used to collect detailed demographic and sport-participation data (e.g., living situation, employment status, hours of sport participation per week) and garner a brief health history (e.g., allergies, medical conditions, past injuries including history of concussion). In addition, the client was asked to complete 11 validated screening questionnaires (see Table 1) commonly used by clinicians (e.g., physicians, clinical psychologists) to assess for symptoms of mental illness. The survey results are used to screen clients for CCMHS eligibility, confirmed by a positive result (i.e., at or above a clinical threshold of impairment) on at least one of the survey scales. These questionnaires were chosen by a working group of mental health practitioners with backgrounds in sport (e.g., clinical

psychologist, psychotherapist), former athletes (e.g., Paralympian, Canadian university athletes), and coaches (experience at the interuniversity and international level).[1] Note that the intake survey includes questions that screen for immediate risk of suicide. Prospective service users are notified by the care coordinator during their intake session, in the intake survey, and on the CCMHS website that the center does not provide crisis services, and anyone who is acutely suicidal (i.e., has a suicide plan and intention to act on it) should call 911 or go to the nearest hospital.

The results of the intake questionnaire were added to the client's electronic file, corroborated with data from the intake interview, and used to inform the care coordinator's referral of the client to a CCT. In this case, referral of the client to a CCT was performed within 2 working days. Due to the severity and complexity of the client's concerns and provincial restrictions to practice, the care coordinator assigned a registered psychologist who is licensed in the client's province of permanent residency as the lead practitioner, with a registered counselor as support. The counselor was chosen due to her experience working remotely with athletes competing at the international level and with clients suffering from chronic pain. Both practitioners are also trained CSPA-registered MPCs. Within 2 working days, both practitioners confirmed acceptance of the client and the team structure. The care coordinator then contacted the client to confirm the CCT and transferred care to the lead practitioner. The total time elapsed between the intake session and referral to the CCT was 7 working days.

[1] For an overview of the empirical process by which the CCMHS was designed, refer to Van Slingerland, Durand-Bush, and Kenttä (2020).

Table 1

CCMHS Intake Survey: Screening Questionnaires

Symptoms	Questionnaire	Positive Screen
Attention deficit hyperactivity disorder (ADHD)	Adult ADHD Self-Report	If four or more marks appear in the dark shaded boxes, patient symptoms are highly consistent with ADHD in adults (see Kessler et al., 2005)
Alcohol use	Alcohol Use Disorder Identification Test	A score of 4 or more (men) or 3 or more (women) indicates hazardous drinking or active alcohol-use disorders (Bush et al., 1998)
Generalized anxiety disorder	Generalized Anxiety Disorder Scale	Further evaluation is recommended with summative scores equal to or greater than 10 (indicates moderate anxiety; Spitzer, Kroenke, Williams, & Lowe, 2006)
Burnout	Athlete Burnout Questionnaire	Further evaluation is recommended with a score of 3.0 or higher on the physical and emotional exhaustion and reduced accomplishment subscales (Cresswell & Eklund, 2006).
Depression	Patient Health Questionnaire	Further evaluation is recommended with summative scores equal to or greater than 10 (indicates moderate depression; Kroenke, Spitzer, & Williams, 2001).
Eating disorder	Eating Attitudes Test	Further evaluation is recommended with a summative score of 20 or higher (Garner, Olmsted, Bohr, & Garfinkel, 1982).
Obsessive Compulsive Disorder (OCD)	Florida Obsessive Compulsive Inventory	A score of 8 or more on Part B (severity) is a positive screen (American Academy of Family Physicians, 2009).
Postraumatic stress disorder (PTSD)	PTSD checklist	A score of 33 warrants further investigation or if any higher (Blevins, Weathers, Davis, Witte, & Domino, 2015).
Sleep disorder	Pittsburgh Sleep Quality Index Questionnaire	A score of 5 or more indicates poor sleep quality (Buysse, Reynolds, Monk, Berman, & Kupfer, 1989).
Substance abuse	Drug Abuse Screening Test	A score of ≥ 3 warrants further investigation (Skinner, 1982).
Suicidality	Columbia Suicide Severity Rating Scale	If patient has a suicide plan (i.e., answers “yes” to item 5) and intends to act on it (item 6), emergency action should be taken (Posner et al., 2008).

The Athlete

The client was a female athlete in her 30s. At the time of intake, she was a high-performance athlete with a multisport background. The client self-reported a previously diagnosed obsessive-compulsive disorder (OCD) that had been well managed until recently. She had achieved high-level national success in two individual sports after completion of postsecondary education. She concurrently participated in both sports at a high intensity for a short period of time before fully committing to her current sport, in which she was deriving more gains and success. However, the client went on to sustain a severe injury during training that forced her to involuntarily leave sport for a significant period of time. On return to her sport, the client began experiencing increased anxiety, self-doubt, worsening OCD symptoms, and decreased motivation. Throughout the injury and rehabilitation process, the client had strong medical and physical support but lacked psychological support. While she had access to a psychologist in her home province, she was living and training out of province and thus only saw this practitioner during infrequent visits to her hometown. Moreover, the client did not have sport-specific psychological care to assist her in coping with her injury and rehabilitation; she specifically sought out CCMHS services because she desired sport-informed care to manage her OCD and anxiety and to "get herself in the best position for competition" (care coordinator's intake notes, February 1, 2019). Although MPCs are often available to national-team members through the Canadian Olympic and Paralympic Sport Institute Network, the client, prior to her injury, had experienced great difficulty (a perceived lack of support) with her integrated support team[2] and national sport organization and thus lacked trust in these resources.[2] Furthermore,

[2] Integrated support teams are multidisciplinary teams of sport-science, sport-medicine, and sport-performance professionals who support the coaches and athletes of select Canadian senior national teams (Canadian Sport Institute Ontario, 2015).

MPCs seldom have the dual training and credentials to diagnose and treat mental illness, so clinical support was necessary.

At the time of referral to the CCMHS, the client was training for return to the national team, including return to preinjury training and competitive status. She had been prescribed medication to aid her in mental health management but was not taking it at the time of referral. The client's core concerns on referral were coping with resurfacing anxiety and OCD symptoms, particularly in the sport setting; questioning her sport participation in general; and pressure to perform and return to preinjury capacity.

The client screened positive on six dimensions of the intake survey: anxiety, ADHD (attention deficit hyperactivity disorder), depression, OCD, disordered sleep, and burnout. The survey also captured symptoms of PTSD (posttraumatic stress disorder) and a history of suicidality/self-harm. These results aligned succinctly with the intake interview, which pointed to complex and severe mental health impairment. Complex and severe cases such as the current one are led by a psychologist and supported by a team of one or two other practitioners capable of addressing symptoms of mental illness. In the current instance, a counselor was assigned to the CCT.

This particular case study reinforced the value of conducting a face-to-face intake interview, and integrating both qualitative and quantitative intake data, for making a well-informed referral. Although the intake survey uncovered mental health impairment, the interview provided essential context to interpret the client's scores and illuminated specific, essential connections between the client's mental health concerns and her sport history, sport goals, and current sport participation. As a result, the care coordinator was able to discern that it would be imperative for the client's CCT to have not only specialized knowledge of OCD, anxiety, and

depression but also a nuanced understanding of national-level competition, sport risk, sport injury, and readiness to return to sport.

Integrated Care Plan

In general, the psychologist leading the athlete's CCT used an athlete-centered approach to therapy, believing strongly that "people have the resources internally to be able to manage their own mental health with guidance, tools, structure, and strategies." The overarching goal of her approach was to empower the client to make autonomous decisions and advocate for herself within and outside of the sport system. To develop an integrated care plan specific to this client's needs, the practitioner performed a clinical interview during her first meeting with the client, which was held face to face but at a distance via Livecare. During the interview, the psychologist confirmed that the symptoms of primary concern were highly consistent with OCD, and she noted that the majority of the client's distress and functional impairment was generated by "checking" fears and rituals (e.g., excessive double-checking of switches, locks, appliances) and "contamination" fears and rituals (e.g., excessive hand washing, frequent changes of clothing, creating clean areas, and restricting access to others).

As per the *Diagnostic and Statistical Manual-V* (American Psychiatric Association, 2013), OCD is an anxiety-related disorder characterized by obsessions (i.e., recurrent and persistent thoughts, urges, or images that individuals perceive as intrusive and unwanted) and compulsions (i.e., repetitive behaviors that individuals feel driven to adopt in response to obsessions or according to rules that must be applied rigidly). Obsessive and compulsive symptoms meet clinical criteria when they are persistent, continue beyond developmentally normative periods, and are time-consuming (e.g., more than 1 hr/day) or cause significant distress and functional impairment. Internationally, the prevalence of OCD in the general population is 1.1–1.8%

(American Psychiatric Association, 2013). Rates of OCD among elite athlete populations are unknown (Reardon et al., 2019); researchers have reported rates of generalized anxiety disorder in athlete populations between 6% (clinician confirmed diagnosis; Schaal et al., 2011) and 14% (self-report measure; Du Preez et al., 2017).

OCD can be difficult to diagnose in athletes, as normative behaviors in sport can mask symptoms. For example, superstitions such as wearing "lucky socks" or maintaining a "playoff beard" are commonplace in sporting culture as ritualistic attempts to control individuals' sense of efficacy over sporting outcomes. Moreover, it is common practice to repeat drills over and over to strive for perfection. Another example pertains to preperformance routines. World class tennis player Rafael Nadal has openly described the extensive detailed routines that he must perform before every match (Nadal, 2011). In sport contexts, practitioners can recognize OCD symptoms as deviating from "normal" superstitions or preperformance rituals when they interfere with athlete functioning, prevent successful outcomes, diminish energy, and detract from the purpose of preperformance routines. In discussing the significant and persistent physical and psychological complications associated with the client's injury, the CCT psychologist illuminated another aspect of sport, athletic identity, that can complicate the identification of OCD symptoms when she reported the following in this case study:

> People outside of sport would say, "If [returning to sport] worsens your OCD and if you have to put yourself in these environments where you're across the country, you don't know anyone, and there are new medical personnel you have to report to . . . why on earth are you putting yourself through this?" But we get it, because there's also that compulsive part of elite athletes that is within normal limits, to feel like they're driven to follow through with something even though it doesn't make a lot of logical sense to others.

As such, sporting culture and athletic identity can present significant barriers to the diagnosis of OCD in athletes, demonstrating the potential value and importance of sport-informed mental health care in the diagnosis and treatment of OCD in athlete populations.

During the clinical interview, the client, who had significant insight into her OCD behaviors that originated during childhood, identified the management and decrease of OCD symptoms as an overarching treatment goal, with the aim of ceasing functional impairment in sport and life caused by obsessions and compulsions. In this case, one targeted outcome was to reduce the amount of time the client spent performing checking rituals on a day-to-day basis: "We were working on cutting back the time of the checking rituals. We were not going to go full-on complete avoidance, but we were going to reduce the time spent" (CCT psychologist). A secondary goal identified by the psychologist was to facilitate the client's emotional and psychological recovery from the serious injury previously sustained during training.

Working in a person-centered framework, the psychologist, in consultation with the counselor assigned to the CCT, opted to use CBT interventions focusing specifically on exposure-response prevention (ERP). ERP involves gradually exposing an individual to anxiety-provoking situations of increasing intensity and preventing the performance of a compulsive response behavior (Bram & Bjoörgvinsson, 2004). The objective of ERP is to demonstrate to the client that the anxiety generated through exposure will dissipate on its own without the client performing a compulsive or avoidance behavior (i.e., habituation). The primary components of ERP include psychotherapy, externalization of the internal OCD narrative, development of a hierarchy of necessary exposure events, subsequent grading of exposure responses, and relapse prevention (March, 2012).

Enhancing client self-awareness in order to recognize OCD responses more quickly is a major facilitator of the prevention or diminishment of symptoms. As an example, a specific cognitive tool presented to the current client helped differentiate between thoughts attributable to the client's OCD and thoughts that were within normal limits. The psychologist instructed the client to ask herself, "Is this behavior an OCD ritual or a normal thing that other people do?" This strategy and other self-management tools were effective for this particular client because her insight into OCD symptoms such as checking rituals was high. Another strategy employed by this client was externalization of the obsessive voice. In this case, the client assigned a name to her OCD, enabling her to talk about it in the third person.

In the integrated care process, the client was asked to identify, at the beginning of each of the six 1-hr sessions held over a 3-month span, how she had been coping and what still required work. The client noted that symptoms were particularly affected by ongoing external stressors associated with her return to sport after her debilitative injury and pressures from her national sport organization. She also discovered that her sleep difficulties were tied to her OCD and anxiety, as she engaged in checking rituals at night, which made it difficult for her to settle and "turn the switch off." The psychologist addressed this with response prevention and relaxation/mindfulness. As the treatment progressed, the psychologist also helped the client reduce her depressive symptoms by getting her to focus on what gave her joy. The client started to casually play a pickup sport, just for fun, which helped her mood. Overall, five of the six sessions were conducted via Livecare, and one session was held in person.

Outcomes

The psychologist observed varying severity of symptoms across her sessions with the client. Six sessions do not typically constitute a clinically significant amount of time during

which to see major improvements in OCD symptoms. Expert consensus is that weekly sessions for 13–20 weeks, followed by monthly booster sessions for 3–6 months, is required in most cases (American Psychiatric Association, 2007). Regardless, some improvements in client functioning were noted. For example, the client estimated that the amount of time she spent performing checking rituals had decreased by 40% since commencing CCMHS care (i.e., down from 7.5–20 min/ritual pre-CCMHS to 3–8 min/ritual).

Another indication of positive change in the client's mental health was her decision to disclose her mental illness to another athlete: "She ended up disclosing to another athlete [at a training camp] that she has OCD and that she has to [do certain things differently], and she felt like the athlete was very supportive" (CCT psychologist). Given the stigma that continues to be associated with mental illness in high-performance sport (Gulliver, Griffiths, & Christensen, 2012; Lopez & Levy, 2013), and given previous negative reactions the client had experienced in her team setting as a result of her mental illness, this represented significant progress. Nevertheless, the client indicated that she had not yet discussed her mental health status with the coaches and support staff at her home club. Selective disclosure, a discriminative approach to sharing details of mental illness, is shown to be an adaptive identity-management strategy that improves social support while decreasing stigma (Bos, Kanner, Muris, Janssen, & Mayer, 2009; Corrigan, Watson, & Barr, 2006; Ilic et al., 2014). This type of mindful sharing of vulnerability may also shift vulnerability typically associated with a weakness into a courage- and strength-based experience (Hägglund, Kenttä, Wagstaff, & Thelwell, 2019).

In line with her counseling philosophy, which is based on fostering empowerment and growth, the psychologist noted additional positive outcomes:

The athlete is more consciously working on self-care and engaging in activities that bring her joy and increase positive mood. She is also working on self-empowerment to not only "boss back" her OCD but also to find ways to have more self-efficacy within her sport and life.

These outcomes are rarely addressed in more traditional clinical research, but it can be argued that this is especially important in the context of elite sport since there is more stigma and a higher threshold for help seeking than in the general population. As previously noted, some anxiety and OCD symptoms may either be masked or be normalized in the context of competitive sport. As such, understanding how functional impairment in sport affects mental health and vice versa is fundamental when addressing anxiety disorders in competitive athletes.

Although the psychologist noted client progress in the current case study, she recommended that the client complete additional sessions (approximately six) to maximize outcomes. This is in line with recommended guidelines (American Psychiatric Association, 2007). After a break in therapy due to the client's busy training and traveling schedule, the psychologist aimed to resume therapy with the client.

Reflections: Opportunities and Challenges

This case study uncovered unique opportunities and challenges related to the CCMHS's sport-focused mental health care model. First, elite sport participation was highly intertwined with this client's mental health challenges, adding a layer of complexity that would not typically be present in the general population. Specifically, a sport-related injury caused the resurgence of OCD symptoms that had previously been well managed. These symptoms interfered with the athlete's pretraining and precompetition routines, thus impairing her functioning in sport and

overall life. Sport-related external (e.g., unsupportive national sport organization) and internal (e.g., anxiety) factors drove her obsessions and compulsions, contributing to her ill-being.

A secondary aim of the treatment was to facilitate the athlete's recovery from a serious injury sustained in training that caused a relapse in OCD symptoms that had previously been well managed. In general, it is common for individuals to experience a relapse when stressors accumulate over time or when adverse life events occur. It is therefore important to understand and respect that the context of competitive sport, with its inherent stress and adversity, has the potential to cause recurrent relapses. Not surprisingly, it is logical that general practitioners lacking experience or knowledge of competitive sport advise athletes vulnerable to mental health disorders to withdraw from sport based on ethical considerations. However, this approach is often counterproductive since it invalidates athletes' strong athlete identity, and this can be detrimental for the athlete–practitioner therapeutic alliance and ensuing treatment. In contrast, when athletes feel validated for who they are and for what is important in their life, stronger alliances can be created, and treatment retention may be facilitated.

The present case supports the argument that specialized mental health care models and teams are necessary to address sport-related factors that can pose unique threats to the diagnosis and treatment of mental illness in athletes (Glick & Horsfall, 2009; Lopez & Levy, 2013; Van Slingerland et al., 2019). The CCMHS offers athletes a unique opportunity to work with practitioners who have competencies, knowledge, and experience in sport. This arguably allows athletes to not only feel heard and understood but also focus on addressing, in a thorough and timely manner, the intricacies of their sport that are affecting their mental health and performance.

Another challenge apparent in this case study that supports the growing body of literature on mental illness in sport pertains to medication. The current client was restricted in terms of the medications she could take due to the injury she had sustained, which could have had an impact on therapeutic outcomes. Specifically, the medications the client took to manage her postinjury symptoms prevented her from taking selective serotonin reuptake inhibitors, which are the typical front-line therapeutic option for treating OCD (Abramowitz, 1997; Franklin, Harrison, & Benavides, 2012). This was due to the potential negative interactions between her prescribed medications, which was confirmed by a psychiatrist that the client consulted. Fortunately, CBT with a focus on ERP is an effective treatment on its own or in conjunction with medication (Marks, 1987; Roth & Fonagy, 1996).

ERP-focused CBT interventions were thus prioritized by the CCT psychologist. Given the different types of practitioners serving the CCMHS (i.e., psychologists, counselors, psychotherapists, MPCs, psychiatrist) and their various areas of interests and expertise (e.g., trauma, concussions, bioneurofeedback, eating disorders), clients have the opportunity to be assigned to a CCT that best meets their evolving needs. If medications are required, additional CCMHS practitioners can be added to a client's CCT at any point in time, or consent can be given by clients to consult with other external health practitioners providing care (e.g., a physician prescribing medication). When there is medication involved in the treatment of athletes, it is crucial to pay attention to the list of substances prohibited in and out of competition by the World Anti-Doping Agency (Reardon et al., 2019). Moreover, athletes can be anxious and concerned about potential side-effects of medications that can influence sport performance.

The telehealth component of the CCMHS mental health care model presented a novel challenge. Livecare features a virtual waiting room, and practitioners can see when and how long

clients have logged into the room. The CCT psychologist noted, “I’d never had the experience of having a client being electronically in my waiting room. I felt pressured to end my session with my other client, which was running late, and did not take the time to book a follow-up appointment.” To cope with this challenge, the psychologist sought the counsel of the supporting practitioner (a counselor/MPC) assigned to the CCT, with whom she debriefed the complications that telehealth can present, and she developed a course of action to ensure adequate follow-up with the client. The supporting counselor had significantly more experience with telehealth than the CCT psychologist and helped her navigate this aspect of the mental health care model. Telehealth is a rapidly evolving medium for therapy (Palylyk-Colwell & Argáez, 2018); a unique feature of the CCMHS mental health care model is the secure online platform to meet face to face with athletes who are frequently training and competing in various cities and countries across the globe. On the one hand, this component offers practitioners the opportunity to communicate with clients in a timely and efficient manner, as long as there is adequate Wi-Fi available. On the other hand, there is a lack of research on how to best provide this kind of therapy in a flexible yet structured and validated manner. In general, clinical research on telehealth and internet-based interventions has generated empirical support, but to our knowledge, no study has been conducted with athletes. We therefore suggest that researchers investigate online mental health care protocols and guidelines specifically adapted to athletes, along with educational programs for practitioners to adequately prepare them to provide this type of therapy.

With regard to the collaborative component of the CCMHS mental health care model, this case study revealed that it can be challenging to work as an integrated team. Although collaborative care is recognized as a best practice in Canada (Bullock et al., 2017), remuneration

models are not currently oriented to compensate practitioners for the additional time required to communicate with colleagues assigned to a client's CCT. When practitioners are not physicians, whose services (for the most part) are covered by provincial health insurance, clients must pay fees for service out of pocket. Cost of care is already a noted barrier to Canadians accessing mental health support (Canadian Mental Health Association, 2012), so integrating the cost of collaboration into the CCMHS' existing fee-for-service model is not a feasible solution. During the first year of its existence, CCMHS practitioners donated time to test and validate the collaborative aspect of the model proposed, but we recognize that this is not a sustainable financial model for CCMHS practitioners or the center itself.

A further challenge associated with collaboration is that practitioners working for the CCMHS live across Canada, so different time zones must be considered when scheduling time to discuss cases. Notwithstanding these challenges, teamwork is perceived as a strength of the CCMHS collaborative-care model, allowing practitioners to work together to establish, implement, evaluate, and adapt care plans to best meet the evolving demands and needs of athletes. The CCT psychologist noted a particular session in which the client talked extensively about self-loathing. After discussing this with the counselor assigned to the CCT, the psychologist came up with a treatment plan for further follow-up. Having this type of ongoing support, as well as the opportunity to learn with and from other members of the CCT, was perceived as a benefit of operating in the CCMHS model.

Concluding Remarks

In sum, this case study addressed the mental health care process of an elite athlete receiving services from the CCMHS, the first center in Canada offering collaborative sport-focused mental health care to competitive and high-performance athletes and coaches. Details

regarding the client's referral, screening, treatment, and outcomes were provided. CBT focused on ERP reportedly helped the athlete manage and improve her symptoms of anxiety and OCD. However, the CCT psychologist recommended additional therapeutic sessions to optimize outcomes. Both opportunities and challenges related to the competitive sport environment, as well as medication, telehealth, and teamwork interventions, must be considered when working with elite athletes.

Altogether, based on this case study and previous research (Moesch et al., 2018; Rice et al., 2016), we argue that informed and contextual knowledge about competitive sports will facilitate mental health care, including the diagnosis and treatment of athletes. Knowledge about the function and context of behavior is fundamental when implementing CBT approaches. However, specific knowledge about the function of sport related to both mental health and performance is important when working with competitive athletes. This can be supported by developing meta-competencies in clinical practice to adapt treatment for this specific client group, similar to the training provided for those working with older people and people with disabilities (Whittington & Grey, 2014).

It has been shown that athletes have a propensity to avoid seeking help when they experience mental health problems (Rice et al., 2016). It is therefore important for all stakeholders in sport to recognize signs and symptoms of struggles and to refer athletes to appropriate resources when necessary. The CCMHS appears to be a promising pathway that has begun to fill a gap in Canada. It is our hope that other countries will follow suit to create, implement, and evaluate collaborative sport-focused mental health care models to address the mental illness symptoms and challenges that athletes may experience during their careers.

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Article 4: The acceptability and appropriateness of a collaborative, sport-centered mental health service delivery model for competitive and high-performance athletes

Krista J. Van Slingerland, M.A., PhD(c)[1] and Natalie Durand-Bush, PhD[1]

[1]University of Ottawa, School of Human Kinetics, Ottawa, Canada

Manuscript accepted for publication with minor revisions by *Frontiers in Sports and Active Living*.

Abstract

The purpose of this study was to evaluate the acceptability and appropriateness of a sport-centered, collaborative mental health service delivery model implemented within the Canadian Centre for Mental Health and Sport (CCMHS) over a period of 16 months. The study is situated within a larger Participatory Action Research (PAR) project to design, implement and evaluate the CCMHS. Primary data were collected from CCMHS practitioners (n = 10) and service-users (n = 6) through semi-structured interviews, as well as from CCMHS stakeholders (n = 13) during a project meeting, captured via meeting minutes. Secondary data derived from documents (e.g., clinical, policy, procedural; n = 48) created by the CCMHS team (i.e., practitioners, stakeholders, board of directors) during the Implementation Phase of the project were reviewed and analyzed to triangulate the primary data. The Framework Method (Ritchie and Spencer, 1994) was used to organize, integrate and interpret the dataset. Overall, results indicate that both practitioners and service-users found the model to be both acceptable and appropriate. In particular, practitioners' knowledge and experience working in sport, a robust intake process carried out by a centralized Care Coordinator, and the ease and flexibility afforded by virtual care delivery significantly contributed to positive perceptions of the model. Some challenges associated with interprofessional collaboration and mental health care costs were highlighted and perceived as potentially hindering the model's acceptability and appropriateness.

In September 2017, a group of stakeholders from the sport and mental health domains, including the two authors, commenced a Participatory Action Research (PAR) project to design, implement and evaluate a novel sport-focused mental health service delivery model applied within a national centre that became the "Canadian Centre for Mental Health and Sport" (CCMHS; Van Slingerland et al., 2019). Stakeholders critically examined the Canadian sport and mental healthcare landscapes to identify strengths and gaps, finding a dearth of opportunities for competitive and high-performance athletes to access acceptable and appropriate mental health care informed by a sport lens (Van Slingerland et al., 2019). This finding was in line with an accruing body of evidence demonstrating the value and need to provide sport-informed mental health services and resources to address the unique needs and demands of the athletic population (Henriksen et al., 2019; Henriksen et al., 2020; Reardon et al., 2019). In response, the group designed a specialized collaborative, sport-centered mental health service delivery model (Van Slingerland, Durand-Bush, and Kenttä, 2021) and implemented it over a period of 16 months as part of a larger three-phase research project (i.e., Design Phase, Implementation Phase, Evaluation Phase; Van Slingerland et al., 2019). This study is linked to the Evaluation Phase of the project and its purpose was to evaluate the acceptability and appropriateness of the mental health service delivery model implemented within the CCMHS during the implementation phase based on service-user and practitioner perspectives, as well as CCMHS documentation.

