

Applying the RE-AIM Model to Asset-Based Community Health Interventions:
A Multiple Case Study in Tower Hamlets, London, UK

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Glossary of Terms

RE-AIM Model: Reach, Effectiveness, Adoption, Implementation, Maintenance Model

WHO: World Health Organization

UK: United Kingdom

NHS: National Health Services

SOC: Sense of Coherence

GRRs: Generalized Resistance Resources

M, C, R, O: Mechanism, Context, Regularity, Outcome (Realist Evaluation)

BME (Stop Tobacco Project): Black Minority Ethnic

BMI: Body Mass Index

HEY: Healthy Early Years

CINAHL: Cumulative Index to Nursing and Allied Health Literature

CMO: Context-Mechanism-Outcome configuration

SAfH: Social Action for Health (Community Organization)

Abstract

Public health policy and practice principally acknowledge a needs-based approach when developing, implementing, and evaluating community health programs. This needs-based perspective receives criticism because it focuses too heavily on what is missing or wrong with communities as opposed to building on their strengths. As a result, community members are perceived as passive recipients, which is disempowering, and ultimately risks creating unsustainable and ineffective programs. In recent years, there has been a growing interest in achieving a balance between the needs-based approach and the asset-based approach, which accentuates positive capabilities. While the amount of literature discussing the benefits of this latter perspective has grown substantially, accompanying evaluation required to sustain continued investment has been limited. Compared to needs-based research, there is less literature on asset-based evaluation. Emphasis on such research could contribute to the progression of evaluation methodologies and theories, ultimately encouraging their use. The purpose of this study is to apply an existing public health evaluation framework – the RE-AIM model (Glasgow, Vogt, and Boles, 1999) – to asset-based community health interventions and to examine the utility of such an evaluation structure across a variety of asset-based health projects. A multiple case study design facilitated comparison of the applicability of the RE-AIM model dimensions – Reach, Effectiveness, Adoption, Implementation, and Maintenance across three cases in the East London borough of Tower Hamlets, United Kingdom. These included the Local Links Asset-mapping project, the Healthy Early Years Project, and the Good Moves project. The RE-AIM framework is additionally guided by principles of the Realist Evaluation approach (Pawson and Tilley, 1997). This research study contributes to asset-based research by providing a guideline and conceptual framework to support asset-based intervention evaluation theory and practice.

Keywords: Community engagement; Evaluation; Asset-based; RE-AIM; health assets; Tower Hamlets; Realist Evaluation; London; United Kingdom; Salutogenesis; Asset Model; Asset-mapping; Multiple Case Study

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Chapter 1: Introduction

1.1 Problem Definition

“Just as there is a need to re-think traditional epidemiological assumptions in order to produce a new evidence base for which assets contribute to producing health rather than which deficits contribute to producing disease, there is a need to re-think traditional assumptions related to evaluating the effectiveness of health interventions aimed at strengthening health assets as opposed to eliminating or curing diseases.” (Hills, Carroll, and Desjardins, 2010, p. 77)

Since the late 1970s, there has been increasing criticism directed towards the current public health mindset (Antonovsky, 1979; Idriss, Lolik, Khan, and Benyoussef, 1976). According to Russell (2009), this perspective, called the needs-based or deficit approach, takes root in the science of epidemiology, and defines health narrowly as a lack of disease, making it “pathogenic” in origin. The problem with using this approach uniquely is that by emphasizing negative health outcomes, it focuses too heavily on communities' problems and deficits, instead of also considering their assets, strengths, and capabilities, to help solve health issues. This imbalance toward the negative often ignores the causes of the community needs in the first place (Russell, 2009). When community needs are acknowledged, the needs-based approach alone does not properly address where to obtain the resources required to resolve these health issues.

Additionally, the needs-based approach does not inherently involve community members in the research process, disempowering them from solving their own health problems, and ultimately causing unsustainable health programs due to communities' developed dependence on outside health services (Hills et al., 2010).

For example, Petrosino, Turpin-Petrosino, and Buehler (2003), compared nine needs-based crime-prevention projects, which exposed youth to the consequences and challenges of poor decision-making in the judiciary system in an effort to deter them from committing offences in the future. The evaluation of these projects revealed that instead of improving community crime rates as initially intended, on average they

resulted in an increase in risky and criminal youth behaviour (Petrosino et al., 2003). This article demonstrates how using the needs-based approach on its own was not effective at bringing positive and sustainable community change. It also supports the notion that the needs-based approach does not address the multi-dimensionality of health.

According to the World Health Organization (WHO), health incorporates a holistic set of negative *and* positive factors, i.e., negative and positive physical, mental, environmental, social, and spiritual factors (WHO, 1948). The needs-based projects described focused on negative factors such as fear of incarceration, instead of building a foundation of more sustainable positive attributes in youth, such as civic engagement to help prevent crime, which may have contributed to their objectives not being met.

The asset-based approach is a method that considers the strengths and capabilities of communities while still recognizing the importance of acknowledging community needs to solve health issues. As opposed to the needs-based approach, which builds upon community deficits, the asset-based approach focuses on building resources by defining and mapping health assets in broader social and environmental contexts. This participatory and collaborative approach inherently encourages community member participation in the public health process, which empowers individuals to solve their own health issues by developing new skills, knowledge, and collaborative networks in the community. With more individuals taking cooperative action, the burden on health services decreases, showing how the asset-based approach is more sustainable than the needs-based approach (Morgan and Ziglio, 2007).

To demonstrate the positive potential of this approach, one example is the Olweus Bullying Prevention Program (Greenberg, Domitrovich, and Bumbarger, 2001). This primary prevention program involved students, parents, and staff from 39 American elementary, middle, and junior high schools with the objective of decreasing bullying in these schools. The participants were educated on the impact of bullying, and one-on-one meetings with victims, bullies and families were conducted to help build positive support networks. As a result of this inclusive and empowering method, the program yielded a 20% bullying reduction rate, demonstrating how tailoring programs to building

community strengths and awareness (both assets) supports positive health and social outcomes (Greenberg, Domitrovich, and Bumbarger, 2001).