Acceptability and Appropriateness

Within the context of health care, the constructs of acceptability and appropriateness provide valuable insight into the quality of services provided. According to the World Health Organization (2021), quality health care is safe, effective, patient-centered, timely, efficient, and equitable, and results in more benefit than harm to patients. More specific to mental health, high

quality mental health care services provide "accepted and relevant [syn. appropriate] clinical and non-clinical care aimed at reducing the impact of the disorder and improving the quality of life of people with mental disorders" (World Health Organization, 2003, p. 2). Thus, the quality of mental health service delivery is underpinned by notions of what is *acceptable* and *appropriate* care according to recipients and providers.

Acceptability is "a multifaceted construct that reflects the extent to which people delivering or receiving a healthcare intervention consider it to be appropriate, based on anticipated or experiential cognitive and emotional responses to the intervention" (Sekhon, Cartwright, and Francis, 2017, p. 95). According to Sekhon and colleagues (2017), seven components inform service-user and provider assessments of acceptability: (a) affective attitude, (b) burden, (c) ethicality, (d) intervention coherence, (e) opportunity costs, (f) perceived effectiveness, and (g) self-efficacy. Definitions of each component are provided in Table 1.

Table 1.

Components of acceptability within healthcare interventions (Sekhon et al., 2017).

Component	Definition
Affective attitude	How one feels about the care process
Burden	The perceived amount of effort required to participate in the care process
Ethicality	The extent to which care has a good fit with one's value system
Intervention coherence	The extent to which one understands the care process and how it is designed to work
Opportunity cost	The extent to which benefits, profits, or values must be given up to engage in the care process
Perceived effectiveness	The extent to which care is perceived to have achieved its purpose
Self-efficacy	The level of confidence one has to perform the behaviours required to participate in the care process

The acceptability of an intervention for service-users and providers is a key indicator of both the effectiveness and the success of implementation of healthcare services (Diepeveen, Ling, Suhrcke, Roland, and Marteau, 2013). When service-users consider the care they receive to be acceptable, they are more likely to adhere to treatment protocols and benefit from improved clinical outcomes (Hommel, Hente, Herzer, Ingerski, and Denson, 2013). Regarding success, when practitioners deem a health care model or protocol to be acceptable, they are more likely to deliver it as it was designed (Proctor et al., 2009).

Appropriateness is another construct shedding light on the quality of healthcare interventions. According to the Canadian Medical Association (2015), appropriate care is "the right care, provided by the right providers, to the right patient, in the right place, at the right time, resulting in optimal quality care" (p. 2). Appropriateness has also been described as the perceived fit or relevance of a healthcare intervention in a particular context for a particular target audience (Peters, Tran, and Adam, 2013). In the context of the current study, appropriateness was employed to reflect the fit or relevance of the collaborative, sport-centered mental health service delivery model implemented within the CCMHS for competitive and high-performance athletes.

The constructs of acceptability and appropriateness were put forward to the stakeholder group by the first author during the design phase of the larger PAR project mentioned above. The stakeholder group approved the use of these constructs to guide the evaluation phase of the research.

The CCMHS Service Delivery Model

Health service delivery models or frameworks are sets of abstract concepts that, together, create a vision to guide health care practice (Alligood, 2002; Fawcett and Desanto-Madeya,

2013). Models vary across disciplines and according to clinical contexts. The CCMHS service delivery model was designed by 20 stakeholders through a collaborative process that translated stakeholders' thoughts and the relationships between these thoughts into an objective, visual representation using Group Concept Mapping (GCM; see Kane and Trochim, 2007; Van Slingerland et al., 2021). The GCM exercise was informed by focus group discussions in which stakeholders critically examined the Canadian sport and mental health care systems to evaluate the availability and effectiveness of mental health care for competitive and high-performance athletes (Van Slingerland et al., 2019; Van Slingerland, Durand-Bush, & Kenttä, 2020). Stakeholders concluded that a number of factors (e.g., lack of practitioners with dual competencies in sport and mental health, stigma, perceived lack of trust and confidentiality, inadequate funding, unclear eligibility criteria and intake/referral processes, geographical constraints) contributed to low help-seeking and access to care among Canadian athletes.

The GCM exercise resulted in the generation of 106 unique statements describing what elements ought to be included in a sport-specific mental health service delivery model and team operating in the Canadian context. Statements were organized into a six-cluster solution (i.e., Service Delivery, Business, Policy and Operations, Communications and Promotion, Education and Training, Partnerships, and Research) that provided a framework to develop the service delivery model and CCMHS (Van Slingerland et al., 2021). The *Service Delivery* cluster included 41 statements that informed stakeholders' conceptualization of the CCMHS service delivery model (e.g., "practitioners in the CCMHS should have dual competencies in clinical psychology *and* sport", "establish standardized eligibility criteria to access services within CCMHS and a referral plan for those who don't meet the criteria"). Additionally, the *Business, Policy, and Operations* cluster (n = 20 statements), outlined foundational infrastructures (e.g.,

legal, administrative, technological) required to establish and operate the CCMHS and included 11 statements that directly influenced the development of the model (e.g., “use an electronic health records system”, “retain clinic manager and other human resources as necessary”). The remaining clusters provided guidance to further develop the Centre itself, and to support service provision.

Following the GCM exercise, the stakeholders formed working groups based on their expertise to further delineate the service delivery model, addressing statements associated with defining service-user eligibility criteria, identifying an electronic health records (EHR) system, establishing a physical location for the CCMHS, and developing a payment structure for service-users. The project leads (i.e., two manuscript authors), in collaboration with the established board of directors, addressed the other statements that did not fall within the scope of the aforementioned working groups, such as incorporating the CCMHS as a not-for-profit organization, creating a website, outlining characteristics of the service delivery model, developing the intake and referral process, establishing a hiring process, and securing a team of mental health care practitioners (Van Slingerland et al., 2021). At the completion of the implementation phase of the three-phase project, 81% (n = 86) of the 106 statements resulting from the GCM exercise were fulfilled, including 83% (n = 34) of the 41 statements in the *Service Delivery* cluster and 90% (n = 18) of the 20 statements in the *Business, Policy and Operations* cluster. The remaining statements (e.g., “create educational program and standards to train specialists to have competencies in both sport and mental health”, “create alumni program that engages recovered athletes in peer-to peer-mentoring”) will be addressed in the future.

Following are key characteristics of the CCMHS service delivery model emerging from the Design and Implementation Phases of the research project that are of particular relevance for the

current study focused on evaluating the acceptability and appropriateness of the model (i.e., Evaluation Phase).

Sport-Centered Care

The availability for Canadian athletes to receive care from mental health providers with expertise in sport remains limited (Van Slingerland et al., 2019; Van Slingerland et al., 2021). This is a significant gap because evidence suggests that there are unique interactions between sport, mental health, and mental illness necessitating specialized expertise (Henriksen et al., 2020; Reardon and Factor, 2010; Reardon et al., 2019). For example, competitive and high-performance sport can uniquely compromise athletes' mental health (e.g., disturbed sleep due to travel schedules, overtraining and burnout; Drew et al., 2018; Meeusen et al., 2013) and trigger or exacerbate mental illness (e.g., due to concussion, cessation of sport due to injury, maltreatment, pressure to conform to body norms; Neal et al., 2013; Reardon et al., 2019). Moreover, correct diagnosis of mental illness can be compromised by sport (e.g., adaptive eating for an endurance athlete may present as an eating disorder to a clinician who does not have sport experience), and traditional treatment modalities (e.g., psychopharmacological interventions) may have adverse effects on performance (e.g., due to ataxia or weight gain), or be a banned substance under World Anti-Doping Association regulations (Reardon & Factor, 2010; Reardon et al., 2019).

Research has shown that athletes may greatly benefit from working with mental health practitioners who understand the competitive sport context (Gavrilova and Donahue, 2018; Jewett, Kerr, and Dionne, 2020; Moesch, Kenttä, Jens, and Quignon-Fleuret, 2018; Van Slingerland, Durand-Bush, DesClouds, and Kenttä, 2020). For example, Jewett et al. (2020) found that high-performance athletes who perceived their mental health challenges to be

inextricably linked to their sport experience (e.g., sport was a significant stressor, trauma was sustained in sport, symptoms impaired performance), also expressed the need for a mental health practitioner who understood the intricacies of sport. This mounting body of evidence was the impetus for developing a 'sport-centered' service delivery model including practitioners with knowledge and experience working in sport. This knowledge and experience were deemed essential to tailor therapeutic approaches to meet sport-specific demands and concerns such as competitive pressure, year-round training, injuries, transitions, peak and recovery periods, diet restrictions, team culture, traveling schedule, and anti-doping regulations (Reardon et al., 2019; Van Slingerland et al., 2019). To this end, job postings to hire practitioners for the CCMHS care team were explicit in asking about applicants' knowledge and competencies in sport. For example, postings denoted that experience in sport (e.g., as an athlete, coach) or working with athletes or other high-performing populations (e.g., physicians, military, lawyers) was an asset, and applicants were invited to complete an appendix outlining the nature of their sport experience (e.g., work with individuals and teams, skills employed).

Collaborative Care

In the current Canadian context, there are several types of professionals educated and trained to provide services in the areas of mental health, mental illness, and mental performance (Van Slingerland et al., 2019). As such, multiple professions were targeted in the CCMHS service delivery model to provide mental health care in competitive and high-performance sport contexts. At the time of the implementation phase, CCMHS practitioners included clinical and registered psychologists, counsellors, psychotherapists, mental performance consultants, a family physician, and a psychiatrist (Van Slingerland et al., 2021). Collectively, these team members complemented each other's scope of practice and had the competencies to diagnose, treat, and

prevent mental illness, manage and improve mental health, and address sport performance-related concerns with individuals, teams, and families. The CCMHS Care Coordinator played a central role within the model by completing intake assessments, assigning clients to care teams, serving as a neutral touch-point for clients, assisting practitioners in applying CCMHS policies and procedures, and managing data to support ongoing research and evidence-based practice (Van Slingerland et al., 2020).

A standard feature of CCMHS care included the assignment of a *lead* and a *support* practitioner to each client's care team (Van Slingerland et al., 2020). The rationale for this practice was to offer varied approaches and areas of specialization to guide care planning and decision-making, ensure availability in the event of a crisis, accommodate for different time zones and provincial restrictions to care provision, distribute workload and emotional burden, and encourage peer-to-peer learning and professional development (Durand-Bush and Van Slingerland, *in press*). This interprofessional approach necessitates collaboration on the part of CCMHS practitioners. Collaboration is central to integrated, patient-centered care delivered by multidisciplinary health teams who apply their complementary expertise, knowledge, and skills to positively impact care outcomes (Nancarrow et al., 2013; Sicotte, D'Amour, and Moreault, 2002). Collaborative approaches to service delivery are also commonly applied in sport settings in order to optimize athletes' physical health and mental and athletic performance (Reid, Stewart, and Thorn, 2004). Interprofessional collaboration requires (a) shared values, ethics, consciousness, and vision, (b) clearly defined roles and responsibilities fostering interaction and interdependence, and (c) consistent and coordinated processes and communication to facilitate teamwork (Enderby, 2002; Interprofessional Education Collaborative, 2016).

The collaborative aspect of the CCMHS service delivery model was critical in overcoming the siloed decision-making that can be characteristic of health services offered within the sport and general healthcare systems (Erkstrand, Lundqvist, Davison, D'Hooghe, and Pensgaard, 2019; Tinetti, Esterson, Ferris, Posner, and Blaum, 2016). CCMHS policies and procedures that were created and adapted based on ongoing feedback facilitated collaboration, communication, and shared decision-making amongst CCMHS practitioners. These pertained to eligibility criteria, consent to access services, referrals, intake assessments, a web-based EHR system, a virtual care platform, session and team consult notes, and regular team meetings, to give some examples. The amount of collaboration between the practitioners assigned to a care team ranged on a continuum from independent parallel practice to interdependent co-provision of care (Jones and Way, 2006), depending on factors such as symptom severity and complexity as well as practitioners' availability, personal characteristics, and geographic location.

Nationwide service provision

Pan-Canadian service provision was another important feature of the CCMHS model. Athletes are located all over Canada and they often travel across the country and abroad for both competition and training purposes. They must also relocate at times to work with different coaches and teams. As such, identifying a network of practitioners able to consistently and reliably provide inclusive and equitable services across provinces and territories in Canada was a priority in the development of the model. This was also deemed important to overcome interjurisdictional restrictions to the practice of psychology. This wide "network" approach has been adopted by high-performance sport systems around the world to service national team athletes (e.g., Australian Institute of Sport, 2021; English Institute of Sport, 2021; Moesch et al., 2018).

Virtual and in-person care

Given the increase in popularity and availability of virtual mental health care services (Palylyk-Colwell and Argáez, 2018; Van Slingerland et al., 2020) as well as the sheer size of Canada, the CCMHS model encompassed both in-person and virtual care options, enabling Canadian athletes to obtain services in a cost-effective, timely, and convenient manner, particularly when travelling. To this end, a secure and legally compliant[10] videoconferencing software was purchased, and training was provided to practitioners prior to the implementation phase to provide safe and confidential services. While this modality is an ideal solution to meet face-to-face with athletes who are unable to attend in person, it requires an acceptable internet connection, technological literacy, and a living space that provides privacy. It may not be suitable for clients with severe mental illness (Madigan, Racine, Cooke, and Korczak, 2020; Van Slingerland et al., 2020).

In sum, collaborative models of care have been applied for decades to integrate mental health supports into primary care settings (Eghaneyan, Sanchez, and Mitschke, 2014). Likewise, collaborative practice is commonly applied in sport settings as a strategy to provide integrated support to optimize athletes' physical health and performance (Reid et al., 2004). Until the current research was undertaken, a collaborative model to address the mental health needs of competitive and high-performance athletes had yet to be empirically designed, implemented and evaluated. Furthermore, a model centered on sport to increase the appropriateness and acceptability of care (Gavrilova and Donahue, 2018; Jewett et al., 2020; Van Slingerland et al., 2019) did not exist in the literature. The CCMHS sport-centred, collaborative service delivery

[10] Electronic health interventions in Canada must comply with regulations set out in the Personal Information Protection and Electronic Documents Act (a federal law relating to data privacy) and Health Information Protection Act (provincial legislation introduced to protect individuals' personal health information).

model guiding nationwide in-person and virtual mental health care represents a first-of-its kind in the world. Assessing the acceptability and appropriateness of this novel model is thus imperative and was the purpose of the current study.

Methodology

Participatory Action Research

This study, one of three in a larger multi-phase project, was guided by a PAR framework. PAR is an approach to inquiry that mixes elements of participatory research (Chevalier and Buckles, 2013) and action research (Costello, 2003) to collaboratively create and apply knowledge to affect positive change in a community (Borg, Karlsson, and Kim, 2010). The group of stakeholders who collaboratively designed the mental health service delivery model and CCMHS (Van Slingerland, Durand-Bush, & Kenttä, 2020) participated in the entire 48-month project at varying levels (e.g., consultation, arrival at group consensus, joint decision and action; Chevalier & Buckles, 2013). Through a *Collective Agreement* signed by stakeholders, the group agreed upon and operated under shared principles of engagement (e.g., respect and open communication, consensus decision-making). Importantly, the stakeholder group included current and former competitive and high-performance athletes (n = 12), mental health care service providers (n = 6), and service-users (n = 10; i.e., people who identify themselves as present or past users of mental health services) whose diverse perspectives created rich and meaningful dialogue. While action researchers facilitate the production and application of knowledge from the position of an "outsider", participatory researchers are seen as stakeholders and participants themselves with valuable experiences to contribute to the pursuit of collaborative knowledge generation and change to the status quo (Herr and Anderson, 2005). In line with the PAR approach, the two manuscript authors, both active participants in the sport and

mental health domains as researchers, practitioners and / or service-users, were included as participants in this study (see Van Slingerland, Durand-Bush, DesClouds, & Kenttä, 2020 for an in-depth description of the authors' ties to sport and mental health) along with the CCMHS practitioners, stakeholders, and Board of Directors described in the next section.

The process of doing PAR is complex, multi-facetted and outside the scope of this paper to fully address. Readers wishing to learn more about the processes followed to undertake this particular project are invited to consult previous articles stemming from the project (e.g., Van Slingerland et al., 2019; Van Slingerland, Durand-Bush, & Kenttä, 2020).

Data Collection and Analysis

Ethical approval was obtained from the researchers' university Ethics Board to conduct this study. An overview of the data collection and analysis process is depicted in Figure 1. Both primary and secondary data were collected, using a three-step process (data collection A, B, C). Primary data were first collected sequentially from three sources: (1) CCMHS practitioners (see Van Slingerland et al., 2020 for a description of the full team), (2) CCMHS service-users (i.e., athletes), and (3) CCMHS stakeholders (see Van Slingerland et al., 2019 for details). Semi-structured interviews (data collection A, August – November 2019) served as the principal means to examine practitioner and service-user experiences and perceptions of the acceptability and appropriateness of the mental health service delivery model (Cheng and Clark, 2017; Malson, 2010). The results of a preliminary analysis of the interview data were then presented to CCMHS stakeholders during a meeting, held virtually due to the COVID-19 pandemic. Stakeholders' impressions and reflections were captured via meeting minutes (data collection B, April 2020).

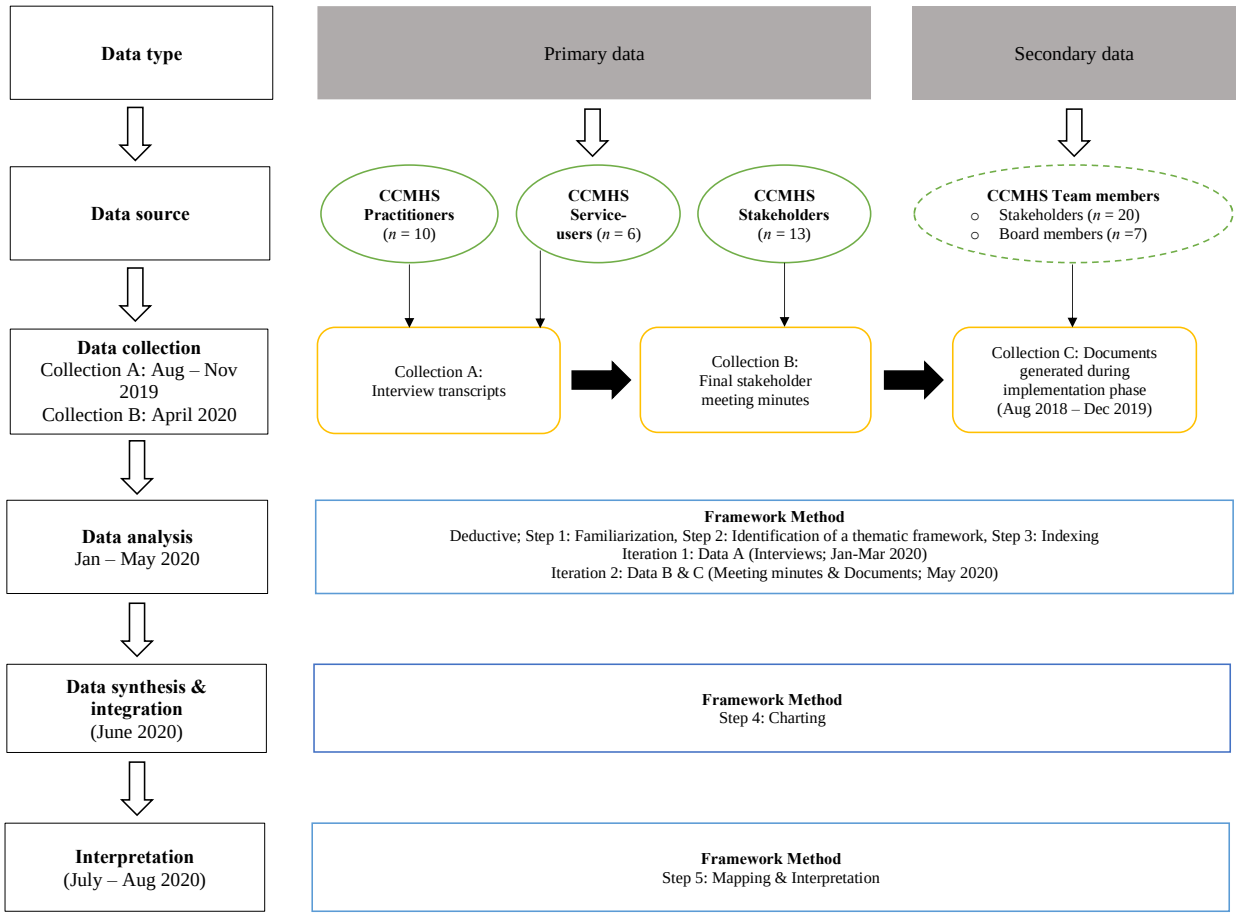

Figure 1. Overview of methods

Finally, to complement and triangulate interview data and stakeholder feedback, secondary data were also gathered (data collection C, May 2020) via documents (N = 86) produced by CCMHS team members (e.g., practitioners, stakeholders, board of directors) during the Implementation phase (August 2018 – December 2019) of the larger project. The Framework Method (Ritchie and Spencer, 1994), an analytic approach that involves sorting and charting qualitative data into key themes and codes using a five-step process [(1) familiarization, (2) identification of a thematic framework, (3) indexing, (4) charting, (5) mapping and interpretation] was used to organize, integrate and interpret the dataset.

Although the Framework Method provides a clear procedure, researchers are free to revisit steps to reconsider or rework ideas as the analytical process unfolds (Ritchie and Lewis, 2004).

Likewise, PAR directs researchers and stakeholders to undertake a continuous and cyclical process of planning, action, observation, and reflection (Kemmis and McTaggart, 1988). An iterative approach was taken to move through the data collection and analysis processes in which data were collected, preliminarily analyzed, presented for collaborative reflection and feedback and then further analyzed. The pacing of this process is enumerated in Table 2.

Table 2.

Pacing of data collection and analysis.

Activity	Timing	Description
Data collection A – Interviews	August – November 2019	Semi-structured interviews were conducted with practitioners and service-users.
Data analysis – Iteration 1	January – March 2020	Interview data were analyzed using the first three steps of the Framework Method, resulting in a thematic framework.
Data collection B – Stakeholder Meeting	April 2020	Results of *Data analysis – Iteration 1* were presented to stakeholders who reflected and provided commentary, captured in Meeting Minutes (Document 1).
Data collection C – Documents	May 2020	All documents included in the CCMHS electronic database and produced by CCMHS team members during the Implementation Phase (Aug 2018 – Dec 2019) of the larger research project were identified (N = 86)
Activity	Timing	Description
Data analysis – Iteration 2	May 2020	Documents identified in *Data collection C* were reviewed and excluded (n = 38) if they did not triangulate the data provided by participants interviewed for the study.[a] Included documents (n = 48) were coded using the thematic framework (Steps 1 and 3 of Framework Method).
Data analysis – Synthesis and Integration	June 2020	Data were charted into a framework matrix in which each column represented a theme and each row represented a source of data (Step 4 of Framework Method).

Table 2. Pacing of data collection and analysis (continued)

Activity	Timing	Description
Data analysis – Interpretation	July – August 2020	Data were examined using a "bigger picture" lens and interpreted based on convergence and divergence between sources and links across themes (Step 5 of Framework Method).

Note. [a]Any clinical documents included (i.e., session and team consult notes, intake summaries) from this point on pertained to the service-users who were interviewed for the study only

Data collection A – Interviews. A total of 16 one-on-one semi-structured interviews (Brown and Lloyd, 2001) were conducted by the first author with CCMHS practitioners (n = 10) and service-users (n = 6) between August and November 2019. Interviews were conducted as participants were available, thus no particular order was followed. The sample of practitioners included registered / clinical psychologists (n = 3), certified counsellors / psychotherapists (n = 4), and mental performance consultants (n = 3). Nine of the 10 practitioners were also professional members of the Canadian Sport Psychology Association. To be eligible to participate in the interviews, CCMHS practitioners had to have consented to do so, and were required to have delivered a minimum of three sessions of care to one or more service-users in order to have sufficient experience upon which to draw. Collectively, the practitioners had delivered 151 sessions of care to 45 athlete service-users at the time the interviews began.

In order for service-users to be eligible to participate in an interview and have adequate experiential data from which to draw, they had to have completed 3 or more care sessions with a CCMHS practitioner. Twenty-eight service-users met this threshold and were contacted to participate. However, only five female and one male athlete (M_{age} = 22.8 years) volunteered to be interviewed even though they had originally consented to be included in the study if they met criteria. This was not surprising given the busy schedule of athletes and the sensitivity of the topic being investigated (i.e., mental health care). Service-user participants competed at the

provincial (n = 1), collegiate (n = 2), and international (n = 3) levels and sought CCMHS services to address symptoms associated with a variety of mental health disorders (e.g., depression, anxiety, ADHD, eating disorder). At the time of their interview, they had completed an average of 5 sessions with CCMHS practitioners. Five of them were still actively receiving care while one had completed the care program. A summary of service-user characteristics is presented in Table 3.

Table 3.

Summary of service-user characteristics.

	Service-User 1	Service-User 2	Service-User 3	Service-User 4	Service-User 5	Service-User 6
Age	19	27	22	18	26	25
Gender	Female	Female	Male	Female	Female	Female
Sport type	Team	Team	Team	Team	Individual	Individual
Level	Collegiate	Provincial	International	Collegiate	International	International
Region	Atlantic Canada	Atlantic Canada	Central Canada	Central Canada	Western Canada	Western Canada
# of sessions	4+ intake	5+ intake	5+ intake	3+ intake	5+ intake	9+ intake

The interviews were informed by an interview guide, which was developed based on the components of Sekhon, Cartwright, and Francis' (2017) framework of acceptability (see Table 1), and the elements of appropriate care enumerated in the Canadian Medical Association's (2015) definition (i.e., (1) service characteristics ["right care"], (2) provider characteristics ["right provider"], (3) client characteristics ["right patient"], and (4) contextual characteristics ["right place and time"]). The first part of the interview was designed to elicit participants' perspectives on the seven components of acceptability in the context of the care they delivered or received through the CCMHS. As an example, practitioners were asked to describe any burden or opportunity cost they perceived to be associated with delivering care within the CCMHS

model (e.g., *"As a member of the CCMHS care team, how much effort did you have to invest to provide adequate mental health care to athletes? To what extent did this team/context energize you and/or burden you?").* Service-users were asked a similar question (e.g., *"As an athlete receiving services at the CCMHS, how much effort did you have to invest to get adequate mental health care? To what extent did the team of practitioners/context energize you and/or burden you?"*).