Another example includes the Beacon Project, in Falmouth, UK, an asset-based project that transformed the Beacon Estate (NHS North West and Department of Health, 2011). In 1996, the Beacon Estate was considered one of the most deprived areas in the country. The English government abandoned practically all efforts to help improve the region (NHS North West and Department of Health, 2011). Only when local residents took initiative, creating resident associations and partnering with government councils to voice their opinions - essentially building their assets in the form of collaboration and positive communication - did change occur. Through their tenacity to communicate positively their frustration to the government, the residents of Beacon Estate provided important insights and received funding to rebuild their community. By 1999, audits revealed incredible improvement in health and social outcomes. For example, post-natal depression decreased by 70%, overall crime rate decreased by 50%, childhood asthma rates decreased by 50%, local fuel bills had been cut by £180,360 per annum, as well as other positive community changes, winning the Beacon Project several awards and becoming internationally recognized for its success (NHS North West and Department of Health, 2011). Since then, the community continues to experience benefits of this approach, such as a zero rate in teenage pregnancy in 2004 and a generation of £1 million in estate revenue (NHS North West and Department of Health, 2011). Both the Olweus Project and the Beacon Estate are examples that demonstrate the positive power of asset-based approaches for communities.

The asset-based approach originated in the 1970s, and was given much credence with the seminal work of Antonovsky (1979). With the increasing criticism of the sole use of the deficit approach in recent years, the asset-based approach has had some opportunity to shift the momentum from a needs basis to a perspective where needs and assets are shared. There is nevertheless limited research and standardization in methodology within the asset-based approach to public health, which challenges a paradigm shift within the field of public health (Hills et al., 2010). It is thus necessary to conduct further studies in asset-based methods to help reclaim the balance between the

more institutionalized needs-based approach and the asset-based approach. More specifically, research should emphasize the standardization of asset-based evaluation methodologies that build on the Asset Model that Morgan and Ziglio (2007) developed.

The Asset Model represents the asset-based approach in the form of a three-part cycle (Morgan and Ziglio, 2007). The first section of the cycle encompasses the development of scientific evidence based on the positive (or what is known as “salutogenic”) perspective of asset-based research. The second section of the cycle incorporates real-world application of the asset-based approach in practical exercises (i.e., mapping of current assets in communities, otherwise known as asset-mapping (Kretzmann and McKnight, 1993). The third section of the cycle consists of the evaluation of both asset-based theories and practice. A growing amount of literature exists for the first two sections, but significantly less exists for the evaluation section. Encouragement for asset-based health interventions therefore becomes considerably more difficult due to this imbalance within the Asset Model cycle. A lack of research and standardization of evaluative methodologies challenges support for the effectiveness and overall usefulness of the asset-based approach toward improving health in communities. By improving evaluation methods, there is an opportunity to demonstrate the relevance of an asset-based approach in public health.

One strategy to contribute to standardizing evaluation of the asset model is to explore the applicability of evaluation tools from other domains to asset-based approaches. In light of this, the purpose of this thesis was to explore the applicability of the public health RE-AIM evaluation model. Using a multiple case study design, guided by principles of the realist evaluation perspective, an analysis of the RE-AIM model was conducted evaluating three cases in the East London borough of Tower Hamlets, UK. The RE-AIM public health evaluation model systematically categorizes evaluation by Reach, Effectiveness, Adoption, Implementation, and Maintenance dimensions for a given intervention (Glasgow, Vogt, and Boles, 1999; Gaglio and Glasgow, 2012). It has the potential to provide insight into the comprehensiveness or relevance of a given health intervention, and accordingly, it is beneficial to compare the utility of this model across

different cases of asset-based projects. The pertinent research questions and objectives are presented below.

1.2 Research Questions and Objectives

The following research questions and objectives were the focus of this study across three asset-based interventions in London, UK:

1. How have the Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) been understood and applied across different types of public health interventions to date and how could they potentially be applied to asset-based community health interventions?

Objective 1: To understand the definitions and key indicators of the RE-AIM dimensions Reach, Effectiveness, Adoption, Implementation, and Maintenance through findings in the literature, and to propose a structure on their application to asset-based community health interventions.

2. How can the dimensions of the RE-AIM model be applied to the evaluation of selected asset-based community health interventions within the East London borough of Tower Hamlets?

Objective 2: To apply Reach, Effectiveness, Adoption, Implementation, and Maintenance evidence-based indicators to three cases of the asset-based community health interventions in the East London borough of Tower Hamlets using the RE-AIM model.

3. How can asset-based health interventions evaluation methodologies be improved for community public health?

Objective 3: To find emergent themes from interview and textual data and incorporate mechanisms, contexts, and regularities principles of the Realist Evaluation perspective into the RE-AIM evaluation analysis.

1.3 Plan of Thesis Document

In the next chapter, the thesis develops the research problem within a review of the literature. This review first presents the needs-based approach in more detail and describes the shortcomings in using this approach for health promotion. Then, the asset-based approach is described, as well as its role in public health. The Morgan and Ziglio (2007) Asset Model is presented in more detail, outlining the concepts of salutogenesis, asset mapping, and evaluation. A large portion of the literature review is subsequently dedicated to evaluation in public health. The RE-AIM model and the guiding concept of Realist Evaluation are explained. The literature review then describes the community in which the research was based, and culminates by demonstrating existing gaps in the described literature and their implications on research.

Chapter 3 of the thesis presents the research methodology. This section includes the qualitative multiple case study design, community application, case selection, recruitment protocol, as well as the data sources, collection, and analysis as pertinent to the cases from Tower Hamlets, London, U.K.

Chapter 4 describes the results of the content analysis, while Chapter 5 discusses the interpretation of the research as well as recognized limitations. In Chapter 6, in addition to conclusions, contribution to research, and implications for practice, areas of future research are also discussed.

This thesis document includes the cited references and other materials in a comprehensive bibliography. Finally, appendices are provided including case selection data, the consent form, the semi-structured interview questionnaire, ethics certificate, recruitment notices, confidentiality agreements, and data tables.