The second part of the interview guide was designed to gather participants' perspectives on the extent to which the care delivered / received was appropriate. For example, practitioners were invited to address contextual characteristics [e.g., *What impact (if any) did the setting (physical location or e-platform) in which care was provided have on athlete outcomes (e.g., therapeutic alliance, adherence to the program, effectiveness of care?*]. Service-users responded to a similar question [e.g., *"What impact (if any) did the setting in which care was provided have on service delivery (e.g., therapeutic alliance, adherence to the program, effectiveness of care)?"*].

Although an interview guide was used, discussions remained flexible, allowing the first author to ask follow-up questions and participants to articulate their viewpoints in their own words, based on their experienced realities (Galletta, 2016). The interviews were conducted in-person (n = 3) and via a secure virtual platform (n = 13). They were audio-recorded and lasted 32 minutes on average.

Data analysis – Iteration 1. A preliminary analysis of the interview data was undertaken in order to present findings to CCMHS stakeholders (n = 13) at a project meeting held virtually in April 2020. The data were examined using the first three steps of the Framework Method: (1) Familiarization, (2) Identification of a thematic framework, and (3) Indexing. Analysis began with a verbatim transcription of the interviews. Next, the first author familiarized herself with the

interview transcripts, reading each one multiple times and re-listening to the audio recordings as necessary. The memo function in NVivo 12 was used to note initial thoughts and impressions, including any individual differences (e.g., geographic location) observed among participants that might influence their perspectives. Given the frameworks adopted to guide the study, a deductive approach to analysis was followed. The seven components of the acceptability framework (Sekhon et al., 2017) and four tenets of appropriateness (CMA, 2015) served as a thematic framework to organize the data. To index the data, the researcher used NVivo to code passages from the transcripts that spoke to one or more of the principal themes, while also allowing nuances within the broad themes to emerge (Gale, Heath, Cameron, Rashid, and Redwood, 2013). For example, *positive affect* and *negative affect* were codes relating to the broader category of *Affective Attitude* (Sekhon et al., 2017), which captured participants' feelings and emotions evoked by delivering or receiving care within the CCMHS model. Likewise, differences in the affective experiences of practitioners compared to service-users were noted.

Data collection B – Stakeholder meeting. The broad themes, supported by quotes from participants were presented to a subset (n = 13) of the original twenty-member stakeholder group (Van Slingerland et al., 2019), who met to share final reflections and close out the larger PAR project. Seven of the original stakeholders were unable to attend the meeting (n = 4) or were no longer engaged in the project (n = 3). Changes in the level of participation, including attrition, among stakeholders is common in PAR research as the conditions necessary for participation (e.g., time, trust amongst group members, professional obligations) fluctuate (Chevalier and Buckles, 2013). Stakeholder unavailability and attrition were unsurprising given the length of the larger project (32 months) within which this study was situated. The feedback provided by stakeholders during the meeting was captured within detailed minutes taken by the first author

and confirmed by listening back to an audio recording of the proceedings, which lasted 150 minutes. The analysis of this data is described below (Data analysis – Iteration 2).

Data collection C – Documents. A significant number of physical and electronic documents were produced by members of the CCMHS during the implementation phase of the larger PAR project. These documents (e.g., policy and procedural documents, electronic communications) provided valuable insight into processes and interactions between different groups involved within the CCMHS, successes and challenges encountered (e.g., meeting minutes), and the outcomes of care (e.g., clinical documents) as the novel service delivery model was implemented. During *Data collection C*, documents that met the following eligibility criteria were identified and gathered for further analysis (Data analysis – Iteration 2): (a) they were created by a CCMHS team member (i.e., practitioners, stakeholders, members of the board of directors), (b) they were contained within the CCMHS' electronic database, (c) they were created during the implementation phase of the project (August 2018 – December 2019). Eighty-six documents met these criteria. In addition to practitioners and stakeholders, members of the CCMHS Board of Directors (n = 7) contributed to document creation (e.g., policies / procedures). This group met quarterly to oversee the Centre's activities, develop organizational strategy, and ensure the organization complied with applicable legislation. While documents analyzed within the Framework Method are not typically written by researchers conducting an investigation (Bowen, 2009), many of the texts analyzed in the current study were written or influenced by the authors given that these individuals served as stakeholders commiserate with the PAR approach. These documents, along with the other documents produced by the CCMHS team, are labelled accordingly in Table 4.

Data analysis – Iteration 2. In the next phase of the data analysis, steps 1 and 3 of the Framework Method were applied to the documents gathered, which included the minutes produced from the stakeholder meeting (i.e., Data collection B and C). The first author first familiarized herself with the documents (step 1), determining if they met the following criterion to be further analyzed in this phase of the analysis: they triangulated the data provided by the practitioners and service-users who were interviewed for the study (i.e., confirmed or expanded the findings; Carter, Bryant-Lukosius, DiCenso, Blythe, and Neville, 2014). Any clinical documents included (i.e., session and team consult notes, intake summaries) from this point on pertained to the service-users that were interviewed for the study only. Step 2 of the Framework Method (identification of a thematic framework) was unnecessary to repeat in this second iteration given the deductive approach used in the first iteration and the aim to triangulate the data rather than to produce new codes. In the end, 48 documents (55%) were included in the final analysis (Table 4). Excerpts from these documents were coded (step 3) using NVivo in light of the existing thematic framework.

Data analysis – Synthesis and integration. In step 4 of the Framework Method, the coded passages (from interviews) and excerpts (from documents) were charted into a framework matrix in which each column represented a theme, and each row represented a source of data (e.g., practitioners, service-users, stakeholders, etc.). Organizing data in this way assisted the first author in reducing the data by clearly summarizing it categorically and identifying quotes and excerpts that were most illustrative of the theme (Gale et al., 2013).

Table 4.

Documents analyzed.

Document number	Name	*n*	Type	Author(s)	Year written	Document Purpose	Coding units / meaning assigned
1	Meeting notes – Stakeholder Meeting #5	1	Meeting	N/A - Audio and visual recording of Zoom meeting	2020	Capture the content of a meeting with stakeholders where results of participant interviews were presented and analyzed	Burden
2-8	Meeting minutes – CCMHS Practitioner meetings	7	Meeting	N/A - Audio and visual recording of Zoom meeting	2018-2019	To capture the discussions that occurred within meetings	Affective Attitude; Intervention coherence; Perceived effectiveness
9	CCMHS Policies and Procedures	1	Policy / procedural	CCMHS Board of Directors; CCMHS Practitioners	2018	Articulate the processes and procedures to be undertaken by CCMHS practitioners when delivering care	Burden; Intervention coherence
10	Authorization Form to Release Confidential Information	1	Policy / procedural	Care Coordinator	2019	Allow clients to give consent to CCMHS practitioners to share information with other members of their circle of care (e.g., team physician)	Intervention coherence
11-42	Session and Team Consult Notes of the service-users interviewed	31	Clinical	CCMHS Practitioners	2018-2019	Summarize care sessions and consultations with CCMHS team members	Intervention coherence

Table 4. Documents analyzed (continued)

Document number	Name	*n*	Type	Author(s)	Year written	Document Purpose	Coding units / meaning assigned
43-48	Intake summaries of the service-users interviewed	6	Clinical	Care Coordinator	2018-2019	Summarize clients' presenting concerns, including scores on mental illness screening tools completed at intake	Intervention coherence; Perceived effectiveness

Data analysis – Interpretation. Once the matrix was populated, the first author was able to observe the "bigger picture" in step 5 of the Framework Method to identify convergence and divergence in the data, compare and contrast the responses of distinct groups, and corroborate interview findings with data gleaned from the documents. In this way, the entirety of the dataset was used to fulfill the purpose of the study. The first author shared her interpretation of the data with the second author and five other research colleagues who offered critical feedback and encouraged reflexivity (Smith and McGannon, 2018).

Results

Results are organized according to the seven conceptual components of acceptability (Sekhon et al., 2013) and four conceptual components of appropriateness (CMA, 2015). The data gathered from the semi-structured interviews with practitioners and service-users provide the bulk of the evidence, and excerpts from or reference to CCMHS documents serve to triangulate these data.

Acceptability

Results indicate that all facets of acceptability were satisfied by the CCMHS model. Practitioners and service-users gave examples of positive affect (e.g., trust), high self-efficacy (e.g., assisted by the care coordinator), and low burden (e.g., afforded to service-users through virtual care delivery). Furthermore, the care delivered was regarded as ethical (e.g., confidential), effective (e.g., due to sport focus), and coherent (e.g., service-users understood and applied the skills they learned in therapy). On the other hand, the model's acceptability was challenged by a certain level of negative affect (e.g., apprehension), burden (e.g., communication required between practitioners), and intervention coherence (e.g., collaboration among practitioners).

Affective attitude. Affective attitude reflects how practitioners and service-users felt about the CCMHS care process. Participants reported experiencing a range of positive and negative feelings (e.g., feelings of trust, support, pride, uncertainty, apprehension, frustration) as a result of delivering or receiving care within the CCMHS service delivery model. For example, trust was addressed by both practitioners and service-users. Practitioner 2 shared: "I think [my experience] would have been different had I not known anybody [on the team]. I don't know if I would have felt as comfortable reaching out". The team-based model decreased feelings of isolation and enhanced feelings of connectedness, comfort, and confidence in providing quality care: "It was helpful to feel part of a bigger system that we're all working towards the same goal and all working within the same population…that collaborative piece for me made it feel less isolating as a practitioner" (Practitioner 7).

Likewise, service-users discussed feelings of trust related to service provision. For example, Service-User 5 mentioned, "I trusted her because she has a sport background herself and has worked with other athletes. I felt that she just gets it". Conversely, two service-users described feelings of trepidation since the CCMHS was a relatively unknown entity in the Canadian sport ecosystem: "[Seeking help] was like jumping off a cliff…I think that's always intimidating, but also because [the CCMHS] is so new and I had only really heard of the organization" (Service-User 6). Despite having initial apprehension to seek services, three of the six service-users described the CCMHS Care Coordinator as contributing to their level of trust and comfort:

> "[The Care Coordinator] was so awesome! I was nervous. I had no idea what to expect with the intake interview. She was so friendly, and I felt like she was really approachable…In the past, it had been just myself and the mental performance coach and

there wasn't really an unbiased middleman to help if I needed it. So, right off the bat I was like, okay this is legit!" (Service-User 5)

Burden. Burden refers to practitioners and service-users' perceptions of the amount of effort required to participate in the care process. The implementation of the new CCMHS service delivery model placed more burden on practitioners (e.g., upload session notes to the EHR system; CCMHS Care Policies and Procedures, Document 9) than on the service-users. Burden for practitioners was mainly related to respecting policies and procedures for communication (e.g., through the EHR system and virtual platform) and collaboration. For instance, Practitioner 1 indicated: "[The CCMHS] asked for practitioners to communicate when a client has exited care and I haven't been…it's not part of my process. I don't even think about it until we talk about it in a meeting" (Team Meeting 3, Document 4).

Similarly, virtual care provision challenged practitioners to develop novel skills, as discussed by Practitioner 7: "[Establishing a therapeutic alliance across a digital platform] was a challenge, but it was one that I had embraced, and I found it to be authentic". Interactions via a screen required effort to capture service-users' full attention: "I'm hearing phones; they're stopping in the middle [of the session] because their texts are coming through. It's like "Okay, this is our therapy time, are you on do not disturb mode?" (Practitioner 3).

Three practitioners perceived the collaborative aspect of the model to create burden at times, as indicated by Practitioner 5: "Should I [collaborate] even though I don't need to? We don't want to overload people who have very heavy practices … when we chat it has to be for a reason". Practitioner 1 also shared: "It's on us to create those links and use each other in that way to build relationships. I do think that's one of the weaknesses [of the model] versus if we were all in the same building". Despite these challenges, practitioners demonstrated flexibility, patience

and resilience throughout the implementation phase and nine out of ten perceived the value of working with the CCMHS team to outweigh the burden they experienced.

Service-users perceived very little burden associated with the care process. They described that engaging in therapy required work, however, the effort they invested was worthwhile because of the benefits they derived: "The level of care [has been] awesome. Sometimes you think it's going to be work, and it *is* work, but I enjoy doing it" (Service-User 6). Virtual care delivery was perceived by four of the six service-users as reducing the effort required to participate in care, as indicated by Service-User 3: "A lot of it's done virtually and that has its issues, but it also gives room for tons of flexibility, like being able to do things from the comfort of your own home".

Ethicality. Ethicality refers to the extent to which care was perceived to have a good fit with practitioners and service-users' value system. None of the practitioners raised any ethical concerns; rather, they described elements of the model that heightened ethicality. For example, three practitioners discussed the care team assignment process as enhancing ethicality compared to other models of care provision:

> There's really a lot of consideration that goes into the process. [The Care Coordinator] took the time to get to know this client ... and thinks that this client can be a really great match with my approach and my values. I mean, you can't really get anything better than that. (Practitioner 1)

Similarly, the care team assignment process ensured that ethicality and duty of care with respect to client safety were met, as indicated by Practitioner 6: "I felt that we needed to continue [care] and [the client] needed more than a few sessions…but I would [need] a colleague physically located there so having a supporting practitioner locally helped remedy that [ethical dilemma] for

me". Ethical questions (e.g., "Is it appropriate to use virtual care for complex cases?", Team Meeting 5, Document 6) were discussed with the practitioner team at meetings throughout the Implementation Phase.

All service-users indicated that CCMHS practitioners were able to facilitate psychologically safe, secure, and person-centered care that aligned with their values. For example, Service-User 3 shared: "There was never really any cause for concern with information that was being exchanged". As a neutral entity operating independently from Canadian sport governing bodies, the confidentiality and safety of CCMHS services were highlighted, as explained by Service-User 5:

> A lot of [health care providers in high-performance sport] have a hand in making decisions that could affect our career, like finding spots on the team or travelling. So, I don't want to go to these people and show them that I'm struggling and that I'm not strong enough to be on the team.

Four service-users discussed the significance of having a practitioner who understood and shared sport as a fundamental value:

> [CCMHS care] was definitely more helpful than past providers…they were more realistic in terms of managing the issues that were going on with staying in sport. Because every time I've had an issue, I've had providers be like 'Oh why don't you just take a step back?' (Service-User 2).

Intervention coherence. Intervention coherence reflects the extent to which participants understood the care process and how it was designed to work. Three practitioners discussed initially feeling uncertain about implementing the novel model, however, this changed as they became more familiar with policies and procedures. For example, Practitioner 6 reported: "I

think it's easier now that I feel more confident with the technology we're using. I'll be honest, it was stressful for me at the start". Practitioners were reminded of procedures and given additional clarity about how to follow them in practice in each of the team meetings (e.g., "Remember to fill out the team consult notes form in the EHR after you have meetings/calls."; Team Meeting 7, Document 8). Furthermore, the team was given the opportunity to provide ongoing feedback and suggest adjustments as new challenges arose (e.g., Authorization to Release Confidential Information form created to work with third party practitioners, Document 10). Overall, all 10 practitioners took steps to learn, understand, and contribute to refining CCMHS policies and procedures over time to optimize care. For example, Practitioner 7 explained how she learned to adapt to digital care provision: "Just using little gestures, I make sure I'm using eye contact, waves at the beginning [I try] to project warmth across the platform".

Service-users' understanding of the care model, particularly the collaborative aspect, was less than that of practitioners, as Service-User 3 explained: "I'm not exactly sure how my [care] team was structured". Even though the Care Coordinator explained the care model during each intake (e.g., Intake Summary 3, Document 45), service-users' lack of knowledge was not surprising given the variability in collaboration across practitioner teams and the focus on client needs during care. This did not appear to impact care outcomes, as captured in the following session note: "The client continues to note improved awareness of internal states" (Document 23).

Opportunity cost. Opportunity cost reflects what practitioners and service-users had to give up (e.g., benefits, profits, values) in order to engage in the care process. Time and money were the two most prevalent elements given up by participants in order to deliver / receive care through the CCMHS. For example, the collaborative component of care, which was

unremunerated, was an opportunity cost identified by some practitioners: “One of the challenges is the time and the money that it costs to have that collaborative conversation...With running your own business and having a seven-year-old and trying to stay healthy yourself…those twenty minutes count!” (Practitioner 9).

However, nine of the ten practitioners emphasized that the benefits exceeded the costs of being involved in the collaborative care team, as summarized by Practitioner 5: “I don’t think there’s a cost to it, I think it’s an advantage! I think that the opportunities to collaborate, to share knowledge, to work together, and remove the barriers, are important.” The one practitioner, however, who did not perceive the return to be commiserate with the investment she made shared: “I put a lot of front-end time to train and attend meetings and get up to speed on everything. For the number of clients in return, I wouldn’t say it was quite equal in terms of the effort out” (Practitioner 9).

Three service-users identified fees-for-service as an opportunity cost: “Just thinking about paying for services… You want to be better so you’re investing all of this money… but the extra 200 dollars is actually a lot for athletes…especially, non-carded athletes” (Service-User 6). Data from the stakeholder meeting supported this, showing that 7% of referred service-users dropped out before care commenced, citing financial difficulties (Stakeholder Meeting 5, Document 1). This aligns with the findings of other researchers whose studies revealed that low socio-economic status is significantly related to psychotherapy dropout rates (Wierzbicki & Gene, 1993). Furthermore, approximately 2.3 million Canadians reported having unmet or partially met mental health care needs during the most recent census, most frequently citing not knowing where to access support, being too busy, or being unable to afford care as the reason they did not get help (Statistics Canada, 2018).

Perceived effectiveness. Perceived effectiveness is the extent to which care was perceived to have achieved its purpose. Participants reported a high level of effectiveness regarding the service-delivery model. For example, Practitioner 7 shared: "I just had an athlete text me that they were able to meet their goal of increasing their mental performance and got accepted to the National Team!". All practitioners reported being able to deliver effective services, three of them highlighting the collaborative component: "When my first client was someone who required more than just my support, a psychiatrist was brought in. And that certainly was a strength of the model" (Practitioner 2). Practitioner 3 explained the increased accessibility of care: "A plus of the Centre is that [clients] do circumvent a long… probably 12 to 16 month wait list". Four practitioners underscored that their sport background enhanced effectiveness: "I think [sport-specific knowledge] was critical. When we started to explore what options there were for ADHD, it was much more inspiring for him to know that [the team member] had the sport background as well." (Practitioner 9).

Nonetheless, some challenges were noted including time zone management (e.g., "It has been difficult to schedule a meeting with one particular client because of the time zone difference and because that client is a high school student", Team Meeting 4, Document 5) and interjurisdictional barriers to practice (e.g., "Discussed the idea of collaborative care between members residing in different provinces to work with limitations.", Team Meeting 3, Document 4).

Service-users provided several examples of successes they experienced as a result of receiving care. For instance, Service-User 6 discussed learning to manage symptoms of anxiety: "So [we've been] working on how to get into the right mindset and if I'm really nervous, how I bring that back… It's helped a lot up front in terms of feeling more confident. Service-User 3

shared: “The biggest changes I’ve incorporated is working on managing stress levels, lowering anxiety levels and finding a balance”.

Self-efficacy. Self-efficacy is the level of confidence practitioners and service-users had to perform the behaviours required to participate in the care process. Overall, self-efficacy was high amongst participants. From the practitioners’ perspective, self-efficacy increased over time as they became more familiar with the collaborative care process. The physical distance between team members sometimes challenged their efficacy to work together: “[If] I knew people better or they knew me, I think it would probably make the collaborative piece work even better” (Practitioner 1). Technological difficulties also sometimes affected confidence, as reported by Practitioner 9: “You need to break up the session [when technological difficulties occur] …that’s the only problem I think with distance”.

All six service-users consistently reported being able to apply the skills and tools they gained in therapy to both sport and life: “There’s been tons of opportunities that I have been able to take [a skill] and put it into a workplace situation or a schooling situation” (Service-User 3). Nonetheless, one athlete shared how stigma still impedes the application of strategies learned in therapy: “I'm not really comfortable with my coach. I wouldn’t be open enough to say ‘yeah I’m struggling with depression’” (Service-User 5).

Appropriateness

Taken as a whole, the care provided or received through the CCMHS was perceived as appropriate [the right care (service characteristics), provided by the right practitioner (provider characteristics), to the right patient (client characteristics), in the right place, at the right time (contextual characteristics)].

Service characteristics. For every service-user, the sport-specificity of care surfaced as a reason the CCMHS offered the "right care": "The sport-focus was a big component for me. It definitely allowed it to be relatable… Now I can take those skills and apply them to real life" (Service-User 3). Service-users perceived practitioners' sport background as enhancing their understanding of athletes' environment and the expectations placed upon them. This, in turn, enhanced trust in the provider and skill transfer because practitioners were able to give relevant examples when imparting strategies and tools to enhance mental health and mental performance.

Provider characteristics. Similarly, practitioners' knowledge and understanding of what it means to be a competitive athlete, made them the "right provider": "They eat, sleep, live that [sport] environment. And they don't have balance. So, a practitioner who doesn't understand that high-performance environment, I think would have unrealistic recommendations or expectations around balance" (Practitioner 7). The intake process, which allowed clients and practitioners to be "matched" based on a number of factors (e.g., client needs, symptom severity, location) also contributed to perceptions of being the "right provider" (Team Meeting 4, Document 5).

Client characteristics. Clients' athletic identity, coupled with the recognition that mental health challenges were impacting sport performance made them the "right client" for the CCMHS: "What I'm doing with my sport is everything and—yeah, it's probably causing me some issues right now, but I would rather work through those issues than not be in sport" (Service-User 2). The "right client" was also associated with service-users who had the means to pay for care through private insurance or family support. This is the only factor that practitioners and service-users described as hindering the appropriateness of care: "I'm really sorry we lost that one [to financial difficulties] he so needed the Centre… it breaks my heart because we want [to help] these people" (Practitioner 5).

Contextual characteristics. Four service-users discussed why the "right place" for care to be delivered was virtually, in their own home: "I spend so much time training… I love that I can just sit at home and be eating or be stretching and chatting with [my practitioner] at the same time in the comfort of my own home" (Service-User 5). One service-user discussed the stigma attached to seeking mental health support in sport, noting how the social climate has changed recently, making it the "right time" for the CCMHS to offer its services: "I think with the Bell Let's Talk stuff and a lot of athletes coming out and being like, 'It's okay" [to seek help]'. I was like, 'Why not, we'll see what they say'" (Service-User 6).

Discussion

The purpose of this study was to evaluate the acceptability and appropriateness of a sport-informed mental health care model implemented within the CCMHS. Overall, results demonstrate that care provided and received within the CCMHS service delivery model was acceptable and appropriate, and that each component of the model contributed uniquely to practitioner and service-user experiences. Some areas of improvement emerged, which have implications for further research and practice.

Collaborative care

Results indicated that the involvement of multiple professionals with complementary expertise, knowledge and skills in care provision was acceptable and appropriate to practitioners and service-users. Specifically, the collaborative interdisciplinary approach contributed to the ethicality of the model, promoted the professional development of team members, and enabled Pan-Canadian service provision. Tools such as the EHR and clinical note templates as well as regular team meetings facilitated continuity of care amongst team members. According to research on interdisciplinary health teams, continuity of care is key to providing coherent and

connected healthcare experiences for patients (e.g., Anderson and Helms, 1993; Busari, Moll, and Duits, 2017). This is particularly important in sport as athletes frequently travel and can change teams during their career, potentially necessitating them to work with different health practitioners every time they relocate if there is no centralized or integrated service provision approach (e.g., Nikolić, 2020).

Research also shows that collaborative care provides organized opportunities for practitioners to learn from colleagues with diverse skillsets (e.g., via team meetings, grand rounds), leading to increased cooperation, communication, and comfort in implementing health interventions as a team (Feather, Carr, Reising, and Garletts 2016; Horsley et al., 2016). Results of this study confirm this. Although there was a steep learning curve for practitioners at the beginning of the implementation phase, they shared that they valued the exchange of information, ongoing support, decreased sense of isolation, and unity in pursuit of high-quality patient care, made possible through the collaborative care model. The model provided a community of practice in which peer learning and support could occur. This has been shown to be beneficial in both healthcare (e.g., Markowski, Bower, Essex, and Yearley, 2021) and sport (e.g., Bertram, Culver, and Gilbert, 2017) settings.

The collaborative component of the CCMHS model was also perceived to enhance the effectiveness and quality of care and ensure the "right provider" was accessible to service-users. A significant body of evidence has demonstrated that collaborative care models result in high-quality care and improved outcomes for patients with mental illness and substance use disorders (Mental Health Commission of Canada, n.d.; Siobhan et al., 2013). A central role in the effectiveness and quality of care reported by participants was fulfilled by the CCMHS Care Coordinator. The Care Coordinator reportedly enhanced practitioners' understanding and ability

to implement the model, promoted and ensured ethical service-provision, and increased service-users' trust in the quality, legitimacy and safety of services provided. This supports previous research showing that the care coordinator position is integral to mental health service provision within interdisciplinary settings and can positively impact patient recovery (Haggerty et al., 2003; Henriksen et al., 2020). Having a centralized Care Coordinator to manage care in a secure and confidential manner and serve as a neutral conduit between practitioners and service-users is novel in the provision of mental health services in sport in Canada. Readers who are interested in learning more about the robust intake-process implemented at the CCMHS are invited to consult the work of Van Slingerland, Durand-Bush, DesClouds, and Kenttä (2020). Given the several benefits highlighted by participants, more research should specifically examine the Care Coordinator role so that this type of position can be leveraged in the future to facilitate the delivery of mental health care in sport.

Despite the aforementioned benefits, the collaborative component of the model was associated with some administrative burden as well as time and financial cost for some practitioners. The fact that practitioners were not remunerated for collaboration posed a challenge for some of them. This issue was highlighted by other researchers who noted that fee-for-service models disincentivize collaboration amongst practitioners by failing to remunerate interactions that do not directly involve patients (Wranik et al., 2017). An adequate funding model is required in the future so that practitioners can be compensated for their time spent engaging in collaborative care with both clients and the practitioner team. Another burden highlighted by some practitioners pertained to logistics or administrative tasks (e.g., learning how to use the EHR). Interestingly, administrative burden was found to be a significant source of stress for medical professionals and linked to burnout (National Academies of Sciences,

Engineering, and Medicine, 2019). Given the novelty of the current collaborative care model and the potential for mental health practitioners to experience burnout (Statistics Canada, 2021), the efficiency of CCMHS processes should be explored to minimize the administrative burden placed on practitioners without compromising ethical and professional obligations.

Sport-centered care

Findings show that the specialized sport-centered nature of CCMHS services significantly contributed to perceptions of acceptability and appropriateness. This was perceived by participants to enhance affective attitude (e.g., trust, comfort), the ethicality of services (e.g., sport values aligned between practitioners and service-users), and the effectiveness of care. While research has shown that athletic identity can prevent athletes from seeking help for their mental health struggles (Gulliver, Griffiths, & Christensen, 2012), this study revealed that athletic identity may also contribute to help-seeking when sport-centered resources are available. Indeed, confidentiality and trust in mental health providers are known to facilitate help-seeking amongst young people (Gulliver, Griffiths, & Christensen, 2010). Consequently, integrating practitioners with knowledge and experience in sport, which is a unique feature of CCMHS's sport-centered mental health care model, may be a way to build the trust required amongst young athletes to seek help when in need.

According to a recent study with high-performance athletes, the sport knowledge of mental health care providers may be vital for not only help-seeking but also recovering from mental health challenges or disorders (Jewett et al., 2020). Given the salience of this component of care, further investigation is warranted to shed more light on the value and necessity of having a sport background when providing care to athletes and to determine if this varies across athletic populations and mental health disorders experienced. Furthermore, given the limited number of

mental health practitioners specializing in sport in Canada (Van Slingerland, 2019), efforts should be made to provide adequate education and training to increase the network of available practitioners. This was a statement highlighted in the concept mapping activity that was performed to create the CCMHS (Van Slingerland et al., 2021), and remains an outstanding endeavour.

Nationwide service provision

The nature of nationwide service provision was perceived to have both benefits and drawbacks. While the pan-Canadian model facilitated the delivery of care to athletes across the country, it also contributed to practitioner burden and sometimes challenged their self-efficacy to collaborate at a distance. Previous research has highlighted the barriers that geographical distance poses to effective communication and collaboration amongst healthcare teams, underlining that proximity to coworkers impacts familiarity, ease of communication and cooperation (Cramton, 2001). One way to circumvent this is by increasing trust within collaborative teams. Indeed, trust in colleagues was found to be a key component of the successful implementation of collaborative care models (World Health Organization, 2016), and this was also highlighted by several practitioners in the current study. Further research on factors facilitating successful at-distance collaboration and trust without overly increasing practitioner burden is imperative, especially in light of the COVID-19 pandemic during which many health professionals are providing virtual care and experiencing exhaustion (Statistics Canada, 2021).

Although distance created challenges for practitioners, the dispersion of team members across the country was seen to enhance the ethicality of remote care provision to service-users experiencing more acute symptoms (e.g., self-harm or suicidal ideation). The collaborative and interdisciplinary aspects of the CCMHS model allowed lead practitioners to safely provide care

from a distance while having a support practitioner on the care team who could provide in-person care if necessary. Some severe and complex mental health conditions are best addressed in person (Madigan et al., 2020; Van Slingerland et al., 2020) and the deliberate care team structuring and coordination gave athletes living in both urban and rural communities the opportunity to quickly access their practitioner team based on their evolving needs. This type of ethical and convenient service delivery would likely not have been possible for athletes accessing care through the Canadian public health system given the excessively long wait times (Canadian Mental Health Association, 2017).

Virtual and in-person care

As introduced in the previous section, results revealed that virtual care delivery was acceptable and appropriate to service-users who shared that receiving care via a secure online platform was effective and relieved some burden associated with participating in therapy. Likewise, other studies have revealed that virtual care can be effective in the treatment of mental illness (Langarizadeh, Tabatabaei, Tavakol, Naghipour, Rostami and Moghbeli, 2017; Palylyk-Colwell and Argáez, 2018; Van Slingerland et al., 2020). While virtual care was appraised positively by service-users in the present study, it should be noted that these service-users were fortunate to have a safe and private space in their home in which to engage in therapy; this may not be the case for all athletes. Indeed, athletes could face privacy issues when travelling and sharing their room with others. Interestingly, a recent study demonstrated that athletes strategically use their smartphone to stay connected and effectively communicate with others (DesClouds and Durand-Bush, 2021). Consequently, the smartphone may be an effective tool for athletes to leverage to safely engage in virtual care, particularly when they are on the road.

Practitioners agreed that creating an authentic and successful therapeutic alliance over a digital platform was possible, however, they also noted that virtual care delivery created additional burden compared to face-to-face care, and that technological difficulties sometimes challenged their self-efficacy to deliver effective care. Given the exponential increase in online service provision as a result of the pandemic, researchers should more carefully examine the mechanisms and tools (e.g., smartphone) allowing mental health practitioners and service-users to successfully work together and achieve desired outcomes. Given that some service-users reported services to be cost prohibitive for them, attention should be focused on finding mechanisms to make care more affordable. Unfortunately, coverage (e.g., via private insurance and athlete assistance programs) for mental health care remains limited in Canada (Durand-Bush & Van Slingerland, in press). Thus, lobbying the government as well as private donors and corporate sponsors to help subsidize care is essential. Langarizadeh and colleagues (2017) reported that "while being comparable to in-person services, telemental health care is particularly advantageous and inexpensive through the use of current technologies and adaptable designs, especially in isolated communities" (p. 240). It seems logical then to continue building on the current study findings to develop affordable virtual care options using the most effective and efficient available technologies.

Strengths, Limitations and Future Directions

The qualitative approach guiding the current study allowed for an in-depth investigation and understanding of the acceptability and appropriateness of the CCMHS service delivery model. It brought to light the experiences of practitioners and service-users and honored these experiences as true and legitimate evidence of the mental health service delivery process, as per the PAR approach. Furthermore, three types of triangulation means were employed [i.e.,

involvement of multiple researchers, data sources (practitioners, service-users, documents), and methods (analysis of interviews and documents through framework method); Carter et al., 2014] to ensure the reliability and trustworthiness of the findings.

Although efforts were made to recruit as many practitioners and service-users as possible, the sample was limited. It was difficult to recruit service-users to share their experiences, yet this was not surprising given that high-performance athletes have extremely busy schedules. Furthermore, stigma remains a barrier and it is common for athletes to want to keep their struggles private. Interestingly, this was a common reason that the service-users sought services via the CCMHS. As a third-party entity operating at arm's length of sport governing bodies with no political or financial influence, the confidentiality of service-users was a priority and was guaranteed. The need for confidentiality and the challenges inherent in discussing painful mental health-related experiences may help explain why service-users were reluctant to participate in the current study.

A beneficial next step to complement the qualitative findings of this study would be to introduce a quantitative component to the research design to track symptom remediation and other measurable therapeutic outcomes. Since the larger PAR project began, the CCMHS model has been extended to include sport coaches and support staff, as well as performing artists (e.g., competitive dancers). Future studies should therefore include these populations as well. Given the novelty of the service delivery model and the expectation that it will evolve over time along with the team of practitioners, the model should be periodically evaluated using mixed methods and multiple sources of data.

Conclusion

The present study to evaluate the acceptability and appropriateness of a sport-informed collaborative mental health care model makes several significant contributions to research and practice. This model was the first of its kind to be systematically designed, implemented and evaluated to provide care to athletes experiencing mental health challenges and disorders. Overall, findings show that the model was acceptable and appropriate and features of the model (i.e., collaborative, sport-centered, nationwide, virtual and in-person care) should be maintained. Nonetheless, some aspects of the model can be improved, including remuneration for collaboration, subsidization of care for service-users, and efficiency of processes (e.g., use of the EHR, remote collaboration between practitioners who are not as familiar with the model and team).

Results of this study can be used to inform the provision of athlete mental health services in other competitive and high-performance contexts. For example, services provided at multisport events such as the Olympic or Paralympic Games can be set up to incorporate a collaborative mental health care team with expertise in sport, as well as both in-person and virtual care options. This is particularly salient for events in which a restrictive "bubble" is created to protect the health of athletes and staff as a result of the pandemic. Given that centralized coordination of care emerged as an important element of the model, allocating resources to hire a care coordinator to facilitate the management of information, staff, and mental health care is highly recommended, particularly within large sport systems and countries like Canada.

Evidence supporting the effectiveness of integrated mental health care models in sport is practically non-existent. This novel study significantly contributes to not only science but also

the professional fields of sport and mental health. Results can be used as an incentive to invest funding and resources in (a) mental health services for sport participants, (b) education and training to ensure there is an adequate network of mental health practitioners with expertise in sport, and (c) research to examine the impact of specialized care on help-seeking, mental health, and performance outcomes.

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PART IV

General Discussion

The purpose of this general discussion is to integrate the principal findings of this research and highlight significant theoretical, methodological, and practical contributions. Recommendations for future research and applied practice are provided throughout the discussion and the strengths and limitations of the project are also reviewed. To set the context, the research aims will first be revisited.

Research Aims Revisited

The overarching aim of the research project was to design, implement, and evaluate a sport-focused mental health service delivery model integrated within a broader Canadian Centre for Mental Health and Sport (CCMHS) to support competitive and high-performance athletes in achieving and sustaining positive mental health and recovering from mental illness. Participatory Action Research (PAR) served as a transformative framework informing the three-phase mixed methods research design (Cresswell, 2014) used to fulfil the following project objectives:

Design phase (Study 1).

- Perform an environmental scan of the Canadian mental healthcare and sport contexts (Article 1, Article 2).
- Collaboratively design a sport-focused mental health service delivery model for competitive and high-performance athletes within a broader CCMHS (Article 1, Article 2).

Implementation phase (Study 2).

- Pilot-test the mental health service delivery model designed in Phase 1 (Article 3).

Evaluation phase (Study 3).

- Evaluate the acceptability and appropriateness of the mental health service delivery model (Article 4).

Integration and Interpretation of Research Findings

The integration of mixed methods research findings is a crucial step in maximizing the strengths of the mixed methods approach. While mixed methods were used within the individual studies carried out in this research project to corroborate and complement findings, an additional utility of the mixed methods approach taken was to illuminate the connecting parts of a complex whole (Mason, 2006) and build from one phase to the next, towards the fulfillment of the project aim (i.e., to design, implement, and evaluate a sport-focused mental health service delivery model embedded within a CCMHS).

Teddlie and Tashakkori (2010) noted that the cyclical re-examination of one's research design framework is a strong measure toward ensuring coherency across the phases of a mixed methods project and achieving true integration of the data produced. The PAR process encouraged the cyclical re-examination of the research design in light of emerging results, successes, and challenges encountered throughout the project. In this way, each phase informed the next, resulting in changes (e.g., to the terminology used in research questions) that reflected participant input and ensured coherency across the project. In the following section, four common themes that emerged across two or more phases of the research will be reviewed.

The importance of language. The first common theme that emerged from the findings pertains to language. Through the environmental scan performed by stakeholders during the design phase of the research project, it became clear that misconceptions about mental health and mental illness within the sport community were widespread. This was highlighted in Article 1 of

Study 1 in which principles of mental health in competitive and high-performance sport were presented. The authors stated:

> This position statement first includes definitions of key concepts driving conversations of mental health and mental illness in sport. Such terminology can be used to align cultures in efforts to reduce stigma and engage practitioners to develop effective mental health care programs for competitive and high-performance athletes.

Researchers have highlighted the significant impact that language can have on those experiencing mental illness. When used haphazardly, language can create barriers, misconceptions, stereotypes and labels that are difficult for individuals and groups to overcome (Vojak, 2009). For example, the act of assigning labels recognizes undesirable differences between people, promoting separation and isolation and establishing or maintaining hierarchical power differentials (Abrams et al., 2005; Richards, 2018). Language is particularly important in the context of mental health and sport because research suggests that there may be a correlation between competitive and high-performance sport participation and *alexythmic* verbal behaviours (difficulties identifying and describing emotions; Allegre, Noel-Jorand, Souville, Pellegrin, & Therme, 2007). Alexythmia in athletes is driven by the glorification and normalization in sport culture of the ability to dismiss uncomfortable sensations and emotions in order to perform beyond the limits of the mind and body. As a result, athletes tend to lack emotional literacy, preventing them from recognizing the internal warning signals of distress and seeking early intervention. Encouraging the correct labelling of emotions and mental health challenges in sport will not only lay the foundation for cultural change, it will also contribute to the prevention of distress by encouraging emotional literacy in athletes.

The importance of language was also demonstrated in Study 2 (Article 3) in which the CCMHS care process was illustrated through a case study. For instance, during the course of therapy, the mental health practitioner encouraged the athlete to give her Obsessive Compulsive Disorder (OCD) a name, which, in turn, enabled her to externalize her obsessive thoughts, separate her OCD from her identity, and better manage her symptoms. This therapeutic tool is derived from *narrative therapy*, a family of approaches to therapeutic change that focus on how language is used to "construct and maintain problems" as individuals adopt narratives to understand and give meaning to their lived experiences (Etchison & Kleist, 2000, p. 61).

In addition to the construction of identity, language is instrumental in the development and maintenance of culture, as it is a means of communicating values, beliefs, and customs (Schein, 2010). Importantly, language also contributes to the development of group identity and solidarity (László et al., 2013). In sport organizations and teams, the attainment of a homogenous "high performance" culture, underpinned by a common language, is thought to foster talent development and positive performances (Feddersen, Morris, Littlewood, & Richardson, 2020). But this desire for homogeneity may contribute to the labelling of individuals who are "different" (e.g., experiencing symptoms of mental illness) as threatening to organizational or team success, leading them to deny aspects of their identity, and experience harassment and rejection by peers, pressure to drop out of sport, and underperformance (Denison & Kitchen, 2015). This is one reason why sport can be a challenging environment for those individuals who do not exemplify athletic norms and preferences for (mental) health, heterosexuality, masculinity, leanness, and stoicism, for example (Castaldelli-Maia et al., 2019). Individuals who do not fit these norms are unlikely to recognize the language and culture of sport as reflective of their lived experience and identity as an athlete. As such, the use of narrative therapeutic approaches may be especially

effective for assisting athletes experiencing mental illness to challenge the cultural norms of sport, develop emotional literacy, reconstruct their relationship with their sport environment, and optimally perform.

Help seeking and confidentiality. A second common theme emerging from the findings pertains to help seeking and confidentiality. In Study 1, stakeholders recognized that sport organizations have a duty to protect athletes' mental health (Principle 2, Article 1). Stakeholders suggested that one way to fulfil this duty is to include a mental health practitioner in the integrated support team (IST) of health practitioners available to athletes (Principle 5, Article 1). Since the commencement of the research project, some National Sport Organizations (NSO, e.g., Swimming Canada) and university athletic departments (e.g., University of Ottawa) have indeed chosen to embed a mental health practitioner within their IST so mental health support is readily available to athletes. In many ways, this has been a positive step towards more comprehensive, holistic athlete support services.

Findings from Study 2 (Article 3) and Study 3 (Article 4) revealed, however, that athletes are not always comfortable seeking care from IST members, for a variety of reasons. For example, the case study depicted in Article 3 showed that the athlete sought support *outside* of the formal healthcare structures provided within sport due to an erosion of trust in her IST and NSO. Similarly, a service-user interviewed during Study 3 (Article 4) shared that she did not feel comfortable seeking help for mental health challenges from the practitioners within her NSO because she perceived many of those providers to have influence over decisions that could impact her career (e.g., selection to team). She feared that the disclosure of her mental health challenges could negatively impact her chances of being selected for the Canadian national team. Athletes' expressed preference to keep information about their mental health confidential from

members of their NSO and IST highlight the prevailing stigma surrounding mental illness in competitive and high-performance sport and may be a symptom of a larger issue regarding a perceived breach of trust regarding IST members across the system. In addition, this desire to keep mental health information confidential poses a challenge to the successful functioning of the IST itself, which relies on information sharing amongst members in order to optimally care for athletes (Dijkstra, Pollock, Chakravenrty, & Alonso, 2014). Researchers have suggested that communication amongst health care providers and other support team members, including coaches, is essential to the safe and efficient return-to-play of athletes recovering from sport-related injury (Kraemer, Denegar, & Flanagan, 2009). These information-sharing norms within sport (particularly the practice of sharing athletes' personal health information with coaches) are problematic within the context of mental health challenges and other "invisible" injuries (e.g., concussion) as they deter athletes from disclosing injury and subsequently receiving care (Millroy, Wyrick, Sanders, Refisteck, & Beamon, 2019).

The experiences shared by the athletes in this research highlight that if sport organizations choose to embed a mental health practitioner within their health care team, they should review their culture, structures, processes, and policies to ensure they do not inadvertently contribute to the stigmatization, harassment, bullying, or discrimination of athletes experiencing mental illness (Point 2, Principle 2, Article 1). For example, sport organizations could review their policies pertaining to information-sharing amongst IST members and coaching staff. Requiring athletes to sign a release to share their personal health information with these individuals may not represent "informed consent" when their signature is a condition of team membership or funding. These findings shed light on the importance of access to third-party mental health services that

do not have formal ties to sport system structures. The availability of such services may facilitate help-seeking amongst athletes, as was reported in the current research.

The importance of care coordination. Care coordination was a third key theme emerging from this research. During the GCM activity undertaken in Study 1, stakeholders identified the need for a "clinic manager to manage both physical and online spaces" for the CCMHS (Statement 46; Article 2). Study 2 (Article 3) and Study 3 (Article 4) revealed that the implementation of this single statement was instrumental to the quality, acceptability and appropriateness of the care provided by the CCMHS Care Team. For example, Study 2 demonstrated how the Care Coordinator facilitated informational continuity (i.e., the transfer of information linking health care events; Wierdsma, Mulder, De Vries, & Sytema, 2009) through the creation and maintenance of the clients' electronic health record within the CCMHS system. The Care Coordinator also assisted practitioners in applying CCMHS policies and processes (Study 3, Article 4), enhancing their self-efficacy to effectively deliver care within the CCMHS model, further contributing to the coherence of the care experience. Another important function of the Care Coordinator was matching clients with CCMHS practitioners, a process that improved the likelihood of a strong therapeutic alliance between service-user and practitioner through trust-building and the assignment of service-users to the most appropriate practitioners. For example, one service-user interviewed in Study 3 described how the Care Coordinator's demeanor and role as neutral middle person between herself and her practitioner made her feel at ease and trusting of the process (Article 4). Indeed, the Care Coordinator was regarded as a positive first point of contact for athletes, which is a feature of the care model supported by research showing that patients are more likely to view the overall therapeutic relationship as positive if the initial impression of the care provider is favourable (Stubbe, 2018).

Study 2 demonstrated the multiple considerations the Care Coordinator had to weigh when assigning clients to practitioners (e.g., client preferences and practitioner approach, practitioner areas of clinical and sport expertise, client's presenting symptoms and core concerns, and geographical location of both practitioner and client). Study 3 further highlighted the valuable role of the Care Coordinator and the benefits of using a comprehensive process to assign clients to practitioners. As an example, one practitioner stated, "There's really a lot of consideration that goes into the process. [The Care Coordinator] took the time to get to know this client ... and thinks that this client can be a really great match with my approach and my values". In these ways, the Care Coordinator ensured the best fit possible between practitioners and clients. In turn, individual service-users benefited from the integration and coordination of services provided by the CCMHS Care Team, a finding that is consistent with previous research demonstrating that care coordination is integral to the successfully delivery of care by interdisciplinary teams (Haggerty et al., 2003).

The value of sport-focused mental health care. A fourth theme seen throughout the research project is the value of practitioners who understand how sport uniquely impacts athletes' mental health and recovery from mental illness. In Article 1, stakeholders asserted that competitive and high-performance athletes seeking mental health care are best served by a sport-specialized, interdisciplinary mental health team. This supposition was supported by the findings of Studies 2 and 3. For example, the case study provided in Article 2 is an example of a situation when sport-specific knowledge was helpful in the appropriate diagnosis and treatment of an athlete experiencing mental illness. The CCT psychologist discussed that OCD can be difficult to diagnose in athletes because sport is ritualistic and repetitive by nature, making it challenging to distinguish between normative and problematic recurring behaviours. In addition, sport was

deeply intertwined with the resurgence of the athlete's OCD (i.e., worsening symptoms triggered by an injury incurred in sport), and sport presented unique challenges (e.g., overnight training camp away from home) and opportunities (e.g., to disclose her diagnosis to a teammate, who was supportive) in the athlete's recovery. Thus, sport introduced a layer of complexity that would not typically be present with non-athlete service-users. The CCT psychologist shared that a practitioner without an understanding of the high-performance sport context may have sought to remove the athlete from her sport environment to eliminate the associated stressors, a measure that was demonstrably unnecessary in this case, as the athlete showed improvements in symptom management whilst continuing to train and compete.

Similarly, Study 3 highlighted the value of sport-centered mental health care. For instance, Service-User 2 shared that the services provided by the CCMHS CCT were more relevant compared to that of past providers because they were focused on managing symptoms while staying in sport. In the same study, another service-user commented that the CCMHS sport-informed practitioner was able to provide more relatable and relevant care, which aided in skill acquisition and application. Other research has highlighted the valuable role of sport knowledge in the formation of successful therapeutic alliances with athletes and resulting outcomes (e.g., Jewett et al., 2020). Additional research is necessary to further understand how mental health practitioners' sport knowledge influences athletes' recovery from mental illness. The findings of this research project suggest that athlete service-users appreciate practitioners with sport-specific knowledge who can validate what is important to them and assist with recovery while they continue to work toward achieving their training and / or competition goals. Mental health practitioners who are likely to encounter athletes within their practice (e.g., university campus counselling service provider) may therefore benefit from an increased understanding of the

competitive sport context. The International Olympic Committee's newly launched virtual programs (i.e., three-month certificate, year-long diploma) in *mental health in elite sport* are currently the only examples of professional development opportunities that could afford practitioners to get this sport-related training. As no such courses exist in Canada, this is a significant gap in applied practice that could be filled by future research and educational initiatives.

Contributions of the Research

In addition to the four common themes previously discussed, the research makes significant theoretical / conceptual, methodological, and practical contributions, which are highlighted in the following section.

Theoretical / conceptual contributions. This research project provides valuable support for the use of Keyes' (2002) dual continua model of mental health and mental illness in the context of competitive and high-performance sport. Keyes' model informed all three studies in this research project. As such, both constructs of mental health and mental illness were defined and accounted for in all phases. For example, as a result of the focus groups and GCM exercise in which stakeholders participated during the design phase (Study 1), six principles were put forth in a position statement on mental health in sport (Article 1). These principles were designed to improve mental health services, programming, and policy in Canadian sport by challenging misconceptions, addressing systemic weaknesses, and advancing "universal truths" about the intersection of mental health, mental illness, and competitive and high-performance sport in Canada. Keyes' conceptualization of mental health and mental illness as distinct but related constructs is evident across these principles. For example, the principles differentiate between mental health challenges (the experience of moderate or languishing mental health) and mental

health disorders (i.e., mental illness) by using both these terms within single principles (e.g., *Principle 4: Competitive and high-performance athletes seeking care for mental health challenges or disorders are best served by a specialized interdisciplinary mental health care team*). Keyes' conceptualization was also useful in differentiating the responsibilities of various actors within the sport system. For example, Principle 3 charges coaches with promoting athletes' mental health, but does not implicate them in the diagnosis or treatment of mental illness, considering that coaches are typically not clinically trained and research demonstrates that mental health literacy amongst this group is fairly low (Duffy, Rooney, & Mathews, 2021; Gorcynski et al., 2020).

The dual continua model is further evident in the mental health service delivery model designed, implemented, and evaluated in the research project. In particular, the CCMHS mental health care model acknowledges the importance of augmenting mental health and decreasing and managing symptoms of mental illness. These endeavours can be linked to different bodies of knowledge and professional practice skills (e.g., positive psychology versus clinical psychology). Consequently, the dual continua and service delivery models led to the recruitment of a mix of practitioners to be part of the CCMHS Care Team (clinically and non-clinically trained), demonstrating the prioritization of mental health promotion and prevention of distress, *as well as* treatment and recovery from mental illness (Articles 2, 3, 4). The inclusion of mental performance consultants in addition to clinically trained mental health practitioners (i.e., counsellors, psychologists, psychiatrists) in the model best highlights this. Although many MPCs are not clinically trained, they do possess the competencies to impart skills to athletes that can enhance and maintain their well-being and offer a buffer against distress (Beauchemin, 2014; Fogaca, 2019). Self-regulation (i.e., emotion, arousal, attention, and stress management) and

mindfulness are just some examples of mental performance skills that have applications in enhancing both sport performance and mental health (Dubuc-Charbonneau & Durand-Bush, 2015; Gross & Muñoz, 1995; Shannon et al., 2019). This was evidenced in Study 3 of the research project (Article 4) in which service-users reported that skills learned in therapy to improve mental health and recover from mental illness could also be applied to enhance performance and functioning in sport and life domains (e.g., school, professional settings).