Chapter 2: Literature Review

The literature review begins with a presentation of the needs-based approach including its definition and its relevance in public health. This chapter continues by defining the asset-based approach as well as its importance in public health. The Asset Model is then explained, as well as its subsections of salutogenesis, asset-mapping, and evaluation. A section of the literature review focuses on the role of evaluation in public health, introducing the RE-AIM evaluation model and the Realist Evaluation approach. The penultimate section of the review describes the community application, and the final section provides a summary of the literature that was key to developing the methods for data collection and analysis for this research.

2.1 The Needs-Based Approach

The needs-based approach (otherwise known as the deficit or traditional approach) is a perspective focused on what health system resources are available to meet anticipated health service needs (Khadka, 2012; Fakhri, Seyedin, and Daviaud, 2014). This approach uses “the basis of health risks, morbidity, and the need for health services” as its fundamental building blocks (Birch and Eyles, 1991, p.ii-iii). In other words, the needs approach fixates on risk and incidence of disease, as well as other disease or harm-causing factors. It functions under the assumptions that: 1) it is possible to meet the needs, 2) they should be met, and 3) the demand is equivalent to those needs (Dreesch et al., 2005; Daviaud and Chopra, 2008).

The needs-based approach has the potential to contribute to health systems in a variety of different ways including needs-assessments, and resource and funding allocation. Within the literature, it is well-documented how a majority of public health projects are formed upon this foundation (Halkier and Jensen, 2011; Pyett and Waples, 2008). For example, one Iranian study utilized the needs-based approach to address family health staff requirements in Kashan City, Iran. It calculated the number of health services that should be delivered and compared it to the number of health services each

staff member is capable of providing. The study provided insight into what family health staff need to fulfill their professional duties (Fakhri et al., 2014).

Another study demonstrated how several Canadian provinces developed needs-based funding models in response to health system policy changes, program and health service regionalization reforms in the last three decades. This deficit model was chosen to address improper resource allocation, since previous frameworks were criticized for rewarding utilization of institutional care (McIntosh et al., 2010). The model was used to help distribute resources and ultimately address health inequalities (McIntosh et al.). These two examples demonstrate that needs-based approaches are used across multiple levels, from local communities to macro political settings.

Despite these contributions, there are several gaps in public health which the needs-based approach cannot arguably address alone. First, the approach eliminates the possibility of differences between populations being responsible for health outcomes by statistically adjusting the data by certain variables. In the Canadian funding model example, the needs-based funding formula was age and gender adjusted, so the causes for unequal health needs could not be attributed to either variable since they were standardized throughout the data (McIntosh, et al., 2010). This statistical adjustment implies that important factors with regards to differences in populations are disregarded in this approach. Secondly, the needs-based approach does not focus on the reason why particular needs or deficiencies exist in the first place. In the crime-prevention project mentioned in Chapter 1, youth were exposed to the aftermath of poor decision-making in the judiciary system. There was little acknowledgment in this project regarding the importance of addressing the causes that bring people into the judiciary system (Petrosino et al., 2003). Thirdly, the needs-based approach struggles in solving health needs sustainably without continuous community dependence on institutional budgeting and services. Both these articles mention little about the sustainability of the formula and project.

In the previous example, minimal effort was invested in empowering individuals to improve their own health and well-being. By highlighting negative health outcomes, the needs-based model emphasized unsustainable, top-down and non-participatory

approaches (Halkier and Jensen, 2011; Hansen, Holm, Frewer, Robinson, and Sandoe, 2003; Eden, 2009). It emphasizes communities' negative traits, perpetuating prejudices and stereotypes. The needs-based approach does not encourage better everyday health practices, or empower individuals and/or communities (Green, 2008; Hankivsky and Christoffersen, 2008; Carlisle and Cropper, 2009; marsha, 2010). As a result of these criticisms, researchers and practitioners recognize that the needs-based approach is not sufficient for addressing health inequalities, and an additional complementary model is required to satisfy these shortcomings (Pyett and Waples, 2008; Fakhri et al., 2014).

2.2 The Asset-Based Approach

The literature review continues by presenting the asset-based approach. In the following section the role of the approach is described, as well as its importance within public health.

2.2.1 Definition and Examples

The asset-based approach is a perspective that invests in the positive, holistic, and preventative aspects of public health. As the name suggests, it was established upon the concept of health assets and aims to build individual and community strengths and capabilities to improve health and well-being. Health assets consist of a set of collective resources or protective factors that people may use to promote health, decrease negative health impacts, and gain more control over the determinants of health (Morgan and Ziglio, 2007). The approach has existed since the 1970s, specifically originating as the Theory of Salutogenesis, as introduced by Antonovsky in 1979, which now plays a significant role in the asset-based approach (Antonovsky, 1996; Morgan and Ziglio, 2007). Similar participatory and community-centered methods have also existed for several decades within initiatives labelled "community development" (Idriss, Lolik, Khan, and Benyoussef, 1976).

One reason why the asset-based approach has had difficulty gaining support is the nature of health assets. Health assets have many forms and characteristics. They can be

narrow or broad in definition, describing resources that promote health at an individual, community, and/or organizational level. They have roots in various fields beyond health, such as financial, physical, environmental, and even human resource domains (Morgan and Ziglio, 2007). Table 2.1 provides an inventory of health assets in the context of the scale of the health system they are designed to serve, as adapted from Morgan and Ziglio (2007). Overall, health assets are multi-faceted in complexity, domain, and interpretation, mirroring the broader nature of health. While this complexity is important because it represents reality more accurately, it poses a challenge for researchers in their evaluation because health assets become more difficult to distinguish and to categorize (Hills et al., 2010).

Table 2. 1 Preliminary inventory of health assets at various levels within the health system and their context as adapted from Morgan and Ziglio (2007)

<u>Health System Level</u>	<u>Inventory of Health Assets</u>	<u>Context</u>
<u>Individual</u>	Social competence, resistance skills, commitment to learning, positive values, self-esteem and a sense of purpose	Includes prevention activities for youth that focus on protective factors to build resilience and inhibit high-risk behaviours such as substance abuse, violence, and dropping out of school
<u>Community</u>	Family and friendship (supportive) networks, intergenerational solidarity, community cohesion, affinity groups (e.g. mutual aid), religious tolerance and harmony	Includes cohesiveness of a community measured by a set of strong and positive interlocking networks. The asset has the potential to be health promoting irrespective of the levels of disadvantage in that community.
<u>Organizational or Institutional</u>	Environmental resources necessary for promoting physical, mental and social health, employment security and opportunities for voluntary service, safe and pleasant housing, political democracy and	Health systems across Europe are under-utilized instruments for social and economic development. In an asset model, planners would ask how health services can use their resources (and maximize their assets) to help reduce health inequities by impacting on the wider determinants of health, to

	participation opportunities, social justice and enhancing equity	build stronger local economies, safeguard the environment and to develop more cohesive communities.
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An increasing amount of research exists on developing indicators and classification for health assets so they can be measured and defined more systematically. Examples include a Canadian study that identified health asset indicators for Aboriginal communities. The University of Saskatchewan partnered with Indigenous communities to produce a compendium of indicators meant to measure health outcomes. Examples of such indicators include population growth rates, percentage of people reporting unsafe drinking water, and percentage of respondent communities involved in health transfer (Anderson, Smylie, Anderson, Sinclair, and Crengle, 2006). This compendium becomes a tool for measuring health outcomes and for providing information on where to find the measurements through online and offline sources.

Another example includes The European Community Health Promotion Indicator Development Model, which classifies public health indicators within broader sociological dimensions. This model demonstrates a system that retained a balance between salutogenic and pathogenic perspectives (Bauer, 2006). Systems such as this help standardize asset-based approaches in practice by providing more systematic ways of categorizing and defining health assets.

2.2.2 Application and Importance in Public Health

The asset-based approach holds value as a positive complementing approach to the needs-based lens within public health. This approach is not only inherently linked to population health determinants, but also provides a fuller depiction of health in the context of society, as well as encourages positive and sustainable health behavior and outcomes.

The asset-based approach is integral for health because evidence shows that the determinants of population health are closely linked to the health assets of a given community (Hills et al., 2010). This notion is further supported by expressing health as a

process or continuum (WHO, 1948; Lindström and Eriksson, 2010). On one side of this continuum lie the determinants of population health such as education, income, location, and infrastructure. In the middle are data, goals, and motivation to attain health. On the other end of this continuum there is health improvement, which can be attained by the activation of the health assets (Kelly, 2010). Health assets become integral in the process of creating and improving health because once activated, they are responsible for bringing about change. Being aware of what assets exist in a community becomes the first step in achieving better community health.

The asset-based approach is also pertinent to current health issues because it addresses the wider context of the socio-ecological environment, thus satisfying a more holistic definition of health (Pyett and Waples, 2008). Ziglio et al. (2000) wrote that the greatest improvements in health come from mainly social and economic progress. If positive resources beyond only those of biophysical nature such as social and economic factors can be better understood, their argument stands that not only will the factors that explain increased productivity and development become better understood, but also population health factors (Ziglio, Hagard, McMahon, Harvey, and Levin, 2000). By considering the effect of the wider environment on health outcomes, a comprehensive image of health mechanisms may be better understood. The philosophy of the asset-based approach incorporates this holistic mentality and thus provides a fuller and more dynamic picture of the workings of health in society.

The asset-based approach contributes positively to public health by identifying and strengthening assets that communities possess, rather than accentuating communities' shortcomings. It also places community members in the role of co-producers of public wellness rather than passive recipients. It empowers communities to take action in community health development interventions and simultaneously helps reduce inequities. Such a model leaves room for empowerment and decreases the dependence of communities on outside initiatives (Morgan and Ziglio, 2007).

2.3 The Asset Model

In the extant literature, the introduction of Morgan and Ziglio's (2007) Asset Model paved the way for development and research in the field of asset-based approaches. This model has become a key tool in understanding the cycle of the asset-based approach process and reveals strengths and weaknesses of the approach, which ultimately provides direction for future investment. The Asset Model and its pertinent sections are presented in the following section. Its role within public health and its limitations are also described.

2.3.1 General Definition

The Asset Model (Figure 2.1), developed by Morgan and Ziglio (2007), is a general structure that unifies the theory, action, and evaluation principles of the asset-based approach. Its purpose is to help reclaim a balance between the needs perspective and the positive asset-based approach. This model is split into three different sections. The first, describes the synthesis of an evidence-base oriented around Antonovsky's Theory of Salutogenesis (Antonovsky, 1996). The second section puts such evidence to action through the engagement of community members in asset mapping activities. The third and last section is the evaluation of the asset-based community activities. The components of this model are outlined in more detail below.

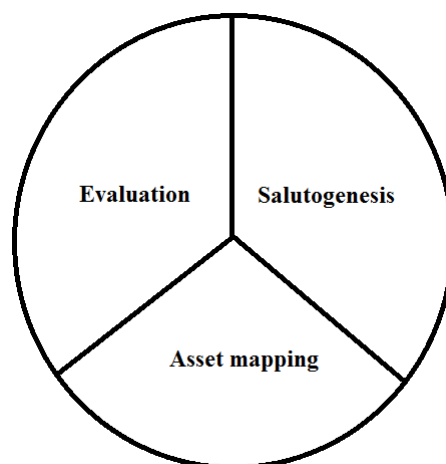


Figure 2. 1 Morgan and Ziglio's Asset Model

2.3.2 The Theory of Salutogenesis

The first section of the Asset Model is often described as the evidence-base of the asset-based approach. This positively angled section of research is built upon Antonovsky's Theory of Salutogenesis (Antonovsky, 1996). As opposed to pathogenesis, the perspective that examines the prevalence of disease, salutogenesis emphasizes the prevalence of and contributors to health instead (Lindström and Eriksson, 2010). This health-originating theory began the paradigm shift from the pathogenic perspective to the salutogenic in public health (Antonovsky, 1996).