The relationship between mental health, mental illness and mental performance is not well-established in theory, however. Studies in this area are necessary to guide future research and advance theory and practice in the field of sport psychology and mental health. Notwithstanding this observation, the *Gold Medal Profile*[11] *for Psychology in Sport Model* (Durand-Bush, Baker, van den Berg, Richard, & Bloom, 2021; Sport Scientist Canada, 2020) was recently created to provide a comprehensive and evidence-informed framework to guide National Sport Organizations (NSOs) and MPCs in their programming and service delivery to help Canadian athletes achieve the podium. This model recognizes the inter-relationship between mental performance competencies and mental health and highlights the value of mastering self-regulation skills to optimize both athletic performance and well-being. However, the model does not explicitly address mental illness.

Given increasing evidence, including the findings from this research (i.e., benefits of mental performance practitioners and competencies in the CCMHS service delivery model) and given the demonstrated philosophical shift in sport towards the recognition and address of mental health, mental illness, and mental performance, there is value in extending Keyes' model for use

[11] Gold Medal Profiles are sets of evidence-based skills and attributes released by *Own The Podium* (an organization that provides technical leadership for Canadian sports to achieve sustainable and improved podium performances at the Olympic and Paralympic Games) that are purported to underpin podium performances at the Olympic, Paralympic and Senior World Championship levels (Government of Canada, 2019).

in the sport domain by establishing a third axis: *mental performance* (see Figure 6). The inclusion of mental performance in an extended three-dimensional model would help account for not only the two critical constructs of mental health and mental illness but also the well-established construct of mental performance in sport (Durand-Bush et al., 2021; Durand-Bush & Van Slingerland, 2021; Sport Scientist Canada, 2020). As an example, all three constructs are integrated in the *Mental Health Strategy for High Performance Sport in Canada* (Durand-Bush & Van Slingerland, 2021), which includes priorities, objectives and recommended actions to improve mental health outcomes for all Canadian high-performance athletes, coaches, and staff. However, the proposed three-dimensional model was not advanced in this strategy.

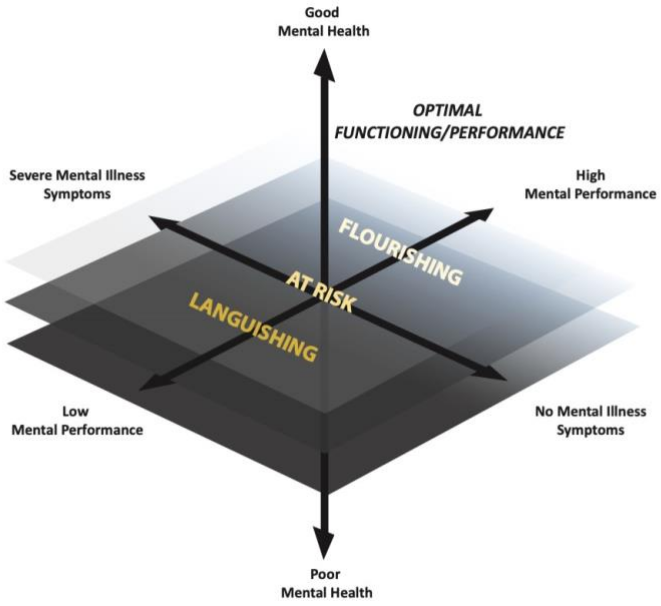

Figure 1. Three-dimensional model of mental health, mental illness, and mental performance (adapted from Keyes' (2002) dual continua model)

This model would allow researchers and practitioners to investigate the extent to which the three aforementioned constructs interact to affect the functioning and performance of sport

participants. Scholars who have combined these constructs within a single program in the past noted that athletes not only improved their coping and athletic performance, they were also more open to mental health interventions and used mental skills in their daily lives after completing the program (Beauchemin, 2014; Fogaca, 2019). Testing and implementing this proposed three-dimensional model in future studies may lead to the development of more comprehensive interventions in sport that concurrently target mental health and mental performance enhancement as well as mental illness prevention and reduction.

Interestingly, the process of implementing (Study 2) and evaluating (Study 3) the mental health service delivery model in the current research revealed (e.g., through discussions during practitioner meetings; Article 4) that there is sometimes confusion and discomfort amongst the Canadian MPC community as to how their scope of practice can be professionally and ethically leveraged in the context of athletes struggling with mental health challenges or mental illness. Although the CSPA Code of Ethics (2021) explains that "members trained in the sport sciences must be aware of their limitations in clinical or mental health domains" (p. 7), and "individuals from different training backgrounds must deliver services, teach, and conduct research only within the boundaries of their competence" (p. 7), there are many 'grey' situations in sport in which it is unclear (a) where the scope of practice of members who are not clinically trained begins and ends in the context of mental health challenges (e.g., athletes are struggling with competitive anxiety but have never been diagnosed with a disorder), and (b) how MPCs can complement clinically trained professionals in their work with athletes (e.g., they work in collaboration with a mental health practitioner, similarly to what they do within the CCMHS integrated service delivery model).

Further guidance and training are needed to assist MPCs in safely maximizing their scope of practice, especially considering that MPCs are often the first touch point to detect distress in athletes or they are the only psychological resource available to athletes via Integrated Support Teams (Durand-Bush & Van Slingerland, 2021). Including mental performance in the proposed three-dimensional model is an important step to begin integrating and promoting the important collaborative roles that mental health and mental performance practitioners can play in the sport context. Research will be required to empirically examine and test this model in different sport contexts.

Methodological contributions. The current research project also contributes to the advancement of methodology as a result of the use of PAR, which informed all phases, and the application of GCM in Study 1 (i.e., Design Phase). Both of these methodological approaches have seldom been used in the sport domain.

PAR. There are several examples of studies using PAR to engage persons with lived experience of mental illness, including some in health service and program design and evaluation (e.g., Aylward, 2019; Hutchinson & Lovell, 2012; Theurer et al., 2015). The use of PAR with this population has increased given the rationale that outcomes forged by PAR could help maximize realistic changes in the lives of people with mental illness (Rempfer & Knott, 2001) and lead to interventions that resonate with their lived experience (Weaver & Nicholls, 2001). In the sport domain, PAR has primarily been applied in the context of *sport for development* (e.g., Holt et al., 2013; Rich & Misener, 2020; Robinson, Robinson, Currie, & Hall, 2019; Schinke et al., 2013; Smith et al., 2021), a field of study and practice that involves the intentional use of sport, physical activity, and play to achieve individual and community development (e.g., improved health, reduced violence, economic growth), and peace (e.g., conflict resolution or

prevention; Hartmann & Kwauk, 2011). To the doctoral candidate's knowledge, there are no other examples of the use of PAR in the fields of applied sport psychology and mental health. Perhaps this is because athletes are often viewed as privileged and resilient.

In reality, a number of factors can marginalize athletes within their existing relationships and the sport community, jeopardizing their well-being and performance potential (Campbell & Jones, 2002; Demers, 2017; MacDougall, O'Halloran, Shields, & Sherry, 2015). For example, researchers have highlighted the challenges faced by lesbian, gay, bisexual, transgender, queer, and two-spirit (LGBTQ2+) athletes, including rejection by peers, harassment, pressure to drop out of sport, and underperformance (Demers, 2017; Denison & Kitchen, 2015). Maltreatment perpetrated by coaches (i.e., "Safe Sport" in Canada) is another emerging area of study in applied sport psychology and mental health in which the PAR framework may be useful. Much of the risk to athletes' mental health in the coach-athlete dyad stems from the inherent power imbalance, which can lead to maltreatment and subsequent mental health challenges and mental illness (Kent & Waller, 1998). The marginalization seen in both of these areas of study is driven by harmful cultural norms (i.e., heterosexuality and normative coaching practices such as belittling, public humiliation, physical touch, and yelling) that could be challenged by using the PAR process. Researchers in the fields of applied sport psychology and mental health may wish to apply future research efforts at the intersection of sport and other marginalizing athlete characteristics such as race, gender, and physical (dis)ability.

Benefits, challenges, and recommendations. Given the relative scarcity of PAR studies in the aforementioned domains, the doctoral candidate will offer her reflections on the benefits, challenges and recommendations for the future use of PAR in these fields. There were several methodological and practical benefits to using PAR to guide the current research project. First,

the PAR approach was an important way to draw in, acknowledge, and protect potentially marginalized individuals (e.g., current and former sport participants with lived experience of mental illness) whose voices were key to the validity and coherence of the research. The participatory nature of PAR allowed the doctoral candidate and thesis supervisor to collaborate with 39 individuals across project phases, including 10 who identified as service users (Article 2). In this way, the project was informed by a plethora of perspectives, enhancing the social validity, quality, and trustworthiness of the research (Sweeney & Morgan, 2009).

The engagement of multiple individuals as co-researchers also provided the opportunity to leverage stakeholders' social and professional networks and assign tasks based on areas of expertise. However, as some have noted (e.g., Ryan & Robinson, 1990), the commitment and participation of the researcher in the research process can lead to militancy, rather than detachment (as may be the case in more traditional approaches) from the process and outcomes of the research. This resonates with the experience of the doctoral candidate, who, through reflective journaling, was aware of her difficulty in "letting go" and trusting co-researchers to complete tasks associated with the project. This challenge was likely amplified by the researcher's struggles with perfectionism and anxiety, a challenge worth noting as it highlights that due to the philosophical orientation of PAR (i.e., knowledge is socially co-constructed by those involved; Borg et al., 2010), the PAR process is heavily influenced by the strengths and limitations of the researchers themselves. Although the doctoral candidate's difficulty in delegating work to others ensured a high quality and coherency of output, it also contributed to bouts of burnout throughout the process and potentially missed opportunities for collaboration with others. Cornwall and Jewkes (1995) highlighted a similar challenge, noting that PAR participants can experience task exhaustion leading to fluctuation in the composition of research

groups. They also point out that time is often a significant barrier to community participation in PAR. A lack of time was indeed a barrier experienced during the doctoral research project. Stakeholders, Board Members, and many practitioners (highlighted in Article 4) held full-time positions that took priority over the research project, for which they volunteered. This made it difficult to engage many of the group members outside of planned meetings. Organization and planning to get the most out of Stakeholder Meetings was critical to the successful engagement of stakeholders in the present project. In the future, researchers using PAR may consider (a) partnering with organizations who can dedicate staff time to the fulfillment of project objectives, or (b) compensating or incentivizing stakeholders in some way to increase engagement and discourage attrition.

Another aspect of PAR that is both beneficial and challenging is its flexibility. As Bennet (2004) noted, there is no "cookbook of recipes" (p. 23) for doing PAR, allowing for the use of a broad range of methodological approaches that can be driven by both practical considerations and a desire to engage co-researchers. This is useful, given the fluidity of real life and the broad range of issues for which PAR can be used to address. On the other hand, this flexibility can create ambiguity for the novice PAR researcher, making it difficult to know if one is truly "doing" PAR. Fortunately, researchers may call on the work of a number of authors (e.g., Hall, 1975; McTaggart, 1991) who have described the principles and values associated with PAR, which can be used to validate ones' use of the approach, and enhance the quality of the research.

Much of the limited research that provides commentary on the blending of PAR and the pursuit of a PhD (e.g., Herr & Anderson, 2005; Macguire, 1987) portrays the two as at-odds, giving readers the sense that only the bravest of students attempt to tackle a PAR doctoral project. Nonetheless, PAR can also be richly rewarding for the doctoral student, as highlighted

by Klocker (2012). Indeed, it has been the experience of this doctoral candidate that PAR offers both unique challenges *and* opportunities in the context of a doctoral dissertation. Thus, experiences with the present project are offered as evidence of both sides of this coin and provides guidance to future graduate students who wish to undertake a PAR-informed dissertation.

The action-orientation of PAR offers graduate students a framework within which to carry out a meaningful and impactful applied project (Klocker, 2012). Engagement with stakeholders in the researcher's field can also grow and solidify a PhD student's professional network, improving non-academic job prospects following the completion of the dissertation. The timeline and structured process of obtaining a PhD is often not congruent with engaging PAR participants in the co-construction of the research project. For example, doctoral students in the School of Human Kinetics at the University of Ottawa must conceptualize, present, and defend their research proposal *before* they are permitted to begin their research. This is problematic when using PAR in that the student must dedicate time to the development of a project that may significantly change once the research commences and stakeholders are engaged, *or* they must sacrifice a fundamental tenet of the PAR approach (collaboration and participation) during the conceptualization stage of the dissertation. In the case of the present project, the doctoral candidate made it clear within her PhD proposal that given the nature of the PAR approach, any number of aspects of the research could change once it commenced. During the two-day summit held during the Design Phase (Stakeholder Meeting 1), she presented the research proposal to stakeholders and asked them to weigh in on the proposed research questions and methodology. An open discussion ensued, resulting in minor changes to research questions (e.g., stakeholders asked to alter the term *Mental Health Service Delivery Model and Team,* suggesting "and team"

was redundant as the team was inherent to the service delivery model itself) and a commitment to continually review the approach taken throughout the project. In short, investing time in a research proposal that may change can be frustrating, but is a necessary part of the process for the doctoral PAR researcher as it preserves the integrity of the research approach, and in turn, the trustworthiness of the project.

Finally, doing a PAR-based doctoral dissertation can put the student in a vulnerable position compared to other stakeholders in that obtaining the doctoral degree hinges on the success of the process. While other stakeholders may be impacted less acutely or immediately by the research outcomes (e.g., stakeholders may have established careers and financial stability), the doctoral student often invests massive time and resources into the process of obtaining the PhD degree. This is problematic in that it undermines one of the goals of PAR, which is to create a "level playing field" amongst stakeholders of differing social statuses and power (McTaggart, 1991). In regard to the present research, the doctoral candidate perceived a significant amount of pressure (financial, emotional) for the project to succeed. However, with a supportive and dedicated group of stakeholders, including the thesis supervisor, the doctoral candidate became empowered through the process of doing PAR, having a significant influence on the direction and outcomes of the project, becoming a recognized and respected researcher in her field, and helping to create a job for herself that did not previously exist.

All in all, the current research was a success, as evidenced by the creation of an acceptable and appropriate service delivery model implemented in a broader Canadian Centre for Mental and Sport (Article 4). This is the only centre of its kind in the world with three pillars of success (i.e., integrated sport-centered mental health care, research, and community engagement; see https://www.ccmhs-ccsms.ca/our-pillars-of-success). The use of the PAR approach to carry out

this research with an outstanding team of stakeholders was one of the reasons for this success. The research community stands to learn from both the challenges and opportunities encountered as a result of using PAR to carry out this research project.

GCM. Another methodological contribution of this research pertains to group concept mapping. There are several examples of the use of GCM in the field of mental health and counselling (e.g., Behar & Hydaker, 2009; Byers, Johnson, Davis-Groves, Byrnes, & McDonald, 2014; Salvador, Altschul, Rosas, Goldman, & Feldstein Ewing, 2018), and program design, implementation and evaluation (e.g., Aarons, Wells, Zagursky, Fettes, & Palinkas, 2009; Petrucci & Quinlan, 2007; Proctor et al., 2015). However, just a handful of researchers have used GCM in the sport domain (e.g., Donaldson et al., 2018; Stacey et al., 2019; Visek et al., 2015), and none to date have used it to examine the intersection of mental health, program design, and sport. The findings from the three studies conducted within this research display the value of this mixed method approach in the program design space. They demonstrated that the concept map resulting from the GCM exercise (Study 1) was useful in guiding the implementation of a successful mental health service delivery model in the sport domain.

For example, this research demonstrated that it is possible for a large group of stakeholders (n = 17) from the sport and mental health domains to collectively create a framework in a very efficient, systematic, and reliable manner (Article 2). The stakeholders, who gathered in person and online, were able to elaborate specific statements (n = 106) to create the service delivery model and broader CCMHS. The statements, grouped in a visual model that emerged from the quantitative (i.e., structural equation modeling) and qualitative (i.e., in-depth discussion of each statement and themed clusters) processes, served as a compass to prioritize actions for the

implementation phase. They also served as important reference points in the evaluation phase of the project.

At the end of the implementation phase, the doctoral candidate and thesis supervisor reviewed the 106 statements generated during the GCM exercise, finding that 81% (*n* = 86) had been fulfilled. Specifically, 90% (*n* = 19) of statements in the *Business, Policy, and Operations* cluster, 83% (*n* = 34) of statements in the *Service Delivery* cluster, 81% (*n* = 18) of statements in the *Communications and Promotions* cluster, 78% (*n* = 7) of statements in the *Partnerships* cluster, 71% (*n* = 5) of statements in the *Research* cluster, and 57% (*n* = 4) of statements in the *Education and Training* cluster were completed. A list of unfulfilled statements can be found in Appendix O. For example, statements 70 ("Create educational program and standards to train specialists to have competencies in both sport and mental health") and 47 ("Create an alumni program that engages recovered athletes in peer-to-peer mentoring") represent significant gaps in research and applied practice and thus present an opportunity for meaningful future focus.

Benefits, challenges, and recommendations. Pragmatically, GCM is labour-intensive and requires expertise to complete it. However, training and technical support are available for users. Both the doctoral candidate and thesis supervisor completed training to be able to perform the GCM exercise with the stakeholders. This was deemed essential to successfully navigate the multiple steps of GMC and to use the software program that each stakeholder had installed on their computer to complete the exercise (Article 2). GCM also necessitates funding for both training and access to the software program. This may be difficult for some researchers considering, for example, that just 25% of the more than 12,000 doctoral candidates in social science fields who apply for funding from the Social Sciences and Humanities Research Council each year, are successful (SSHRC, 2021).

Given the multitude of organizations (e.g., Multi-Sport Organizations, National Sport Organizations) and groups (e.g., athletes, coaches, administrators, practitioners) that contribute to sport in Canada, the systematic solicitation of multiple stakeholder perspectives is key for system change. Methodologically, GCM represents an empirically viable tool and methodology to account for various voices. In sum, the use of GCM in the current research was extremely valuable and it is recommended that other sport and mental health researchers consider using it in their own investigations.

Contributions to applied practice. Finally, the dissertation makes significant contributions to practice in both the mental health and applied sport psychology domains. Although other scholars have highlighted the importance of providing mental health services through a sport lens (e.g., Uphill, Sly, & Swain, 2016), findings of Study 1 showcase the first known example of a sport-focused mental health service delivery model designed based on a systematic empirical process. Likewise, Studies 2 and 3 present the findings of the first known empirical evaluation of a sport-focused mental health service delivery model. Findings of this research (principles in Article 1; concept map in Article 2; case study example in Article 3; acceptability and appropriateness in Article 4) illustrate the value and benefits of providing sport-informed care. The care provided within the CCMHS service delivery model was delivered by an integrated team of mental health and mental performance practitioners who had knowledge and experience of the competitive sport environment. This afforded them the ability to devise care plans that respected both the clients and their environment (e.g., training and competition demands, schedules, performance goals, sport regulations). This is significant given the range of sport-specific factors that can challenge the mental health and functioning of competitive and high-performance athletes (Durand-Bush & Van Slingerland, 2021; Reardon et al., 2019). These

factors unique to the sport context may not be taken into consideration in traditional mental health care.

Other contributions of this research pertain to collaborative and virtual care. For example, the results of Studies 2 (Article 3) and 3 (Article 4) demonstrated that collaborative practice can contribute to practitioner comfort and confidence in delivering appropriate care (particularly in complex cases) and to positive service-user outcomes. Importantly, this project also demonstrated the value of collaboration between mental health professionals (e.g., psychologists, counsellors) and mental performance professionals (i.e., mental performance consultants) in the competitive and high-performance sport context to optimize athletes' well-being, overall functioning *and* sport performance. Given the relative scarcity of mental health practitioners with a sport background in Canada (Durand-Bush & Van Slingerland, 2021), collaborative care models offer an opportunity for mental health practitioners without sport backgrounds to work with MPCs to (a) increase their understanding of the competitive and high-performance sport environment, and (b) deliver sport-informed care through a high degree of collaboration.

The research also supports Jones and Way's (2006) collaborative model of healthcare delivery, which depicts collaboration as a dynamic process that occurs on a spectrum. Flexibility within the range of collaboration possible was important pragmatically, as it allowed CCMHS practitioners to collaborate or work independently according to the nature of the case. This contributed to the efficient use of resources, in particular, practitioner's time. Encouraging the optimal use of health resources is aligned with the work of *Choosing Wisely Canada*, the Canadian arm of a global movement to encourage the efficient stewardship of scarce health resources through patient and provider education. Research has demonstrated that in Canada, approximately 30% of tests, treatment, and procedures performed are unnecessary (Canadian

Institute for Health Information, 2017). In light of this data and the recognition that collaborative care is a global best practice in health service provision (Bullock et al., 2017), operationalizing collaborative care on a spectrum contributes to both resource stewardship and positive patient and provider outcomes. However, as highlighted by other researchers (e.g., Wranik et al., 2017), the present project revealed the incompatibility of a fee-for-service remuneration model with collaborative approaches to care. More advocacy and policy work is necessary at the system level to widely implement alternative payment models (e.g., blended capitation) that remunerate practitioners for collaborative practice, and recognize mental health care provided by non-physicians as an insurable expense under Provincial Health Insurance.

Secondly, the project provides additional support for the efficacy of virtual mental health care delivered via video, particularly with athlete service-users. The use of virtual care modalities to deliver mental health services is not a novel concept (e.g., Lal & Adair, 2014), however, this type of service delivery has increased exponentially due to the social distancing requirements of the COVID-19 pandemic (Government of Canada, 2021). Recent research suggests that one-on-one mental health care delivered via video may be an acceptable and effective treatment modality with applications for a wide range of populations and for a variety of mental health concerns (e.g., veterans, youth, depression, PTSD; Hawke, Sheikhan, MacCon, & Henderson, 2021; Rosen, Morland, Glassman, & Marx, 2021). The results of this research project demonstrate that virtual care was an acceptable and appropriate modality of treatment delivery to athlete service-users. Recent work by Reardon and colleagues (2021) highlighted some of the unique applications that virtual modalities afford mental health practitioners working with athletes. For example, a practitioner may engage in virtual grocery shopping with an athlete suffering from an eating disorder or participate live in exposure therapy aimed at reducing

symptoms of OCD or performance anxiety. Additional research on the unique benefits and drawbacks of virtual mental health care for athletes is warranted given these preliminary findings, the likely increase of remote work in the post-pandemic world (Kane, Nanda, Phillips, & Copulsky, 2021), and the high volume of travel typically required of competitive and high-performance athletes (Janse van Rensburge et al., 2019).

In sum, this research project provides evidence that integrated sport-informed care is feasible and valuable. Athletes can indeed benefit from working with mental health practitioners who understand their unique context (Jewett et al., 2020), and collaborative practice between mental health and mental performance practitioners is both possible and beneficial to practitioners and service-users. Lastly, virtual care offers a unique opportunity to meet athletes' needs both during and post-pandemic. Mental health and mental performance practitioners are thus encouraged to forego some of their siloed work in order to increase collaborative care using both in-person and virtual means.

Limitations

Notwithstanding the contributions of the current research, there are limitations related to data collection and athlete participation that must be considered. These limitations are provided in addition to those highlighted in the articles.

Data collection. This research project leaned heavily on qualitative methods of investigation, a choice that was well-justified in line with the research focus and objectives. Nonetheless, in the future, quantitative data could be more significantly integrated into the research design. In particular, the quantitative data collected during the intake process could be included in future research. For example, data from the CCMHS intake questionnaire (i.e., results of screening for 11 indices of mental illness) could be reported and paired with other

sources of data (e.g., after 4 sessions of care; when care is complete) to provide another angle from which to explore the effectiveness of care. When considered in conjunction with data from the qualitative intake interview and care session notes, researchers would be afforded a holistic understanding of the core concerns with which athletes present and fluctuations within the process of recovery. Further, data are needed to establish norms on not only mental health and mental illness, but also mental performance in Canadian competitive and high-performance athletes. Although CCMHS service-users' mental health, mental performance, and overall functioning are captured in two checklists and open-ended questions in the intake questionnaire, and by the Care Coordinator during the intake interview, it would be valuable to add concrete measures of mental health and mental performance in the CCMHS intake questionnaire. Lastly, given that levels of mental health, mental illness, and mental performance can fluctuate over time, and given that sport-related stressors ebb and flow across competitive seasons, a longitudinal approach to research is suggested.

Participation. A challenge in conducting research with athletes, particularly those competing at the highest levels, is garnering their participation in light of their busy and exhausting schedules. This challenge may be increased when the study focuses on mental health, given athletes' relative reluctance to engage with the topic due to prevailing stigma (Donohue et al., 2016). This was the case with the present study, as is demonstrated by the small service-user sample size in Study 3 (n = 6). Furthermore, none of the stakeholders who contributed to the project were *active* athletes; rather, all had retired, which enabled them to dedicate time to participate in the project. Indeed, it is likely that given the time and engagement required to conduct PAR, consistent participation would not be feasible for active athletes. This is a significant consideration for future researchers who wish to do PAR in the sport setting. Study

design must carefully consider the limitations that athletes' schedules present and / or incentives to participate should be provided.

PART V

Conclusion

Research has increasingly highlighted that competitive and high-performance athletes experience mental illness at the same or higher rate than the general population (Reardon et al., 2019). Moreover, sport participation poses unique challenges to athletes' mental health, as well as the assessment, diagnosis, and treatment of mental illness (Johnston & McAllister-Williams, 2016; Paul et al., 2003; Reardon, 2016; Reardon & Factor, 2010; Reardon et al., 2019). Consequently, the development and implementation of sport-informed models of mental health care are thought to best serve athletes experiencing mental health challenges and mental illness (e.g., Moesch et al., 2018; Uphill et al., 2016). However, no such model had been empirically designed, applied, and evaluated, and notably, no model of this kind existed in Canada prior to the commencement of this project (Durand-Bush & Van Slingerland, 2021).