Salutogenesis is based upon the "sense of coherence" (SOC), which consists of factors that allow people to remain healthy and improve their health in stressful situations (Antonovsky, 1996; Lindström and Eriksson, 2010). This SOC is formed within the first thirty years of a person's life and can be found on individual, group, and societal levels (Lindström and Eriksson, 2010). In conjunction with SOC, the second fundamental concept in salutogenesis is of "generalized resistance resources" (GRRs). These GRRs consist of biological, material, and psychosocial factors like money, knowledge, skills, and traditions that help people perceive their world as more consistent (Lindström and Eriksson, 2010). The Theory of Salutogenesis is therefore based upon the idea that the SOC a person possesses is the flexible factor by which their GRRs are activated, and which ultimately helps them cope with stressful situations (Lindström and Eriksson, 2010).

Relating the Theory of Salutogenesis to health, it is generally accepted that people with a high SOC tend to have a higher level of health (Lindström and Eriksson, 2010). That being said, SOC is not the equivalent of health, but rather contributes to the potential to develop and maintain it (Lindström and Eriksson, 2010). From this theoretical foundation, the Theory of Salutogenesis becomes a tool for health promotion (Lindström and Eriksson, 2010). Antonovsky never specified that SOC is the only concept that helps individuals move toward health, and so this notion opens the opportunity to other resources, or assets, such as resilience, sense of permanence, and a family's sense of reality to be considered tools for health improvement (Antonovsky, 1996). Therefore, it is from the Theory of Salutogenesis that health assets are introduced

into health promotion, which marks the beginning of the Asset model and the development of the asset-based approach.

Evidence developed from the Theory of Salutogenesis is different from traditional evidence-based medicine because of the complexity and multidisciplinary nature of health assets (Killoran and Kelly, 2004; Morgan and Ziglio, 2007). As more evidence is developed to support the links between various assets and their role in health promotion, it is crucial to acknowledge the differences between previous data collection approaches and the asset-based approach. More fundamentally, research needs to define assets clearly and identify appropriate indicators.

Examples of existing salutogenic evidence includes a study by Bartley, Schoon, Mitchell, and Blane (2010) that presents findings on *resilience* as an asset. The authors presented three specific models on how to define resilience, and argued how complex assets like resilience may hierarchically incorporate several more health assets within its definition and development process (Bartley et al., 2010). Additionally, they pointed out how the activation of assets like resilience increases other assets such as capability.

Another study demonstrated methods for *measuring* resilience as an asset. The authors adopted a combination of several existing scales and indices to measure health outcomes related to resilience (Wille and Ravens-Sieberer, 2010; Brähler and Klaghofer, 2001; Winkler and Stolzenberg, 1999; Donald and Ware, 1984). This strategy clarified resilience as an asset and its position within the whole network of health assets, and revealed indicators and methods to measure assets. The authors found that some assets may be broader than others in definition, may be linked to others in various ways, and can be measured by different methods. Through their research the authors affirmed that assets form complex networks of definitions and relations that contribute to health improvement.

Salutogenesis, the first section of the Asset Model, provides a positive research perspective through which assets are pursued and either defined, classified or measured according to specific indicators or indexes. This positive evidence-base helps explain how to manipulate assets, inform policy, and provides a foundation for implementing programs and initiatives within communities through the asset-based approach.

2.3.3 Asset Mapping

The second section of the Asset Model is asset mapping. The main purpose of this section is to apply the salutogenic evidence to practice, through the engagement of community members in asset mapping activities. As described in their 1993 publication, Kretzmann and McKnight define asset mapping as “a process of building an inventory of the strengths and gifts of the people who make up a community” (Kretzmann and McKnight, 1993). Asset mapping provides a record of the positive resources and protective factors that individuals and communities possess likely to contribute to the resilience of the whole community. Typically, developed society naturally views the world from a deficit model and veers away from community-based participation and towards organizational control (McKnight, 2010). The issue is that the surrounding community is largely ignored and thus supports a top-down generalist approach to decision-making that, at times, may not address issues correctly or even sustainably. Community engagement, and as an extension, asset mapping, thus becomes a strategy for pushing forward the salutogenic evidence base, raising awareness of community assets, and shifting from the needs-based perspective to a more balanced community lens. In general, the premise of the asset mapping section is to move salutogenic research toward practice by exploring community assets, community engagement, and promoting community empowerment, development, and general involvement in their own health improvement.

Important to note is that while the terms *interventions* and *programs* have slightly different interpretations, health promotion and public health literature does not provide a clear definition delineating the two (Lam, Dawson, and Fowler, 2015; Bopp, Peterson, and Webb, 2012; Silva et al., 2016). For this reason, these two terms are used interchangeably within this thesis research.

An example of how assets translate into action includes reshaping current public health interventions into more positively and holistically thought-out initiatives. For instance, Rütten, Abu-Omar, Seidenstucker, and Mayer (2010) attempt to widen the concept of “sport/exercise” in a particular intervention by incorporating a more socio-

cultural concept of “movement”. This changed the target activities from only physical training to include “work, transportation, training, and social action” and modifying the main outcomes of fitness and physical health into physical, mental and social health, community connectedness, and engagement supportive environments (Rütten et al., 2010, p. 199). This transformation of perspective not only paints a more complete picture of physical activity throughout the day, but also more accurately describes the many more assets and achievements that a person obtains by participating in non-classical forms of physical activity such as walking to work, or climbing stairs. Without this holistic picture, it appears that more people follow a sedentary lifestyle, which may lead to erroneous presumptions about human behaviour (Rütten et al.). Furthermore, the researchers conducted focus groups to compare what target groups considered assets within their communities as opposed to experts (Rütten et al.). The overlapping assets identified by both groups were then targeted for community application.

Many initiatives like the one above have been conducted to help translate asset-based knowledge into health practice. Involving communities in the development, implementation, and evaluation phases of health development is a concept garnering support from federal institutions as they have become a requirement for many government programs (Popay, 2010). As research clarifies and supports health assets within salutogenesis, and applies assets through asset mapping and community engagement activities, asset-based approaches in general become transparent within public health research. What needs to follow is a similar growth in the evaluation of such asset-based activities and research.

2.3.4 Evaluation of Asset-based Activities

The third and last section of the Asset Model is the evaluation of the asset-based community activities. The purpose of this part of the model is to confirm or deny the success of reaching given objectives in asset-based health initiatives by means of evidence originating from asset-based indicators. Despite the growing enthusiasm for asset-based approaches, there is still a lack of evaluation. The effectiveness of asset-based interventions is not fully understood in the wider literature (Hills et al., 2010). The

underrepresentation of evaluative evidence is attributed to a few challenges within the nature of health assets themselves. Firstly, the definition of health assets is still ambiguous and suggests a broad scope, which presents challenges for measurement. Despite attempts of current research to define these assets more clearly, this problem still remains (Durlauf 1999; Durlauf, 2002). McQueen and Noack (1998) argue that indicators created by various researchers to measure assets use imprecise and ambiguous methodologies. Their message conveys that health assets need to be clearly defined and operationalized. Secondly, despite the association between health assets and positive outcomes, the definitions of the terms do not necessarily support equity in health improvement. On average, assets improve health, but they may not produce positive outcomes on every person identically. For this reason, health assets cannot be understood simply through their definition but within their social context (Durlauf and Fafchamps, 2006; Potvin, Mantoura, and Ridde, 2007).

To promote evaluation, and subsequently help develop the asset-based approach, Morgan and Zigilo (2007) argue there are several changes required to change the needs-based zeitgeist. Research and practice need to shift from the pathogenic model that focuses on morbidity and mortality towards a balanced approach with the salutogenic model that targets health and well-being. Simultaneously, the focus from single disease model must be redirected towards multiple dynamic models. The scope must also be broadened from individual-based thinking to wider community and systems-level thinking. Evaluations for asset based approaches will naturally be complex and multidisciplinary like the interventions they are meant to evaluate, so it is important to consider all these changes (Morgan and Ziglio, 2007).

Hills et al. (2010) conclusively suggest three ideas to help support asset-based evaluative frameworks: (i) subtler measurement approaches for health assets; (ii) more attention to socio-ecological contexts; and (iii) more innovative analytical strategies that embrace complexity. Furthermore, factors important to evaluation initiatives include simplicity in engagement initiatives; more action on the local, regional and national levels from initiatives with stronger community empowerment focus; more dynamic

interventions and evaluations for initiatives with greater emphasis on community engagement (Popay, 2010).

2.4 Evaluation Models

This next section expands on the evaluation theories and models to be employed in this study. The guiding theory of Realist Evaluation relevant to this research will be explained, followed by the RE-AIM model, which is applied as a framework within the methodology of this thesis.

2.4.1 Realist Evaluation

Realist Evaluation, as introduced by Pawson and Tilley (1997), is a process evaluation theory that incorporates the realist philosophy in its fundamentals. It originated as a response to the shortcomings of the quasi-experimental model of evaluation. The premise of the previous model is that two nearly identical groups of subjects are matched, and while one is treated and the other acts as a control, they are measured before and after a particular treatment, and compared for outcomes (Pawson and Tilley, 1994). While the strength of quasi-experimental evaluation lies in its ability to assert clearly whether an applied treatment has an effect on experimental subjects, its weakness lies in its lack of interest in why and how particular programs are linked to given outcomes (Pawson and Tilley, 1994). As Pawson and Tilley (1994) point out, when studies attempt to mirror the real world more accurately and thus become more complex, even the best examples of the quasi-experimental model tend to yield little in terms of action implications, generalizable conclusions, and evidence of progression. The London or Birmingham Experiment for instance, a sophisticated quasi-experimental study that measured the impact of several social and demographic characteristics on the “fear of victimization”, provided little practical knowledge and insight for authorities to address crime, despite having a complex and rigorous quasi-experimental design (Bennett, 1991, p.3-4; Pawson and Tilley, 1994). The methodology itself failed to address the

mechanisms that led to the outcomes and how to improve crime rates and rates of fear (Pawson and Tilley, 1994).

The realist philosophy alternatively considers a more dynamic design to explain real-world phenomena and build empirical knowledge. It delves into a more complex and sociological view of the world (Pawson and Tilley, 1997). The fundamental principle of Realist Evaluation can be described as a relationship consisting of three elements:

$$\text{Mechanism} + \text{Context} = \text{Regularity}$$

Or

$$M + C = R$$

In this relationship, the *mechanism* of an intervention is the “explanatory action”. It describes the cause of a process or outcome occurring within a given health intervention. Examples include physical mechanisms like physical exercise or social mechanisms such as choices and capacities people possess that may lead them to health improvement (Pawson and Tilley, 1997). Mechanisms can also be micro or macro (M^* and M^* , respectively), such as individual-level mechanisms like smoking habits or institutional-level mechanisms such as smoking advertisement campaigns. Finally, mechanisms may be tangible or intangible such as financial capital or organizational capital, respectively (Barney, 1991).

The *context* includes a set of conditions that enable the mechanism to produce a particular outcome. This concept implies that only a specific context will provide a specific outcome for every mechanism. It reflects the idea that health assets affect people differently according to context. Alternatively, the relationship between mechanism and outcomes are dynamic, so if the boundaries of a specified context are exceeded, the mechanism will therefore produce a modified outcome (Pawson and Tilley, 1997). Examples of contexts include socioeconomic status, or geographic climate and location.

The *regularities* term encompasses social rates, associations, outcomes and patterns as produced within a health intervention. Sometimes, this element is simply *outcomes* (making the relationship $M + C = O$, i.e., $O = R$), but using *regularities* provides a more inclusive term of other types of results for a health intervention.

Regularities may include examples such as changes in health behaviour, education levels, and awareness.