With this in mind, the overarching aim of this research project was to design, implement, and evaluate a sport-focused mental health service delivery model integrated within a broader CCMHS to support competitive and high-performance athletes in achieving and sustaining positive mental health and recovering from mental illness. To fulfil this purpose, the following four objectives guided three studies, undertaken in three phases: (a) Perform an environmental scan of the Canadian mental healthcare and sport contexts (Study 1: Design Phase), (b) Collaboratively design a sport-focused mental health service delivery model for competitive and high-performance athletes within a broader CCMHS (Study 1: Design Phase), (c) Pilot test the mental health service delivery model designed in Phase 1 (Study 2: Implementation Phase), and (d) Evaluate the acceptability and appropriateness of the mental health service delivery model (Study 3: Evaluation Phase). The findings of these three studies are summarized below:

Study 1 (Design Phase): Collaboratively design a sport-focused mental health service delivery model for competitive and high-performance athletes within a broader CCMHS that leverages the strengths and addresses the weaknesses of the Canadian sport and mental health care systems.

An environmental scan of the Canadian sport and mental health care systems collaboratively undertaken by stakeholders in Study 1 revealed several factors that compromise the availability and effectiveness of mental health care accessible to competitive and high-performance athletes through both the Canadian health care and sport systems. Examples include a lack of resources and support, stigma, and inconsistent or confusing language, to name a few. Study 1 also helped to identify a number of strengths and weaknesses of these systems that ought to be considered when designing mental health interventions for Canadian athletes (e.g., practitioners with dual competencies in mental health and sport, confidential care, funding). An outcome of this study was the CCMHS position statement in which six principles of mental health (e.g., duty of care of sport organizations and coaches; inclusion of practitioners who can address mental health challenges and mental illness) were put forth to guide the sport community in improving athlete mental health. Another outcome was the tangible conceptual map with six strategic areas (e.g., service delivery; communications and promotion; business, policy and operations) that emerged from a group concept mapping process by which the collective knowledge of a group of stakeholders was harnessed to collaboratively develop a sport-centered mental health service delivery model.

Study 2 (Implementation Phase): Pilot test the mental health service delivery model designed in Study 1 with a high-performance athlete.

Study 2 demonstrated *how* an interdisciplinary team of mental health care practitioners with a background in sport applied a sport-focused mental health service delivery model with a high-performance female athlete. It illustrated the meticulous process through which care was delivered to this athlete, including the self-referral, screening protocol, and treatment approaches used to the outcomes of care. The complex mental health and sport-related issues experienced in the high-performance athlete's real-life setting were brought to light. The use of cognitive-behavioral therapy focused on exposure-response prevention was effective in helping the athlete decrease and manage her symptoms of obsessive-compulsive disorder. Findings provide additional support for the value of accessing mental health practitioners who understand the unique context of sport, can provide care via a secure telehealth platform, and work collaboratively with a team that includes a lead and support practitioner as well as a care coordinator.

Study 3 (Evaluation Phase): Evaluate the acceptability and appropriateness of the mental health service delivery model designed in Study 1 and applied in Study 2.

Study 3 revealed that practitioners and service-users perceived the mental health service delivery model designed in Study 1and piloted in Study 2 to be acceptable and appropriate. The components of the model (i.e., collaborative interdisciplinary approach, sport-centeredness, pan-Canadian service provision, virtual care delivery) presented both benefits and drawbacks and contributed uniquely to the experiences of practitioners and service-users. For example, the collaborative interdisciplinary approach contributed to the ethicality of the model, promoted the professional development of team members, and enabled Pan-Canadian service provision.

Furthermore, the sport-centered nature of the model was perceived to produce positive affect (e.g., trust, comfort), and enhance the ethicality of services, and the effectiveness of care. Pan-Canadian service-provision facilitated the delivery of care to athletes across the country, however, it also contributed to practitioner burden and distance sometimes challenged practitioners' self-efficacy to collaborate. Lastly, virtual care delivery was perceived to be effective and reduced the burden service-users associated with participating in mental health care. These benefits notwithstanding, some aspects of the model ought to be altered to (a) fairly remunerate practitioners for collaborative work, (b) remove financial barriers to access care, and (c) improve the efficiency of processes to reduce practitioner burden.

In summary, findings from the current research demonstrate that participatory approaches to inquiry are useful in facilitating cultural change through the research process (Schwandt, 2001), and in mobilizing stakeholders to apply empirical findings in real-world settings (Borg et al., 2010), including in the sport context. Results also reveal how the limitations of the Canadian mental health and sport systems can be addressed through a novel approach to mental health service delivery that is sport-focused and collaborative. Results from the application of this model indicate that athletes can benefit from working with mental health practitioners who understand the unique context of competitive and high-performance sport and the role that sport plays in the development and experience of, as well as recovery from, mental health challenges and mental illness (Jewett et al., 2020; Moesch et al., 2018; Reardon et al., 2019). The unique CCMHS model underscores the salience of integrating mental health and mental performance practitioners in the sport setting. Given the demonstrated importance of sport knowledge in effectively caring for athletes, further research is needed to extend Keyes' (2002) dual-continua model to include mental performance and solidify the links between the three constructs of

mental health, mental illness, and mental performance. This will help to leverage the respective scopes of practice of the various professionals involved in supporting athlete mental health in Canada and improve access to sport-specific mental health care through collaborative practice.

Findings revealed both benefits and drawbacks of mental health care that is interdisciplinary, collaborative, sport-centered and virtually delivered on a pan-Canadian scale, with implications for future research and practice to optimize these types of service delivery models. They highlighted the importance of care coordination, the optimal functioning of collaborative care teams, and the acceptability and appropriateness of care delivered and received within such models (Haggerty et al., 2003). As this was the first known empirical investigation of a sport-centered mental health service delivery model designed, implemented, and evaluated within a broader CCMHS with competitive and high-performance athletes, additional research is needed to further explore and refine the model, as well as determine if and how it can be adapted to serve athletes in other countries.

PART VI

References and Appendices

This section includes all references made throughout the dissertation that are *not* already included in the reference lists of the articles in Part III. Appendices referenced throughout the dissertation follow the reference list.

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Appendix A: Service-User Information & Consent Form

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Faculté des sciences
de la santé

Cabinet du doyen

University of Ottawa
Faculty of Health
Sciences

Title of Research Project

DESIGN, IMPLEMENTATION, AND EVALUATION OF A CANADIAN CENTRE FOR MENTAL HEALTH AND SPORT (CCMHS): A PARTICIPATORY ACTION RESEARCH PROJECT

Co-Investigator
Natalie Durand-Bush, PhD
M.A.
Full Professor
School of Human Kinetics

Co-Investigator
Krista Van Slingerland,

PhD Candidate
School of Human Kinetics

Dear prospective service-user,

You are being invited to participate in this research project because you, or someone in your circle, has identified that you may be struggling with your mental health and could benefit from psychological care. Given your participation in high-performance sport, you may have unique needs that may not be particularly addressed by traditional models of care available in the community. A team of experts in sport and mental health has designed a sport-focused mental health service delivery model and team to meet high-performance athletes and coaches' needs. This model of collaborative care is being implemented within the **Canadian Centre for Mental Health and Sport** (CCMHS), a not-for-profit organization supporting the mental health and performance of competitive and high-performance Canadian athletes and coaches through interdisciplinary mental health care, research, and community engagement.

If you agree to participate in the Implementation phase of this research project (September 2018 to June 2019), your involvement will consist of:

(a) Completing an intake assessment to determine if you meet eligibility criteria
(b) Receiving mental health services by the CCMHS collaborative mental health care team if you do meet eligibility criteria and completing a follow-up assessment at the end-point of your care process
(c) Giving permission to the investigators to analyze the content of your medical/clinical documents to inform the overall research
(d) Participating in one in-depth semi-structured interview with the co-investigator upon completion of your care process or the research project; whichever comes first, to provide your input on the services you received
(e) Verifying your interview transcript and making changes to the content if necessary
(f) Providing input on the overall findings of the research during the Evaluation phase of the project (July 2019 – January 2020; optional)

THE PROCESS

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1. **Intake: Consent and assessment of eligibility criteria (2.5 hours)**

After having been referred to the CCMHS, you will speak with the Care coordinator (CC) in person or via a secure telehealth platform to provide consent to participate in the research project and verify that you meet eligibility criteria. You will also sign a form to consent to receive CCMHS collaborative care services, should you meet the eligibility criteria.

Consent to participate in the research project. The CC will first explain the research project, including the consenting process, and answer any questions you may have. You must be willing to participate in the research project to have access to CCMHS services. If you are willing to do this, the CC will invite you to sign the research consent form and the collaborative care services consent form in person or via the secure telehealth platform so that you can proceed to the next step to determine if you meet the eligibility criteria. Should you opt out of the research project, the CC will refer you to resources on campus and/or in the community. This will take approximately 30 minutes.

First level of eligibility criteria. Once you sign the consent forms, the CC will verify if you meet the first level of eligibility criteria (i.e., you are 16 years of age or older and you are a high-performance athlete or coach). To this end, the CC will ask you questions and invite you to complete a brief demographic and sport participation questionnaire. This will take approximately 30 minutes.

If you do not meet the eligibility criteria, the CC will refer you to resources on campus and/or in the community. If you do meet the criteria, the CC will invite you to proceed to the next step to verify the second level of eligibility criteria. You will have the opportunity to do this right away or at a more opportune time, in person or via the secure telehealth platform.

Second level of eligibility criteria. The CC will ask you to complete a self-administered screening tool to verify that you meet the second level of eligibility criteria (i.e., your clinical symptoms and functional impairment meet the minimum threshold). You will be able to do this in person or via the secure telehealth platform, and this should take approximately 30 minutes.

The CC will contact you within 24-48 hours of this screening assessment to notify you if you are eligible to receive services from the CCMHS. If you are not eligible to receive services, the CC will direct you to the most appropriate campus and/or community resources. If you are eligible to receive services, the CC will schedule a follow-up appointment at your earliest convenience.

The follow-up appointment will occur in person or via the secure telehealth platform and will last approximately 60 minutes. You will complete a comprehensive assessment with your team of practitioners to assess your mental health challenges and needs, and help your team establish an effective mental health care plan for you.

The entire intake process will last approximately 2.5 hours.

Note. If, during the intake process, you are in crisis and intend to harm yourself or someone else, you will be directed to the nearest hospital to receive emergency care. You will have the opportunity to be re-assessed once your symptoms have been stabilized.

2. Collaborative mental health care consultations (approximately 1 hour per consultation)

Consultations with CCMHS practitioners will occur either in person in a private room at the House of Sport in Ottawa or where practitioners reside across Canada, or via our secure Livecare telehealth platform. Consultations will not be audio-recorded. The number of consultations will be determined by the mental health care team in collaboration with you. The nature of these consultations will depend on the symptoms you are experiencing and the care plan that you and your CCMHS team have agreed upon. Evidence-based therapeutic approaches will be used (e.g., cognitive behavioral therapy), and practitioners will conduct themselves in accordance to the regulations set out by their governing body (e.g., Ontario Psychological Association).

Your CCMHS mental health care team may consist of a combination of any of the following practitioners:

- Psychiatrist
- Psychologist
- Counsellor
- Psychotherapist
- Mental Performance Consultant
- Care Coordinator
- Family | Sports Medicine Physician

In order to assess the impact of the care you received, you will be asked at the end of your care process to complete the same self-administered tool you completed during the intake. This will take approximately 30 minutes.

The investigators will examine your personal health information (e.g., clinical documents provided by the CCMHS mental health care team) to document your care process. This will allow the investigators to synthesize important research data regarding sport-centered mental health care for athletes and coaches and specialized practitioners providing services in this research project. For instance, it will allow them to describe the sample and examine factors related to mental health promotion and improvement (e.g., provision of educational resources, connection to community organizations, establishment of peer mentoring) and mental illness management and recovery (e.g., identification of mental illnesses addressed, duration of care, type of therapeutic approaches used). Practitioners are aware that this will take place and have provided their consent to give the investigators access to your personal health information.

3. Interview with co-investigator (60 minutes)

Our research team wants to learn about your experience receiving care from CCMHS practitioners so we can optimize the services offered and expand the program to competitive athletes and coaches across Canada. To this end, you will be invited to participate in a one-on-one interview with the co-investigator, Krista Van Slingerland. The interview will take place in a private room at the House of Sport in Ottawa or via our secure telehealth platform, and last between approximately 60 minutes. You will be asked for your feedback on the care you received and the outcomes of this care (e.g., symptoms, daily functioning, athletic or coaching performance). The interview will occur either when you and your CCMHS team decide that you no longer require psychological care, or at the end of the implementation phase of the research project, whichever occurs first. The interview will be audio-recorded and transcribed. You will receive the transcript approximately two weeks after your interview and be invited to review, within the following two weeks, the content of the transcript and make changes to the content as you see fit.

Note: Your care will not necessarily be terminated when the implementation phase of the research project has been completed. Care will only cease when (a) you and your CCMHS team decide that care is no longer required, or (b) when you decide to withdraw from the research project.

Based on the Participatory Action Research approach used to carry out the current research, you will also be invited to provide input on the overall findings of the research during the Evaluation phase of the project (July 2019 – January 2020). However, this is completely optional.

POTENTIAL BENEFITS OF PARTICIPATION

Your participation in this study will contribute to the development of mental health care for competitive and high-performance athletes and coaches in Canada. With 7.2 million Canadians regularly engaging in sport and one in five of them experiencing a mental illness each year, there may be as many as 1.4 million athletes and coaches struggling with mental health challenges on a yearly basis. By participating in this research project, you will help us develop preventative and mental health care options to address this need. You may also personally accrue benefits from the therapeutic process. Therapy can lead to better relationships, new ways to cope with or solve problems, new skills, reduced feelings of distress, and improved self-esteem. You may also experience improvements in your athletic or coaching performance. However, each person is different, thus there are no guarantees in terms of what you will experience.

POTENTIAL RISKS OF PARTICIPATION

Since therapy often involves discussing challenges and unpleasant aspects of your life, you may experience uncomfortable feelings like sadness, guilt, anger, frustration, loneliness, and helplessness. However, therapy is a process and experiencing uncomfortable emotions is a normal part of healing. CCMHS team members are licensed/certified mental health and sport performance professionals who are trained to support you through your journey. Know that at any point in time, the information you share and the responses you provide to questions are optional and voluntary; you reserve the right to withhold responses without negative repercussions.

OTHER OPTIONS IF I DON'T PARTICIPATE IN THIS RESEARCH

There are other psychological services available to you both on and off-campus in the Ottawa area. Additional services across Canada are also provided at the end of this form.

uOttawa SASS - Counselling and Coaching
100 Marie-Curie Private (4th floor, MCE)
Ottawa, ON, K1N 1A2
Tel.: (613) 562-5200
couns@uottawa.ca

uOttawa Health Services Clinic
300 – 100 Marie-Curie Private
Ottawa, ON, K1N 6N5
(613) 564-3950
https://www.uottawa.ca/health/

Carleton University: Off-campus students
Room 2600 CTTC Building
Or call 613-520-6674

Ottawa Distress Centre
(613) 238-3311
www.dcottawa.on.ca

Good2Talk
1 (866) 925-5454
www.good2talk.ca

Drug & Alcohol Helpline
1 (800) 230-3505

Ottawa Hospital Assault Treatment Program
(613) 738-3762

Carleton University: students in residence
Counselling is available Sept. to April
Call 613-520-2600 x 8061 for intake

COST OF PARTICIPATING IN THIS RESEARCH

There are no costs for the initial contact with the care coordinator to determine if you are eligible to participate in the study and receive care. However, the comprehensive assessment by your CCMHS practitioner team and subsequent mental health care consultations will be billed in accordance with the *Regulated Health Professions Act*

(1991, S.O. 1991, c. 18). CCMHS staff will work with you to maximize the use of services for which you are covered by public and private insurance.

CONFIDENTIALITY AND ANONYMITY

Your personal health information, will be kept strictly confidential except as required or permitted by law [i.e., *Personal Health Information Protection Act* (SO 2004, c 3.), and the *Mental Health Act* (RSO 1990, c M-7.)]. As per the College of Physicians and Surgeons of Ontario Policy on Medical Records (#4-12), your medical records (clinical documents) will be kept for a period of 10 years from the date of the last entry. Your case file (e.g., medical records, baseline and subsequent testing data, clinical notes) will be kept on the CCMHS Electronic Medical Records (EMR) system JUNO. Your case file will only be available to CCMHS practitioners, the co-investigators, and research assistant. JUNO is a a secure Canadian cloud-based records management system that has undergone a Privacy Impact Assessment. Its servers are housed in facilities featuring rigorous physical and cyber security measures that meet provincial health information protection legislation (e.g., Personal Health Information Protection Act). The Canadian-based Livecare telehealth platform that will be used to remotely consult and share documents with you meets the same level of security.

The following steps will be taken to further ensure your confidentiality and anonymity:

- Only the following individuals will have access to research materials, including your service-user case file: the CCMHS mental health care team, the co-investigators, and the project research assistant.
- A numerical code will be used to identify you on all research documents.
- Except in cases required by law (e.g., if you are in immediate danger to yourself or others; if you disclose the endangerment of a minor), all material and information that can be linked to you will not be made public and will be kept under the strictest confidentiality.
- Mental health care consultations and interviews will take place in a sound-proof room or via a secure telehealth platform.
- Mental health care consultations will not be audio-recorded.
- You will not be identified in any way in publications, reports, or presentations.
- Electronic/digital research documents (e.g., interview transcripts, reports) will be kept on the co-investigators' password protected computer for a minimum of 5 years, after which the research documents will be permanently destroyed.
- Any physical documents containing your personal health information (e.g., hard copies of clinical notes) will be kept in a locked filing cabinet at the CCMHS office or in the practitioners' private office and will not be removed from this location during the course of your care. Outside of operating hours, access to the CCMHS office will be secured with a lock.

WITHDRAWAL FROM THE RESEARCH

Participation in this research is completely voluntary. You may withdraw at any time without penalty. You have the right to refuse to answer any question and deny comment at any time. Should you feel uncomfortable with any of the topics discussed, you have the right to leave the room or end a consultation. Withdrawal will not affect your status as an athlete or coach, nor as a student or worker if this applies to you. If you wish to withdraw from the research, please contact (a) the Care Coordinator, (b) your CCMHS team lead, or (c) either one of the investigators to inform them. In this case, you will be invited to participate in a brief exit interview to better understand your experience and decision to withdraw. However, you are not obligated to participate in this interview. If you choose to withdraw from the research, the data collected will be securely stored as described above. However, you may request to have your research data destroyed at any point in time, even once the research findings have been published. This excludes your medical records, which must be kept for a period of 10 years from the date of the last entry, as per the College of Physicians and Surgeons of Ontario Policy on Medical Records (#4-12).

QUESTIONS

This research project has received ethics approval from the Research Ethics Board of the University of Ottawa. If you have any questions concerning participation in this research, contact either Natalie Durand-Bush (ndbush@uottawa.ca) or Krista Van Slingerland (krista.vanslingerland@uottawa.ca). If you have any questions regarding the ethical conduct of this study, you may contact the Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall, 550 Cumberland Street, Room 154, Ottawa, ON K1N 6N5; Tel.: (613) 562-5387; Email: ethics@uottawa.ca

CONSENT

Participant. By signing this page, you are confirming the following:

- You understand that you are being asked to participate in this research examining the implementation of a sport-focused mental health service delivery model to meet the needs of high-performance athletes and coaches.
- You have read all of the information in this Service-User Information and Consent Form, or have had it read to you.
- All of your questions have been answered to your complete satisfaction.
- You understand that you have the right to withdraw from the research at any point without negative repercussion.
- You voluntarily agree to be a participant in this research.
- You agree to be audio-recorded during interviews but not during consultations.
- You give permission to the investigators to review your clinical documents (i.e., personal health information).
- You accept that the results of this research will be published in scientific articles and presented at conferences, and understand that your anonymity will be protected.
- You will be given one of the two copies of this consent form.

_____	_____	_____
Participant first and last name	Participant signature	Date

Care coordinator. By signing this page, you are confirming the following:

- I have carefully explained the research project to the participant. To the best of my knowledge, the participant understands the nature, demands, risks, and benefits involved in taking part in this research.

_____	_____	_____
Care coordinator first and last name	Intake coordinator signature	Date

Additional Mental Health Resources Available Across Canada

British Columbia

Canadian Mental Health Association Crisis Line – serves the entire east Kootenay region, from Golden to the Alberta and USA borders
24-hour crisis line: 1-800-667-8407

Fraser Valley Regional Crisis Line – serves Mission, Abbotsford, Chilliwack, Agassiz/Harrison, Hope, Yale and Boston Bar
24-hour crisis line: 1-877-820-7444

Crisis Centre for Northern BC – serves all of Northern BC north of Quesnel
Youth line (4-11pm): 250-564-8336
24-hour crisis line: 1-888-562-1214

Crisis Intervention & Suicide Prevention Centre of BC – serves Vancouver, North Vancouver city & district, Bowen Island, West Vancouver and Burnaby
24-hour crisis line: 604-872-3311

Province-Wide British Columbia
24-hour crisis line: 1-800-SUICIDE

Alberta

Distress Centre Calgary – serves Calgary and surrounding area
24-hour crisis line: (403) 266-4357

The Support Network Distress Line – serves Edmonton and surrounding areas
(780) 482-HELP

St. Paul & District Crisis Centre – serves all Alberta and Northeastern Saskatchewan
24-hour crisis line: 1-800-263-3045

Saskatchewan

Mobile Crisis Service – serves Saskatoon
24 hour crisis line: (306) 933-6200

Prince Albert Mobile Crisis Unit
24-hour crisis line: (306) 764-1011

Regina Mobile Crisis Services
24 hour crisis line: (306) 525-5333

Manitoba

Mobile Crisis Unit (MCU) – serves Brandon and Assiniboine regions
24-hour crisis line: 1-888-379-7699

Klinic Community Health Centre – serves Winnipeg
24-hour crisis line: 1-888-322-3019

Ontario
Hamilton
905-522-1477

Kingston
Distress line: 613-544-1771

London & District:
Mental health crisis line: 519-433-2023

Ottawa & Region
Distress line: 613-238-3311

Toronto
Distress line: 416-408-4357

Waterloo Region
Distress line: 519-745-1166

Windsor & Essex County
Distress line: 519-256-5000

Quebec
Centre de prévention 24/7: 1-866-277-3553

New Brunswick
Chimo Helpline – serves all of New Brunswick, bilingual, 24 hours
Provincial toll-free crisis line: 1-800-667-5005
Fredericton area: 450-HELP

Nova Scotia
Mental Health Mobile Crisis Team – serves the Capital District, Halifax, Dartmouth Bedford
24-hour crisis line: 902-4298167; toll free: 1-888-429-8167

Prince Edward Island
24-hour province-wide bilingual service: 1-800-218-2885

Newfoundland & Labrador
Mental Health Crisis Centre – serves Newfoundland and Labrador
24-hour crisis line: 1-888-737-4668

Appendix B: Practitioner Information & Consent Form

uOttawa

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University of Ottawa
Faculty of Health
Sciences

Title of Research Project

DESIGN, IMPLEMENTATION, AND EVALUATION OF A CANADIAN CENTRE FOR MENTAL HEALTH AND SPORT (CCMHS): A PARTICIPATORY ACTION RESEARCH PROJECT

Co-Investigator
Natalie Durand-Bush, PhD
M.A.
Full Professor
School of Human Kinetics

Co-Investigator
Krista Van Slingerland,

PhD Candidate
School of Human Kinetics

Dear CCMHS practitioner,

A team of experts in sport and mental health has designed a sport-focused mental health service delivery model to better meet the needs of competitive and high-performance athletes and coaches. As an independent contractor working for the **Canadian Centre for Mental Health and Sport** (CCMHS), you will be applying this model of collaborative care with athletes and coaches referred to the CCMHS. The CCMHS is a not-for-profit organization supporting the mental health and performance of competitive and high-performance Canadian athletes and coaches through *interdisciplinary* mental health service delivery, research, and community engagement.

You are being invited to participate in this research project because we are interested in better understanding your experience providing mental health services to athletes and coaches as part of the CCMHS collaborative care team, as well as the outcomes of this. Given the novelty of this model, your feedback is extremely important, and will help us to (a) assess the effectiveness of the CCMHS collaborative care model, (b) make adjustments to the model to provide the best possible care to service-users whilst maintaining a healthy and productive work environment, and (c) ensure this model of care is sustainable moving forward.

If you agree to participate in the Implementation phase of this research project (September 2018 to June 2019), your involvement will consist of:

(g) Providing mental health services to high-performance athletes and coaches as a member of the CCMHS collaborative mental health care team
(h) Giving permission to the investigators to analyze the content of the medical/clinical files of CCMHS service-users under your care to inform the overall research
(i) Participating in one in-depth semi-structured interview with the co-investigator at the end of the Implementation phase in order to provide your input on the services provided
(j) Verifying your interview transcript and making changes to the content if necessary

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(k) Providing input on the overall findings of the research during the Evaluation phase of the project (July 2019 – January 2020; optional)

1. Collaborative mental health care consultations (approximately 1 hour per consultation)

Once prospective service-users have gone through the intake process and have been deemed eligible to receive CCMHS services, a mental health care plan will be put in place and consultations will commence. As a practitioner working within the CCMHS mental health care team, you will be involved in establishing and implementing service-users' care plan. You will provide services either in person in a private room at the House of Sport in Ottawa or in your own private clinic where you reside, or via the CCMHS secure telehealth platform. Consultations will last approximately one hour and will not be audio-recorded. The number of consultations for each service-user will be determined by the CCMHS mental health care team. The nature of these consultations will depend on the symptoms that service-users are experiencing and the care plan that the CCMHS team and service-users have agreed upon. You will use evidence-based therapeutic approaches (e.g., cognitive behavioral therapy), and conduct yourself in accordance to the regulations set out by your governing body (e.g., Ontario Psychological Association).

Service-users' CCMHS mental health care team may consist of a combination of any of the following practitioners:

- Psychiatrist
- Psychologist
- Counsellor
- Psychotherapist
- Mental Performance Consultant
- Care Coordinator
- Family | Sports Medicine Physician

Given the interdisciplinary and collaborative nature of the CCMHS mental health care model, you will meet with the mental health team on a regular basis, in person or via the secure telehealth platform, to review and adjust service-users' care plan as necessary. You will also be assigned as the lead person for some service-users' care plan. Meetings may last anywhere from 15 to 60 minutes.