Together, these elements provide a way of looking at phenomena in a real-world social context. The design provided by Pawson and Tilley (2004) demonstrates first how the outcome (O) is fundamentally the final step (Y) in an internal pathway that a research participant takes to experience a change from initial state X to new state Y ($X \rightarrow Y$) (see Figure 2.2). Contrary to quasi-experimental design, Realist Evaluation dictates that an external mechanism can modify this transformation at any point in the pathway in any number of ways, thus altering the process and producing a modified outcome. This philosophy has the potential to explore how external forces directly impact the outcome of a given intervention or program. In the design of Pawson and Tilley (2004), the context surrounds both outcome and mechanism and can influence each individually or in combination. The context element of this design has the potential to explore and explain how external forces indirectly impact not only the outcome of given interventions but also the mechanisms acting on outcomes (Pawson and Tilley, 2004).

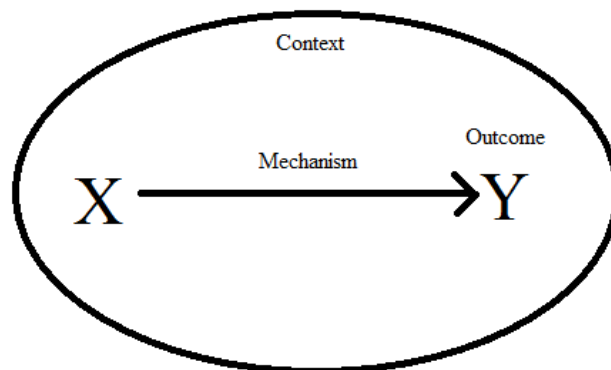


Figure 2. 2 Principles of Realist Evaluation

Through the combination of these elements, Realist Evaluation arguably provides a more accurate understanding and representation of real-world processes. Evaluation paradigms based on experimental research produce systems that use controlled contexts to manufacture predictable outcomes focus on static states of existence, otherwise known as Successionist Evaluation. Realist Evaluation, on the other hand, uses generative

evaluation, a type of evaluation that looks at the process of change within natural contexts leading to certain outcomes. Programs in the realist perspective thus have successful outcomes if the appropriate mechanisms are applied within the appropriate socio-cultural contexts (Pawson and Tilley, 1997). In the context of asset-based approaches, which naturally consider the wider socio-ecological context, such a process evaluation becomes more appropriate than an experimental design. It forces researchers to consider health as an ever-changing process and to consider explanatory mechanisms within different contexts.

2.4.2 The RE-AIM Model

Parallel to the Realist Evaluation perspective, which facilitates a holistic view of health, the RE-AIM model allows for a systematic and more granulated method in approaching evaluation for asset-based approaches. The RE-AIM model is an evaluation framework that systematically breaks down the evaluation of public health interventions into their Reach, Effectiveness, Adoption, Implementation, and Maintenance dimensions (Glasgow et al., 1999). RE-AIM was developed by Dr. Russell Glasgow in the late 1990s in response to the need for evaluation methods that looked beyond simple end results and considered interdisciplinary and complex outcomes, simultaneously incorporating the representativeness of both people and settings within interventions (Glasgow et al.). This consideration of outcomes and settings mirrors the realist evaluation approach while suggesting more specific categorization. Since its inception, the RE-AIM model has been successfully applied to many projects within several health-related disciplines, making it appropriate for this health research study.

The RE-AIM model dimensions (Glasgow et al., 1999) include:

1. REACH: defines the individual level of participation, i.e., the quantity of participants as well as their defining qualities such as age, gender, and ethnicity. Reach is most often displayed as a numeric percentage and demographics are used to describe what subgroups of people participated within the intervention/program (Brace et al., 2015; Gaglio and Glasgow,

- 2012). This dimension also reveals the involvement of hard-to-reach populations.
2. EFFECTIVENESS: is an individual level measure which focuses on the impact of the intervention on primary outcomes, quality of life, unanticipated outcomes and subgroups (Brace et al., 2015; Gaglio and Glasgow, 2012). These particular outcomes include biological, psychological, behavioural, and even social consequences that can be positive or negative as well as qualitatively or quantitatively based measures (Glasgow et al., 1999). This dimension not only describes the goals of the intervention, but also how they were measured. The name of this dimension in the original model was Efficacy, which oriented towards goals attained in controlled settings (called explanatory trials). Further development of RE-AIM research developed the term Effectiveness, which focuses on goals attained in a “real-world” setting (called pragmatic trials), and which is more appropriate in this research (Gartlehner, Hansen, Nissman, Lohr, and Carey, 2006).
 3. ADOPTION: Just like Reach, this dimension concerns the characteristics of populations, and looks at how well the intervention extended into various types of settings. It looks at the “proportion or representativeness of settings like work sites, health departments, or communities” (Brace et al, 2015; Glasgow et al., 1999). It is an organization-level indicator where the types of questions that pertain to Adoption could ask about enablers and barriers within populations and settings to the adoption of the intervention or program (Glasgow et al.).
 4. IMPLEMENTATION: looks at whether the intervention was delivered as intended (Glasgow et al., 1999). This indicator is also organization-level and considers the success of an intervention in following the appropriate methodologies, consistency across program-element implementation, and whether costs allowed maximization in intervention effectiveness (Gaglio and Glasgow, 2012; Glasgow et al.).

5. MAINTENANCE: is either a program or individual level indicator that looks at the long-term effects of the given intervention. This dimension reports on the sustainability in participation of the program, and whether particular factors enhance or disable the sustainability of the intervention (Brace et al., 2015; Gaglio and Glasgow, 2012).

The RE-AIM model is a powerful tool for public health due to its flexibility in application. In its early years, it primarily focused on outcome (or “summative”) and quantitative evaluations (Gaglio and Glasgow, 2012), but later, the applicability of the model expanded to include process (or “formative”), qualitative and mixed-method evaluations in individual and community settings (Gaglio and Glasgow, 2012). As of 2012, 129 peer-reviewed publications used RE-AIM in their study design in disciplines as various as policy, pharmacy, and anthropology (Gaglio and Glasgow, 2012). These publications include a range of qualitative, quantitative, and mixed-method methodologies and a variety of recruited participants providing a unique combination of perspectives (Brace et al., 2015; Mahabee-Gittens, Dixon, Vaughn, Duma, and Gordon, 2014; Tapp et al., 2014; Zanko, Hill, Estabrooks, Niewolny, and Zoellner, 2014). Despite the cross-cutting nature of RE-AIM in different fields of research, there exists a gap in its explicit use for asset-based approaches and in multiple case studies (as opposed to the more common single case studies).