2. Interview with co-investigator (60 minutes)

Our research team wants to learn about your experience providing care as member of the CCMHS team so that we can improve the collaborative care model and expand the program to competitive athletes and coaches across Canada. Specifically, we are interested in understanding (a) whether you perceived the collaborative care team to have provided *appropriate* care to athletes and coaches, and (b) whether you view the CCMHS' mental health care service delivery model to have been *acceptable*. Your opinion is important because when health care practitioners deem a health care model or protocol to be acceptable, they are more likely to deliver it as it is designed. To this end, you will be invited to participate in a one-on-one in-depth interview with the co-investigator, Krista Van Slingerland. The interview will take place in a private room at the House of Sport in Ottawa or via the secure telehealth platform, and last approximately 60 minutes. The interview will occur once the Implementation Phase of the project is complete (during the month of July 2019). The interview will be audio-recorded and transcribed. You will receive the transcript approximately two weeks after your interview and be invited to review, within the following two weeks, the content of the transcript and make changes to the content as you see fit.

3. Clinical document review (30 to 60 minutes)

The investigators will examine your medical/clinical documents that you create during the Implementation phase in order to describe the sample of service-users and examine factors related to mental health promotion and

improvement (e.g., provision of educational resources, connection to community organizations, establishment of peer mentoring) and mental illness management and recovery (e.g., identification of mental illnesses addressed, duration of care, type of therapeutic approaches used). Service-users are aware that this will take place and have provided their consent for you to give the investigators access to their personal health information. For clarity and comprehension purposes, the investigators may ask you questions and invite you to provide input on the content of your medical/clinical documents. The time required for this may vary between 30 to 60 minutes.

POTENTIAL BENEFITS OF PARTICIPATION

Your participation is integral to the development of mental health care for competitive and high-performance athletes and coaches in Canada. With 7.2 million Canadians regularly engaging in sport and one in five of them experiencing a mental illness each year, there may be as many as 1.4 million athletes and coaches struggling with mental health challenges on a yearly basis. By participating in this research project, you will help us develop preventative and care options to address this need. Specifically, your contribution will help us evaluate the efficiency, effectiveness, and sustainability of the CCMHS mental health care service delivery model. Participation in the research process may also contribute to your professional development, as you will be asked to reflect upon your work, engage in problem solving, interact with service-users who may challenge your assumptions, and collaborate with practitioners who may have experiences, views, and training that differ from your own. Lastly, the CCMHS is a highly innovative initiative that could potentially lead to additional opportunities for practice and research within and outside of the CCMHS.

POTENTIAL RISKS OF PARTICIPATION

There is the potential that some interview questions will prompt you to discuss topics that are uncomfortable for you. You are always free to decline to answer any question the investigators ask you without penalty. Given that you are working as a mental health professional, it is reasonable to assume that you know how to access mental health resources should you require support as a result of discussing uncomfortable topics. A list of mental health resources is also provided on the CCMHS website.

As a practitioner contracted by the CCMHS, your name, affiliation, and biography will appear on the CCMHS website. However, the information you provide during the research process will remain anonymous and confidential. Nonetheless, it is important to note that since the CCMHS mental health care team will comprise a small number of practitioners (11 to 15), the information that is synthesized in research reports, publications, and presentations may be more easily associated with you.

CONFIDENTIALITY AND ANONYMITY

You will keep service-users' personal health information strictly confidential except as required or permitted by law [i.e., *Personal Health Information Act* (SO 2004, c 3.), and the *Mental Health Act* (RSO 1990, c M-7.)]. As per the College of Physicians and Surgeons of Ontario Policy on Medical Records (#4-12), you will keep service-users' medical records (clinical documents) for a period of 10 years from the date of the last entry. Service-user files (e.g., medical records, baseline and subsequent testing data, clinical notes) will be kept on the CCMHS Electronic Medical Records (EMR) system JUNO. These case files will only be available to CCMHS practitioners, the co-investigators, and research assistant. JUNO is a a secure Canadian cloud-based records management system that has undergone a Privacy Impact Assessment. Its servers are housed in facilities featuring rigorous physical and cyber security measures that meet provincial health information protection legislation (e.g., Personal Health Information Protection Act). The Canadian-based Livecare telehealth platform that will be used to remotely consult and share documents with you meets the same level of security.

The following steps will be taken to safeguard your own confidentiality and anonymity:

- Only the following individuals will have access to research materials: the CCMHS mental health care team, the co-investigators, and the project research assistant.
- Mental health care consultations and exit interviews will take place in a sound-proof room or via a secure telehealth platform.
- Mental health care consultations will not be audio-recorded.
- A numerical code will be used to identify you on all research documents, including your interview transcript.
- Except in cases required by law (e.g., if service-users are in immediate danger to themselves or others; if service-users disclose the endangerment of a minor), all material and information that can be linked to you or service-users will not be made public and will be kept under the strictest confidentiality.
- You will not be personally identified in any way in publications, reports, or presentations.
- Electronic/digital research documents (e.g., interview transcripts, reports) will be kept on the co-investigators' password protected computer for a minimum of 5 years, after which the research documents will be permanently destroyed.
- Any physical documents containing service-users' personal health information (e.g., hard copies of clinical notes) will be kept in a locked filing cabinet at the CCMHS office or in the practitioners' private office and will not be removed from this location during the course of your care. Outside of operating hours, access to the CCMHS office will be secured with a lock.

WITHDRAWAL FROM THE RESEARCH

Participation in this research is part of your contractual agreement with the CCMHS. You may withdraw at any time, however, this will also terminate your employment with the CCMHS. You have the right to refuse to answer any question and deny comment at any time. Should you feel uncomfortable with any of the topics discussed, you have the right to leave the room or end a session. If you wish to withdraw from the research, please contact either one of the investigators to inform them. In this case, you will be invited to participate in a brief exit interview to better understand your experience and decision to withdraw. However, you are not obligated to participate in this interview. If you choose to withdraw from the research, the data collected will be securely stored as described above. However, you may request to have your research data destroyed at any point in time, even once the research findings have been published. This excludes service-users' medical records, which must be kept for a period of 10 years from the date of the last entry, as per the College of Physicians and Surgeons of Ontario Policy on Medical Records (#4-12).

COMPENSATION FOR PARTICIPATING IN THE RESEARCH

As an independent contractor working for of the CCMHS, you will be compensated for the services you provide. Service fees will be set by the CCMHS team based on regulated standards and fees will be communicated to service-users. Following standard practice, all practitioners will give the CCMHS a percentage of their wages to cover administrative costs. Service-users' care will be covered either by OHIP, private insurance, sport organizations, and/or personal funds, depending on what is available to them. If/when applicable, you will bill service-users in accordance with the *Regulated Health Professions Act* (1991, S.O. 1991, c. 18). CCMHS staff will work with you and service-users to maximize the use of services for which service-users are covered by public and private insurance.

QUESTIONS

This research project has received ethics approval from the Research Ethics Board of the University of Ottawa. If you have any questions concerning participation in this research, contact either Natalie Durand-Bush (ndbush@uottawa.ca) or Krista Van Slingerland (krista.vanslingerland@uottawa.ca). If you have any questions

regarding the ethical conduct of this study, you may contact the Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall, 550 Cumberland Street, Room 154, Ottawa, ON K1N 6N5; Tel.: (613) 562-5387; Email: ethics@uottawa.ca

CONSENT

Participant. By signing this page, you are confirming the following:

- You understand that you are being asked to participate in this research examining the implementation of sport-focused mental health service delivery model to meet the needs of high-performance athletes and coaches.
- You have read all of the information in this Practitioner Information and Consent Form, or have had it read to you.
- All of your questions have been answered to your complete satisfaction.
- You understand that you have the right to withdraw from the research at any point without negative repercussion, other than the withdrawal ending your contractual agreement with the CCMHS.
- You voluntarily agree to be a participant in this research.
- You agree to be audio-recorded during interviews but not consultations.
- You give permission to the investigators to review your clinical documents (i.e., service-user personal health information).
- You accept that the results of this research will be published in scientific articles and presented at conferences, and understand that your anonymity will be protected.
- You will be given one of the two copies of this consent form.

_____	_____	_____
Practitioner first and last name	Practitioner signature	Date

Investigator. By signing this page, you are confirming the following:

- I have carefully explained the research project to the practitioner. To the best of my knowledge, the practitioner understands the nature, demands, risks, and benefits involved in taking part in this research.

_____	_____	_____
Investigator first and last name	Investigator signature	Date

Appendix C: Collective Agreement

Collective agreement: Principles of engagement[1]

This collective agreement concerns a Participatory Action Research (PAR) project conducted to design, implement, and evaluate a *Canadian Centre for Mental Health and Sport*. This project is proposed and administered by Natalie Durand-Bush, PhD and Krista Van Slingerland, PhD candidate, from the School of Human Kinetics at the University of Ottawa (hereinafter referred to as *project administrators*). The project involves three phases (i.e., design, implementation, evaluation), multiple participants (i.e., stakeholders), and a variety of data collection and analysis methods. Congruent with a PAR approach, the project administrators will serve as stakeholders in the research process. This project will, in part, be the focus of Krista Van Slingerland's PhD dissertation.

As invited participants (i.e., stakeholders) in this PAR project, we agree to participate in accordance with the following principles of engagement:

(1) Respect and open communication

a. PAR group members agree to communicate respectfully and openly with one another throughout the project. In particular, this means that they agree, individually and collectively, to genuinely seek (a) agreement about the ideas and language they use, (b) mutual understanding of one another's points of view, and (c) consensus about what to do under the circumstances that exist when a decision about what to do is needed.
b. Each PAR group member agrees to respect the rights of others to withdraw from the research project at any time, or to decline participation in particular aspects of the research, or to have information they have provided removed from any reports, publications, or presentations emanating from the research. Group members agree to respect the right of any group member to withdraw from the group, the research, or part of the research.
c. PAR group members agree to be open with other group members if they think the research is having a negative impact on the group, or on them personally.

(2) Access to empirical material

a. All PAR group members will have access to empirical material/transcripts that are generated or collected within the context of the PAR group meetings (i.e., 'common empirical material').
b. Access to material that is collected outside of PAR group meetings, but that directly involves group members, for instance in observations or face to face interviews, will be restricted to those collecting the information and those about whom it is collected, unless the group members concerned negotiate for such material to be released to the group for the purposes of analysis or discussion (for example, at a group meeting) or in reports, publications, or presentations. Group members agree that where others are involved (such as participating students who may appear in audio-recorded discussions), such release of empirical material to the group will occur only with the consent of those involved.
c. PAR group members agree that if they wish (for their own publications, presentations, and/or research purposes) to use common empirical material generated within this research project, they must first negotiate that use with the project administrators and other members of the group to obtain approval.

[1] Adapted from Kemmis, McTaggart, & Nixon (2014)

1

(3) Identifiability in reports, publications, presentations, and social media

a. PAR group members understand that stakeholders may be identifiable in any representations of the PAR research project in which their involvement is acknowledged. PAR group members, however, agree that participant identifiability must be considered in all phases of the project and agree to act with discretion so that institutions and participants can be appropriately safeguarded, as necessary.
b. Considering the conditions outlined in 3a, PAR group members agree that:
    - It is appropriate to acknowledge the PAR group members by name (e.g., in footnotes, social media, or in 'Acknowledgement' sections of reports, publications, or presentations emerging from the research), but that non-gender specific pseudonyms are to be used in the main text of accounts (e.g., citations) so that it is difficult for readers to attribute particular comments to particular stakeholders.
    - If, through the course of the research, the PAR group members collectively decide that naming group members in accounts of the research (beyond general footnotes, social media communications, and acknowledgements) would be beneficial to both the individuals and the institutions concerned, and not harmful to others, then individual written consent to be named would be obtained from each of the group members before anyone is named.

(4) Reflection on the research process

a. In order to ensure that the research process does not compromise the integrity of the PAR research group, or negatively impact those involved, PAR group members agree to periodically reflect on and review, as a group, how the research is unfolding and impacting the group and the individual group members.

(5) Changes to group membership

a. PAR group members agree that, if new members join the group during the project, the new members will be invited to take part in the research and written informed consent will be obtained before they become involved. PAR group members agree that the new group members will be required to follow the collective principles of engagement outlined in this document.
b. PAR group members agree that if a group member no longer wishes to be involved in the research, then other group members will respect this group member's right to determine what of his or her previous statements can be used in the research.
c. In the very unlikely event that a group member is deemed to be disruptive and detrimental to the research process and/or the well-being of individual group members or the group as a whole, PAR group members, with support of the project administrators, may collectively decide, after unsuccessful mediation (see section 8), to remove this member from the group. PAR group members will respect this group member's right to determine what of his or her previous statements can be used in the research.

(6) Representation

a. PAR group members recognize that they may be asked by the project administrators to contribute to reports, publications, and presentations; however, they may decline to do so without any negative repercussion. If not directly involved in crafting or writing reports, publications, and presentations emerging from the research, PAR group members will be given an opportunity to check that their work and comments are fairly, relevantly and accurately represented in these accounts.

b. PAR group members agree that, if they feel that representations relating to them are not fair, relevant or accurate, they will negotiate with the project administrators, authors, and other members of the group, to resolve the issue, keeping in mind the principle of respect and open communication above.
c. The project administrators and authors of any reports, publications, and presentations emerging from this research project will notify PAR group members about the existence of these accounts, and provide access to them.

(7) Consensus decision-making model[2]

a. PAR group members agree to respect the *Consensus model* when making decisions throughout the research process. This inclusive and respectful decision-making process is based on the following:
   - A group member presents an idea, which could be in the form of a formal proposal or it may be an idea not yet fully formed.
   - The idea is shared with the group and the pros and cons are discussed.
   - As a result of the discussion, in which more input is perceived to be better, the idea can be modified.
   - If a general agreement seems to be emerging, the project administrators or any other named facilitator can test for consensus by restating the latest version of the idea or proposal to see if all group members agree.
   - If anyone dissents, group members continue discussing to see if they can further modify the idea to make it acceptable and approved by everyone.
b. PAR group members recognize that unlike parliamentary procedure or Robert's rules, which results in an up-or-down, yes-or-no vote, the consensus process allows for an inclusionary continuum of responses, congruent with the PAR research approach. The consensus spectrum allows for more subtle reactions such as: "I like it very much" to "I don't like it, but I can live with it" to "I disagree, but if you're all in favour, I won't stand in the way." This intuitive way to make decisions reflects how most people make shared choices in their daily lives.
c. PAR group members recognize that within this consensus process, a group member could block a decision if he or she strongly disagrees with it, which could significantly impede the research process, deadlines, and/or the well-being of the group. Consequently, PAR group members agree that if they are unable to create a compromise to satisfy the blocker, they may, with the support of the project administrators, call for a majority vote as a last resort.

(8) Mediation

a. In the very unlikely event that there is a conflict or relationship breakdown between two or more PAR group members that cannot be resolved and this is detrimental to the research project and/or well-being of individual group members or the group as a whole, PAR group members agree that **Dr. Diane Culver**, from the School of Human Kinetics at the University of Ottawa, will act as mediator to help those concerned work through the issues.

[2] Andy Robinson © 2006. Excerpted from Great Boards for Small Groups: A 1-Hour Guide to Governing a Growing Nonprofit. Excerpted with permission of Emerson & Church, publishers.

(9) Certification of Agreement

We, the undersigned, collectively, individually, and voluntarily give consent to our participation in this PAR research project titled *Design, implementation, and evaluation of a Canadian Centre for Mental Health and Sport (CCMHS)*. In providing our group consent, we agree that:

a. We have each read an outline of the proposed research project, discussed it, and understand the purpose, methods, scope, and potential benefits and risks of our participation in this PAR research.
b. We agree that our participation will be of value to us as stakeholders, reflecting on our own views and practices, and to scholarship in our respective disciplines and professions.
c. We undertake individually and collectively to participate in this PAR research project in accordance with the principles of engagement outlined above, and in keeping with the values of respect, justice and beneficence.
d. We recognize that we have a right to withdraw from this PAR research project, or parts of this project, without penalty at any time. We also recognize that if we are deemed by the PAR collective to be disruptive and detrimental to the research process and/or the well-being of individual group members or the group as a whole, we may be removed from the project. In both cases, we have the right to determine what of our previous statements can be used in the research.
e. We understand that not everyone will be able to participate in every meeting dedicated to this PAR research project and assume that evidence will continue to be gathered in a group member's absence. We also understand that our participation, as stipulated in the proposed research project outline, will cease once the PAR project has been completed.
f. We understand that if conflict arises during this PAR research, we may contact Dr. Diane Culver, who will serve as mediator: Dr. Diane Culver, PhD, University of Ottawa, School of Human Kinetics, 125 University, Room 351, Ottawa, ON, K1N 6N5, (613) 562-5800 ext. 4283, dculver@uottawa.ca.
g. We consent to PAR group meetings being audio-recorded and to notes being taken during these meetings, and understand that these materials, and any other documents produced from this research, will be securely stored in the project administrators' research laboratory for up to five years after the completion of the PAR project, after which they will be permanently destroyed.
h. We consent to being photographed during PAR group meetings, with the understanding that photos may be used for both research and promotional purposes.
i. We understand that as per instructions from the University of Ottawa Office of Research Ethics and Integrity, ethics approval will be obtained for the Implementation and Evaluation Phases of this PAR research project, and we may have to sign another consent form at that point.

Name (print)	Signature	Date

Signatures removed for privacy purposes.

Appendix D: Focus Group Interview Guides – Iteration 1

Design Phase: Focus Group Interview Guide (Sport)

Participants:

1. Krista Van Slingerland (co-facilitator)
2. Keana Bush (co-facilitator)
3. Jenn Bushell
4. Dr. Lindsay Bradley
5. Mario Gaetano
6. Kevin Rempell
7. Patrick Grandmaître

Materials needed:

- Private room with 7 chairs
- Digital recording device
- Scrap paper for all
- Pens (n = 7) and markers
- Index cards: 3 different colors
- Note-taker: Benoit Chin

Generally, we would like to center this discussion around your perceptions and experiences of the *availability* and *effectiveness* of mental health care in Canada, including for competitive athletes. Record your ideas on the flip-chart and index cards provided.

Introduction (~10 minutes)
Start with round-table introductions. Have each participant answer the following:

1. What is your connection to sport and mental health?
2. Tell us about an experience you've had related to sport and mental health (e.g., as an athlete, coach, practitioner, parent, administrator, researcher)

Part I: Availability of Mental Health Care Services (~15 minutes)

3. In your experience, or in your view, how accessible/available are mental health care services, (a) in Canada, and (b) for competitive athletes?
    a. Probe: What factors (e.g., social, political, cultural) are impacting/contributing to the availability of mental health care services for the general population and athletes?
4. Tell us about your experience accessing mental health care services and/or the experience of an athlete you know who accessed mental health support.
    a. What challenges did you/this athlete face in accessing these services?

Part II: Effectiveness of Mental Health Care Services (~20 minutes)

5. In your experience, or in your view, what is effective mental health care?
6. Are the characteristics of effective mental health care different for athletes compared to non-athletes? If yes, how so?
    a. What conditions are necessary to provide athletes with effective mental health care?
7. What are the barriers to athletes receiving effective mental health care?
8. What could facilitate access to effective mental health care for Canadian athletes?

Summarize (5 minutes)
Take 5 minutes to summarize your group's ideas on the index cards provided (one idea per card).

- Record ideas about the *availability* of mental health care services on RED cards

- Record ideas about the *effectiveness* of mental health care services on YELLOW cards
- Record any other ideas on ORANGE cards

Design Phase: Focus Group Interview Guide (Mental Health)

Participants

1. Dr. Carla Edwards (facilitator)
2. Danika Smith
3. Dr. Gary Goldfield
4. Anna Abraham
5. Dr. Shaunna Taylor
6. Dr. Göran Kenttä
7. Samantha DeLenardo

Materials needed:

- Private room with 7 chairs
- Digital recording device
- Scrap paper for all
- Pens (n = 7) and markers
- Index cards: 3 different colors
- Note-taker: Poppy DesClouds

Generally, we would like to center this discussion around your perceptions and experiences of the *availability* and *effectiveness* of mental health care in Canada, including for competitive athletes. Record your ideas on the flip-chart and cue cards provided.

Introduction (~10 minutes)
Start with round-table introductions. Have each participant answer the following:

1. What is your connection to sport and mental health?
2. Tell us about an experience you've had related to sport and mental health (e.g., as an athlete, coach, practitioner, parent, administrator, researcher)

Part I: Availability of Mental Health Care Services (~15 minutes)

3. In your experience, or in your view, how accessible/available are mental health care services, (a) in Canada, and (b) for competitive athletes?
    a. Probe: What factors (e.g., social, political, cultural) are impacting/contributing to the availability of mental health care services for the general population and athletes?
4. Have you ever seen athletes with mental health challenges in your work or practice? If so, what are these athletes' most common mental health challenges?
    a. What challenges do you face when working with athletes? (e.g., diagnostic, treatment, organizational/systemic support)
5. How do you view/explain treatment or recovery from mental illness (i.e., for athletes)?

Part II: Effectiveness of Mental Health Care Services (~20 minutes)

6. In your experience, or in your view, what is effective mental health care?
7. Are the characteristics of effective mental health care different for athletes compared to non-athletes? If yes, how so?
    a. What conditions are necessary to provide athletes with effective mental health care?
8. What are the barriers to athletes receiving effective mental health care?
9. What could facilitate access to effective mental health care for Canadian athletes?

Summarize (5 minutes)
Take 5 minutes to summarize your group's ideas on the index cards provided (one idea per card).

- Record ideas about the *availability* of mental health care services on RED cards
- Record ideas about the *effectiveness* of mental health care services on YELLOW cards
- Record any other ideas on ORANGE cards

Design Phase: Focus Group Interview Guide (Leadership)

Participants:

1. Dr. Natalie Durand-Bush (facilitator)
2. Roger Archambault
3. Dr. Zul Merali
4. Dr. Penny Werthner
5. Karri Dawson
6. Dr. Benoit Séguin

Materials needed:

- Private room with 7 chairs
- Digital recording device
- Scrap paper for all
- Pens (n = 7) and markers
- Index cards: 4 different colors
- Note-taker: Cristina Leonardelli

Generally, we would like to center this discussion around your perceptions and experiences of the *availability* and *effectiveness* of mental health care in Canada, including for competitive athletes. Record your ideas on the flip-chart provided.

Introduction (~10 minutes)
Start with round-table introductions. Have each participant answer the following:

1. What is your connection to sport and mental health?
2. Tell us about an experience you've had related to sport and mental health (e.g., as an athlete, coach, practitioner, parent, administrator, researcher)

Part I: Availability of Mental Health Care Services

3. In your experience, or in your view, how accessible/available are mental health care services, (a) in Canada, and (b) for competitive athletes?
4. Within your professional role or organization, where does athlete mental health come into play?
    a. What challenges related to the mental health of athletes do you face in your professional role or organization?
    b. Which challenges are of the utmost priority to solve (from a professional or organizational standpoint)?
    c. What barriers, if any, stand in the way of solving the issues surrounding athlete mental health within your professional role or organization?

Part II: Effectiveness of Mental Health Care Services

5. In your experience or in your view, what is effective mental health care?
6. Are the characteristics of effective mental health care different for athletes compared to non-athletes? If yes, how so?
    a. What conditions are necessary to provide athletes with effective mental health care?

7. What are the barriers to athletes receiving effective mental health care?
8. What could facilitate access to effective mental health care for Canadian athletes?

Summarize (5 minutes)

Take 5 minutes to summarize your group's ideas on the index cards provided (one idea per card).

- Record ideas about the *availability* of mental health care services on RED cards
- Record ideas about the *effectiveness* of mental health care services on YELLOW cards
- Record any other ideas on ORANGE cards

Appendix E: Focus Group Interview Guides – Iteration 2

Design Phase: Focus Group Interview Guide – SWOT

This discussion will center around the *strengths, weaknesses, opportunities,* and *threats* associated with the creation of a CCMHS.

Group 1	Group 2	Group 3
1. Dr. Carla Edwards	1. Dr. Gary Goldfield	1. Dr. Zul Merali
2. Danika Smith	2. Anna Abraham	2. Dr. Göran Kenttä
3. Dr. Natalie Durand-Bush	3. Dr. Penny Werthner	3. Dr. Shauna Taylor
4. Roger Archambault	4. Dr. Lindsay Bradley	4. Karri Dawson
5. Samantha Delenardo	5. Mario Gaetano	5. Keanna Bush
6. Jenn Bushell	6. Krista Van Slingerland	6. Patrick Grandmaître
7. Kevin Rempell	7. Note-taker: Benoit Chin	7. Note-taker: Poppy DesClouds
8. Note-taker: Cristina Leonardalli		

Materials Needed:

- Three private rooms to ensure clarity of recorded data
- Chairs for participants and note-takers (N = 23)
- Digital recording devices (N = 3)
- Scrap paper and pens for all participants
- Chart paper (N = 3)

Strengths (15 minutes)
Strengths are resources (ex. human, financial, organizational) or factors that can positively contribute to the creation of a CCMHS.

1. What resources are available to create a CCHMS?
2. What positive elements of the current Canadian *health care system* can we replicate or draw from to design the Mental Health Service Delivery Model (MHSDM)?
    a. What positive elements of financial models currently used in Canadian healthcare can be leveraged to compensate practitioners while providing affordable mental health care to athletes within the CCMHS?
3. What effective models of *health care service delivery* can we replicate or draw from to design the MHSDM?
4. What multidisciplinary team of practitioners can provide mental health care to competitive athletes within the CCMHS? What education, experience, and competencies are required?

Weaknesses (15 minutes)
Weaknesses are barriers or factors that can impede the creation of a CCMHS.

1. What barriers can impede the creation of a CCMHS?
2. How is the current mental health system failing and what should we avoid when designing the MHSDM?

3. How is the current mental health system or current models of care underserving competitive athletes, and how can we address this when designing the MHSDM?
4. What hurdles (e.g., bureaucratic, financial, sources of stigma) currently exist that we must overcome when designing the MHSDM?

Opportunities (15 minutes)

Opportunities are new or timely initiatives that can be leveraged in the creation of a CCMHS.

1. What funding opportunities exist to help support the creation of a CCMHS?
2. What technologies can increase the affordability and accessibility of mental health care for athletes?
3. Which groups of experts are available to meet the mental health needs of competitive athletes?
4. Which existing organizations could become a strategic partner?
    a. What will a mutually beneficial partnership between the CCMHS and these organizations entail?

Threats (15 minutes)

Threats are new or imminent initiatives that can negatively impact the creation of a CCHMS.

1. What organizations could threaten the development and success of a CCHMS?
2. What types of practitioners can jeopardize or challenge the viability of a MHSDM in high performance sport (e.g., life coaches)

Appendix F: Synthesis of themes identified during focus groups

Factors to address:

- Geography
- Eligibility – who accesses care? (age, intensity of need, sport level, etc.)
- Fairness – entitlement to care
- Stigma – self, sport-culture, and global
- Confidentiality
- Boundaries / Threshold of Care
- Involvement of Third Parties (parents, coaches, etc.)
- Bottle-necking / Wait Lists / Disparity between demand and supply
- Funding model
- Physical space
- Remote care
- Info-sharing with third parties
- Cost of services
- Reimbursement for practitioners
- Sustainability of care
- Sustainability of funding
- Human resources
- Bureaucracy / "Red tape"
- No speciality right now (no dual-competency clinical and sport)
- Referral logistics among the practitioners
- General lack of awareness re: how MH impacts athletes
- Fear of disclosing mental health challenges
- Fear of addressing mental health challenge (on part of coaches)
- Medication management
- Raise awareness within professions of sport med., psychology, psychiatry, etc. that athlete needs are different from the general population
- Power dynamics / Political structure within teams and organizations
- Legal considerations (liability, privacy, etc.)
- Navigation of the MH care system
- Transitions (out of sport, to varsity or another HP domain)
- Dropout from sport
- Organizational resistance → 'deselection of practitioners' → pressure to podium
- Athletic performance
- Normalizing the conversation
- Screening
- Feelings of shame or weakness
- Language used
- Partnerships with other organizations (healthcare, sport, commercial, governmental, NGOs)
- Replication / standardization

- Buy-in from individuals and organizations
- Branding and marketing
- Use and inclusion of alternative therapies (where do they fit in?)
- Athlete protections ("injury card")
- How to avoid the same traps as other programs
- Coverage differences from province to province
- Undervalue of sport psychology in Canada
- Length of time in care

Elements to Include:

- Bilingualism
- Sport-specialized practitioners
- Multicultural competencies
- Athlete ambassadors
- Preventative and treatment streams
- Sport medicine
- Mental Performance Consultants
- Counsellors / psychotherapists
- Psychologists
- Psychiatrists
- Continuum of services – low to high intensity
- Information sharing among practitioners
- Multidisciplinary team
- Evaluation model
- Knowledge translation to applied practice
- Education for gatekeepers (coaches, peers, etc.)
- Referral network / Process (ease)
- Triage system (evaluation of priority for the athlete)
- Medication management & research (sport-specific)
- Continuity of care (communication between all practitioners on an athlete's care team)
- Collaborative care model
- Training programs (including students, leveraging the use of students)
- Option for anonymity
- Leverage existing technology (apps, websites, tele-MH)
- Safe and comfortable environment
- Visibility and accessibility
- Standardized care
- Common vocabulary
- Coach and AT engagement and education
- Central hub of communication
- Research
- Continuous evaluation
- Standards of communication between practitioners

- Communities of practice (peer to peer, groups, etc.)
- Group and individual counselling opportunities
- Peer-to-peer programming (i.e., alumni program)
- Leverage expertise from pre-existing programming
- Crisis protocols
- Leverage other ‘players’ (i.e., OTP, Next Gen, Game Plan, CSPA)
- Embedded champions of the program
- Electronic health records system

Appendix G: Overview of Group Concept Mapping

The GCM activity was facilitated using an online platform called CS Global MAX (Concept Systems Incorporated, 2017). A software license was purchased for the research project and stakeholders individually registered for an account ahead of the GCM activity so they could digitally participate.

Step One: Preparation

The preparation step serves to identify research goals, participants, brainstorming focus question(s) and rating scales (Burke et al., 2005). Participants have already been identified (i.e., stakeholders). For efficiency, the doctoral candidate and thesis supervisor drafted research goals, a focal question, and rating prompt (see below) ahead of time and sought stakeholders' feedback on each before the GCM activity commenced. Stakeholders were asked to comment on (a) whether the goals reflect their understanding of the purpose of the GCM activity, (b) whether they understand the intent of the focus question and believe the responses generated will meet the proposed goals, and (c) whether the rating prompt captures information that is pertinent and possible to operationalize.

Step Two: Generation

During the Generation step, stakeholders brainstorm statements in response to the focal question and synthesize (i.e., reduce and/or edit) the generated statements (collaboratively) to produce a set of approximately 100 statements for subsequent sorting and rating (Kane & Trochim, 2007).

Brainstorming

Stakeholders answer the focal question by individually entering statements of 140 characters or less directly into the online software. Participants were instructed not to criticize or question the legitimacy of the ideas of others during brainstorming, as disputes about statements were settled at a later step in the process.

Idea Synthesis

The purposes of synthesizing the ideas generated by participants during brainstorming are fourfold (Kane & Trochim, 2007, p. 61):

1. To obtain a list of unique ideas, with only one idea represented by each statement
2. To ensure that each statement is relevant to the focus of the project
3. To reduce the statements to a manageable number for stakeholders to sort and rate
4. To edit statements for clarity and comprehension across the entire stakeholder group

To aid in this process, the software will produce a Brainstorm Report that displays all statement entries. By projecting this report on the big screen, participants can aid the project co-administrators in reducing and editing the raw statements to a unique set. Trochim and Kane (2007) suggest that 100 statements or fewer are optimal to limit redundant content and preserve

group energy. Statements will be manually changed or deleted by the project co-administrators via the online software platform.

Step 3: Structuring

The structuring step involves two conceptual tasks:

1. Participants provide their perceptions of the similarities between statements (sorting)
2. Participants rate each statement on a predetermined dimension by answering the rating focus question for *each* statement (rating)

Both of these tasks will be performed by stakeholders individually via the Concept Systems software. Participants will first be instructed to sort statements into "piles" that make sense to them (this function plays out much like a computerized game of Solitaire, Burke, 2005; Concept Systems, 2017). Next, participants will answer the rating prompt for each of the individual statements by assigning a numeric value from 1-5 (based on their perception of the statement's importance) via a drop-down menu. What will result from these tasks will be the raw data required to run analyses that will produce the concept map, pattern matching, and go-zone displays of results (see below, Kane & Trochim, 2007).

Step 4: Representation

Once the data are collected, the Global Max software will be used to perform three core analyses (i.e., similarity matrix generation, multidimensional scaling analysis, and hierarchical cluster analysis) that will form the basis of materials (i.e., point map, cluster map, cluster rating map) generated and used during the interpretation step. For detailed explanations of core analyses, see Kane & Trochim (2007).

Point Map

Point maps plot each statement as a separate point on a map based on how they were sorted by participants. The distance between points demonstrates how likely statements were to have been sorted together (i.e., closer points were sorted together more frequently; Trochim, 1989).

Cluster Map

Cluster maps are derived by grouping or partitioning the statements on the point map into clusters that represent similar constructs. This provides a visual representation of the "higher order conceptual groupings of the original set of statements" (Trochim, 1989, p. 7). The software produces this map by performing a hierarchical cluster analysis (Yim & Ramdeen, 2015). The hierarchical cluster analysis reduces data (i.e., statements) by classifying them into homogenous groups one at a time in a series of sequential steps (Blei & Lafferty, 2009). At each iteration of the hierarchical cluster analysis, either a new cluster is formed or a statement is linked to an existing cluster, with the goal of increasing within-group homogeneity and the heterogeneity between groups (Yim & Ramdeen, 2015). Because a set number of clusters is not specified at the outset of this procedure, various grouping structures (i.e., number of clusters) are possible. Choosing which grouping structure makes most sense for the project at hand is done in collaboration with participants during the Interpretation step.

Step 5: Interpretation

During the interpretation step, stakeholders will choose the cluster solution they deem to be the most relevant/useful. This process will unfold as follows:

1. Stakeholders are presented with the point map and various cluster maps (grouping structures)
2. Should stakeholders require additional information, project co-administrators can run supplementary analyses (e.g., point rating map, cluster rating map)
3. Stakeholders choose a cluster solution based on the project goals and anticipated practical application of the GCM results. Cluster labels, which are automatically generated by the software program, are discussed and modified as needed.

The decision of a final cluster solution can be supported by a number of additional outputs generated by the Concept Systems software. For example, the software can generate a *Cluster Replay Map* that loops through various cluster solutions so participants can see an animation of the changes that occur from each cluster solution to the next (Concept Systems Incorporation, 2017). There is no scientific way to choose the optimal cluster solution, rather, this is done at the group's discretion. Other outputs can be generated by the software (e.g., point rating map, cluster rating map) to help stakeholders choose a grouping structure. For example, point rating maps show the mean rating for each statement across participants and display this visually by adding layers to clusters to indicate clusters with a higher average rating (i.e., participants deemed the statements in clusters with the most layers to be the most "important" to include in the MHSDMT; Kane & Trochim, 2007).

Once participants choose a cluster solution they deem to be most appropriate, they will be asked to discuss and refine the names of the clusters generated by the software (which will be based on what participants named their "piles" during the sorting stage of step 3). Lastly, the project co-administrators will lead a discussion about the significance of the concept mapping results and their potential utilization.

Step 6: Utilization

During this step, the group will discuss how the map can be used to inform planning efforts and next phases of the research project.

Appendix H: Sample job posting for CCMHS Care Team member

OPPORTUNITY – CCMHS CORE MENTAL HEALTH TEAM PSYCHOLOGIST

The Canadian Centre for Mental Health and Sport (CCMHS) offers collaborative mental health services to competitive and high-performance athletes and coaches who are 16 years of age and older. For an overview of the CCMHS and a description of the associated research project, please visit www.ccmhs-ccsms.ca.

Based in Ottawa, Ontario, the CCMHS is seeking practitioners to join its team as independent contractors. This team will apply the CCMHS' novel mental health care service delivery model with athletes and coaches, in person and/or via a telehealth platform. They will also have the opportunity to participate in the research project to evaluate the collaborative care model developed by expert stakeholders, with the ultimate aim of expanding services to athletes and coaches across Canada.

While it is anticipated that the initial demand will generate approximately 10 hours of work per week, this is an estimate. The actual number of hours may vary and a minimum cannot be guaranteed.

Responsibilities

- Assess, diagnose and treat athletes and coaches referred to the CCMHS
- Develop treatment plans in collaboration with clients and other members of the multidisciplinary, collaborative care team
- Provide crisis management as needed
- Maintain complete and accurate written records of patient progress
- Participate in research to assess the success of the collaborative care model

Requirements

- Ph.D. in Clinical Psychology
- Registration and good standing with provincial College of Psychologists
- Professional liability insurance
- Computer literacy, competence in keeping Electronic Medical Records
- A welcoming approach to working with people
- Experience providing services for people with diverse backgrounds
- Experience working in an interdisciplinary setting
- Experience with mood disorders, anxiety disorders, eating disorders, addiction, and/or acute or chronic pain
- Experience in sport (e.g., as an athlete, coach) or working with athletes or other high-performing populations (e.g., physicians, military, lawyers) is an asset
- Experience working with teams is considered an asset
- Ability to speak, read, and write in English and French is an asset

Application checklist

- Curriculum Vitae
- Cover letter highlighting relevant experience and interest in the position
- 1 – 2 letters of reference from a colleague or other relevant individual
- Optional: Work with athletes/coaches/high-performance populations (Appendix A)

Please send application materials in *pdf format* to info@ccmhs-ccsms.ca. The deadline to apply is **June 18, 2018**. We thank all those who submit an application, however, only successful candidates will be contacted by the hiring committee to pursue next steps

Appendix A

Experience working with athletes, coaches and/or high-performance populations[12]

Context	Hours		Skills Employed	Comments
		Preparation		
		Individual(s)		
		Team(s)		
		Total		
		Preparation		
		Individual(s)		
		Team(s)		
		Total		
		Preparation		
		Individual(s)		
		Team(s)		
		Total		
		Preparation		
		Individual(s)		
		Team(s)		
		Total		

[12] Adapted from the Canadian Sport Psychology Association

Appendix I: Fee Schedule (Fees-for-Service)

Service-users were charged a fee-for-service on a per session basis, which varied based on the practitioner's professional designation. Fees were aligned with recommendations put forth by practitioners' professional associations. Services rendered by practitioners varied in their eligibility to be covered by public or private health insurance (see below).

Practitioner	**Fee**	**Coverage**
Intake Session	Free	N / A
Psychiatrist	Variable	Covered by provincial health plan
Family / Sport Medicine Physician	Variable	Covered by provincial health plan
Psychologist	$200.00 / hour	Typically covered in part or full by private insurance (to a predetermined limit)
Psychotherapist / Counsellor / Social Worker	$150.00 / hour	Typically covered in part or full by private insurance (to a predetermined limit)
Mental Performance Consultant	$150 / hour	Rarely covered by private insurance

In order to cover the cost of the Care Coordinator, practitioners remitted 20% of their fees to the Centre on a monthly basis.

Appendix J: CCMHS Board of Directors

The CCMHS Board of Directors was established in August 2018 when its members first met. A list of CCMHS Board members, their position on the Board, their professional designation and the length of their term of service, is below:

Board Member	Role on Board	Professional Role	Term
Ed Wolkowycki	Chair	COO, United Way Eastern Ontario	August 2018 - present
Joanne Kudakiewicz	Vice Chair	Wealth Advisor, Yorkville Asset Management	August 2018 - present
Connor Cressman	Treasurer	Senior Accountant, The Cooperators	August 2018 – September 2020
Krista Van Slingerland	Secretary	PhD Candidate, University of Ottawa	August 2018 – November 2019
Natalie Durand-Bush	Member	Full Professor, University of Ottawa	August 2018 - present
Steven Roxborough	Member	Partner, Merchant Law Group	August 2018 - present
Andrew Sparks	Member	Head Coach Women's Basketball, University of Ottawa	August 2018 – September 2020
Jessica Damery	Member	Strategic Alliances Director, Export Development Canada	July 2019 - present

Appendix K: Working Groups: Membership and Deliverables

Members	Deliverables
Eligibility Criteria Working Group	
Gary Goldfield Shaunna Taylor Anna Abraham Kevin Rempel Göran Kenttä Carla Edwards Patrick Grandmaître Natalie Durand-Bush Lindsay Bradley Krista Van Slingerland	1. Develop eligibility criteria 2. Develop initial intake questionnaire 3. Develop protocol for referral of ineligible individuals
Skill Mix Working Group	
Natalie Durand-Bush Penny Werthner Zul Merali Gary Goldfield Keana Bush Anna Abraham Samantha Delenardo Andy Sparks* Carla Edwards Krista Van Slingerland	1. Establish minimum competencies in sport and mental health required for each practitioner 2. Interview potential candidates
Payment Model Working Group	
Jenn Bushell Carla Edwards Anna Abraham Penny Werthner Lindsay Bradley Steve Roxborough* Connor Cressman* Krista Van Slingerland	1. Establish procedures and standard rates for mental health services delivered
Physical Location Working Group	
Jennifer Bushell Danika Smith Roger Archambault Benoit Seguin Mario Gaetano Ed Wolkowycki* Natalie Durand-Bush Krista Van Slingerland	1. Define space needs and features 2. Secure a physical location from which to pilot the CCMHS

Note. * = recruited via snowball sampling

Appendix L: Interview Guide – Case Study

LEAD PRACTITIONER

Describe your approach or philosophy of care

   a. What values or principles guide your work?
   b. How have you integrated this within the CCMHS service delivery model?

2. Tell me about the client
   a. Describe the client's attitude towards help-seeking and the therapeutic process
   b. What were the client's presenting concerns?
   c. What is generally known about the mental illness with which this client contends?
   d. What were your initial thoughts about this case?
3. Explain your initial treatment plan for this client, including your rationale for therapeutic approaches you planned to use.
4. Tell me about working with this client
   a. Did the plan change at any point during the athlete's care?
   b. Have there been any "wins" or "breakthrough moments" for this client during the course of your sessions?
   c. What challenges has the client encountered during the course of care?
   d. What challenges have you encountered during the course of care provision?
5. Tell me about any interaction you or the client had with the support practitioner on this client's CCT
   a. What considerations drove your decision to work with the support practitioner on this case, or not?
6. How would you describe the "outcomes" of the therapeutic process so far?
7. What lessons, if any, have you learned through your work with this client?
   a. Is there anything you would do differently in the future?
8. Is there anything we didn't discuss that you feel is important to mention?

CARE COORDINATOR

1. How did you receive the referral for this client? Who made the referral?
2. Describe the client (e.g., sport history, demeanor) in your own words
3. What concerns or challenges did the client convey to you during the intake interview?
   a. On which indices of mental illness included in the CCMHS intake survey did the athlete score positive? Were these reflective of the client's testimony during your intake interview?
4. What variables informed your decision to assign the lead and support practitioners to this client's team?
5. What factors, if any, facilitated and/or hindered your work as Care Coordinator with this client?
6. What lessons, if any, did you learn through your work with this client?
   a. Is there anything you would do differently in the future?
7. Is there anything we didn't discuss that you feel is important to mention?

Appendix M: CCMHS Implementation Phase: Guide for interview with practitioners

Interview Objectives:

1. Understand whether practitioners perceived the mental health service delivery model to have facilitated the provision of *appropriate* care.
2. Assess practitioners' views on the *acceptability* of the mental health service delivery model.

The "mental health service delivery model" encompasses: the collaborative approach to care employed, reporting mechanisms (Electronic Medical Records), CCMHS policies/procedures, telehealth platform, care coordination, and the monetary flows.

Part I: Appropriateness of Care

This part of the interview will address practitioner views regarding the appropriateness of care provided. Appropriate health care is "the right care, provided by the right providers, to the right patient, in the right place, at the right time, resulting in optimal quality care" (Canadian Medical Association, 2015, p. 2). The interview will address the following questions:

1. In your view, what were the strengths and limitations of the mental health service delivery model?
2. To what extent were you personally able to successfully deliver appropriate (i.e., the 'right') mental health care to the athletes? Please explain and give examples.
    a. Within the collaborative care model, how did the background/education/skill sets of your colleagues (i.e., other members of the mental health service delivery team) impact the care you were able to provide?
3. To what extent did working in an interdisciplinary and collaborative setting impact the effectiveness of the care you and your colleagues provided athletes? Please explain how you judged care to be effective or not.
    a. Probe: Were athletes able to meet their treatment/athletic/personal goals?
4. What impact (if any) did the setting (physical location or e-platform) in which care was provided have on athlete-outcomes (e.g., therapeutic alliance, athlete adherence to intervention, effectiveness)?
5. To what extent did a knowledge of (or past participation in) sport impact the appropriateness of care you provided (e.g., therapeutic alliance, athlete buy-in)?
6. Is there anything you would change about the mental health service delivery model or the CCMHS in order to be better able to provide appropriate care (i.e., provide the right care, by the right providers, to the right patient, in the right place, at the right time, resulting in optimal quality care)?

Part II: Acceptability of Care

This part of the interview is designed to assess practitioner views regarding the acceptability of the mental health service delivery model after 9 months of delivering care using this model. Specifically, questions will address:

7. *Affective attitude:* Overall, how do you feel about the mental health service delivery model?
8. *Burden/opportunity cost:* As a member of the mental health service delivery team, how much effort did you have to invest to provide adequate mental health care to athletes? To what extent did this team/context energize you and/or burden you?
    a. Did you have to give up anything to be a member of the mental health service delivery model and provide mental health services to athletes using this model? If so, please explain and give examples.
9. *Ethicality:* To what extent does the mental health service delivery model align with your values/philosophy as a practitioner?
10. *Intervention coherence:* To what extent do athletes understand the mental health service delivery model and how it works within the CCMHS? Did you explain these concepts to them?
11. *Perceived effectiveness:* To what extent was the aim of the mental health service delivery model achieved in the context of the CCMHS?
    a. *Reminder: The aim of the model was to provide specialized, interdisciplinary mental health services in an effective, timely, and reliable manner.*
12. *Self-efficacy:* Can the athletes implement what they learned as a result of your care within the CCMHS? Please explain and give examples.

Is there anything else you would like to share about the mental health service delivery model, the CCMHS, and your participation in this research?

Appendix N: CCMHS Implementation Phase: Guide for interview with service-users

Interview Objectives:

1. Understand whether service-users perceive the care they received as *appropriate*
2. Comprehensively assess service-user perceptions of the *acceptability* of the care they received (guided by the Theoretical Framework of Acceptability)
3. Gather service-user perspectives regarding the *effectiveness* of the care they received, including if/how the care's effectiveness impacted their athletic performance

Part I: Appropriateness of Care

This part of the interview will address service-user views regarding the appropriateness of care provided. The interview will address the following questions:

1. Have you ever accessed mental health services before being referred to the CCMHS?
   a. If yes, how did the care you received elsewhere compare to the care you received at the CCMHS?
   b. Did you find the care delivered at the CCMHS to be (a) more appropriate, (b) less appropriate, or (c) as appropriate as the mental health care you have previously received? Please provide examples. Here 'appropriate' refers to care that is suitable to you, care that meets your needs and preferences, and care that helps you recover and function better in your sport and daily life.

   Overall, did you find the care provided by the team of practitioners at the CCMHS to be appropriate?
   a. Comment on the intake process. Was it effective and efficient?
   b. Comment on the type of care you received. Was it effective and comprehensive?
   c. If you worked with more than one team member, how effectively did they work together? Did they complement each other?
2. How would you describe the practitioners' knowledge of your sporting environment and needs? How did this impact your relationship with them and the effectiveness of the care you received?
3. Did the setting (physical location or e-platform) in which you received care have any impact on your care and the achievement of your performance and personal goals? Please give examples.
4. Is there anything you would change about the care you received, the team, or the CCMHS to increase your level of satisfaction?

Part II: Acceptability

This part of the interview is designed to assess service-user views regarding the acceptability of the mental health care model after receiving care. Specifically, questions will address:

5. *Affective attitude*: What was your attitude/feeling about getting services at the CCMHS before you started working with practitioners there? Did this attitude/feeling change over time? Please explain.
6. *Burden/opportunity cost*: As an athlete receiving services at the CCMHS, how much effort did you have to invest to get adequate mental health care? To what extent did the team of practitioners/context energize you and/or burden you (e.g., was it difficult for you

to travel to the CCMHS and schedule appointments, were you motivated to come to the CCMHS)?
    a. Did you find yourself thinking you could be doing more valuable things with your time?
    b. Can you attribute any social costs to getting services at the CCMHS (e.g., experience, stigma)?
7. *Ethicality*: To what extent did the practitioners provide professional and ethical services that met your needs (e.g., were in line with your own values, beliefs, ethnicity)? Was this important to you? Please explain.
8. *Intervention coherence:* To what extent do you understand the goals of the mental health care model and the CCMHS?
9. *Perceived effectiveness:* How did the services you received at the CCMHS help you? Did the care you received help you improve? Please give examples.
    a. How would you describe your performance in *practice* and *competition* while you received care at the CCMHS?
    b. Would you say that the care you received (a) positively impacted your performance, (b) negatively impacted your performance, or (c) had no impact on your performance?
10. *Self-efficacy:* Can you implement what you learned from the practitioners who worked as with you at the CCMHS (ex. mental or coping skills)? Please explain and give examples.

Is there anything else you would like to add about the care you received, the CCMHS, and your participation in this research?

Appendix O: List of Unfulfilled Group Concept Mapping Statements

Number	Statement	Average Importance
	Business, Policy, and Operations (*n* = 2)	
38	Develop a strategy to leverage public funding resources (ex. public health)	3.81
66	Provide 'safe haven' - a drop-in space for athletes who are struggling during the day and need a quiet, safe space to regroup	3.06
	Communications and Promotion (*n* = 3)	
22	Establish a clear marketing plan for awareness, development and implementation, which includes promotion and social media strategies	3.38
64	Identify community promotion, awareness and engagement strategy	2.94
3	Specifically inform the community of sports medicine how referral is possible when dealing with mental health issues	2.94
32	Establish a social media marketing plan to share athletes (and success) stories	2.88
	Education and Training (*n* = 3)	
70	Create educational program and standards to train specialists to have competencies in both sport and mental health	2.94
15	Develop and provide mental health education and first aid curriculum	2.31
4	Create residency opportunities for a variety of current and future (i.e., student) practitioners	2.13
	Partnerships (*n* = 2)	
85	Link with peer supports as appropriate	3.19
101	Create alumni program that engages recovered athletes in peer-to-peer mentoring	2.94
	Research (*n* = 2)	
94	Embed research model in core operations (ongoing evaluation & commitment to continued improvement)	4.06

73	Research the effects of medication (ex. on performance)	3.56
	Service Delivery (n = 7)	
42	Establish policies and procedures for managing crises	4.44
21	Define process to manage medications for athletes	4.19
37	Develop return to play protocols for specific mental health disorders	4.06
36	Create guidelines for providing after-care for athletes and maintain relationships with recovered athletes	3.38
93	Establish transition plan for athletes graduating from CCMHS into community	3.38
92	Include sports medicine components to extend reach, accessibility, and defy stigma	3.13
40	Provide alternative therapies (e.g., music therapy, nature therapy)	2.19

Note. Average importance is the average rating (out of 5) the statement was assigned by stakeholders during the *Structuring* step of the Group Concept Mapping Activity when asked to evaluate the importance of including the statement in the sport-focused mental health care model within the CCMHS.