2.5 Community Application

The concepts of the RE-AIM model, Realist Evaluation approach, and the asset-based approach all depend heavily on the context of their application. For this study, the social context and geographical area in which data collection took place is the London borough of Tower Hamlets, UK.

Tower Hamlets (Figure 2.2) is located on the central east side of London, bound by the Thames River (south), and boroughs Newham (east), Hackney (north), and the City of London (west) (Tower Hamlets, 2015b; Tower Hamlets, 2015a). The name originated by association of the Tower of London – one of the most famous tourist attractions in the

borough – and the Hamlets (small villages) surrounding it (Tower Hamlets, 2015a; Merriam-Webster, 2015). In addition to the Tower of London, Tower Hamlets is known for icons such as Brick Lane or the “curry capital”, and the Spitalfields Market (Tower Hamlets, 2015a).



Figure 2. 3 Map of Tower Hamlets, located in East London, UK

This borough covers an area under eight square miles yet is home to approximately 263,000 residents as of 2012, making it the second most densely populated borough in London, and the third most densely populated area in the country (Tower Hamlets, 2015a; Tower Hamlets Council, 2013a; Tower Hamlets, 2015b). Factors that contribute to this density include a high daytime population (approximately 428,000 people), and a relatively high population turnover rate in London (8th highest in London) (Tower Hamlets Council, 2013a). In other words, statistics estimate that nearly half a million people populate the borough daily for work, school, and tourist attractions, and the rate at which people relocate to and from the borough to live is within the top third in the city, respectively.

Tower Hamlets is a vibrant borough, home to a multitude of ethnicities, religions, languages, and occupations (Tower Hamlets Council, 2013d). Within this dynamic community, however, social and health inequalities exist which challenge positive outcomes for the borough. For instance, a proportionally higher percentage of people self-reported bad or very bad health (6%), in comparison to the London average (4.2%) (Tower Hamlets Council, 2013a). Furthermore, smoking and child obesity rates are of

concern also because they compare higher to the London average (London Health Commission, 2013). These examples are but a few in a list of poorly ranked health indicators for the borough, and despite some recent improvements, still accentuate the need for positive and sustainable approaches to public health, such as the asset-based approach (Trust for London and New Policy Institute, 2015).

This research study was conducted in London, UK, as a result of a previous research partnership between the University of Ottawa and Dr. Antony Morgan at the Glasgow Caledonian University – London campus (GCU London), located in Tower Hamlets. Researchers within this partnership wanted to develop an evaluative framework for asset-based approaches in the local context, an idea from which this research originated. The area of Tower Hamlets, London, UK thus served appropriately as the research context for this study for three reasons.

First, there is a need for effective and sustainable approaches to positively address health and social inequalities in the borough. Some examples of these health and social issues include significant overcrowding in homes, and a very high average of self-reported poor health (Tower Hamlets Council, 2013a). There are also high levels of deaths attributed to smoking (405 in 100,000 in 2011-2012) and air pollution (second highest strata in London) (London Health Commission, 2013). The borough ranks among the highest in London for childhood obesity (27%), and overall, scores poorly with regards to indicators such as child poverty, unemployment, premature mortality, and inequality in life expectancy (London Health Commission, 2013; Trust for London, and New Policy Institute, 2015; Tower Hamlets Council, 2013c).

Secondly, despite the health and social inequalities, the borough of Tower Hamlets has many unique characteristics that could contribute to future community development. For instance, this mid-sized local authority has seen the highest population growth in the country over the last 10 years; an increase of 29% since 2001 (Tower Hamlets Council, 2013c). The residents of the area form a diverse conglomerate from over 200 countries with the largest population groups from Bangladesh, India, China, Italy, and France (Tower Hamlets Council, 2013d). Overall 90 languages are used in the borough (such as English and Bengali) and a variety of different religions are followed (majority of which

are Muslim and Christian) (Tower Hamlets Council, 2013b; Tower Hamlets Council, 2013c). Tower Hamlets has the highest proportion of young people (ages 21-28) among all boroughs in London, therefore also having a very high proportion of younger working age residents (Tower Hamlets Council, 2013c). This particular borough experiences high day-time populations with many visitors and commuters passing through each day, and a high turnover population explained by the rate of transient residents (Tower Hamlets Council, 2013c).

The third reason this community was chosen is because there is promising governmental support for asset-based approaches in the area. The Tower Hamlets Council in 2013 published the *Report on the Scrutiny Review of Community Health Assets*, which demonstrated recognition of the importance of the asset-based approach in public health. The purpose of the report was to introduce the concept of assets, in relation to health, into the borough (London Borough of Tower Hamlets, 2013). This review identified pertinent health assets such as social networks, physical spaces, and collaborations between local organizations and provided preliminary recommendations on how to further encourage the asset-based approach in the communities (London Borough of Tower Hamlets, 2013). The initiative showcases the willingness of the local government to engage in asset-based approaches. Applying the RE-AIM model to this initiative would help perpetuate the motivation for asset-based interventions and standardization thereof; providing a way of facilitating the development of asset-based evaluative methodologies to encourage motivation to further disseminate the approach into communities.

2.6 Summary

This literature review described the needs approach and the difficulties it presents in addressing several issues within public health. The review also presented the asset-based approach and how it could complement the needs-based approach, to improve population health and reduce health inequalities. The Asset Model provides a clear method of representing the asset-based approach and demonstrates how evaluation practices are lacking in asset-based research.

The literature review also described the Realist Evaluation philosophy and how it incorporates broader social contexts and mechanisms. The review also demonstrated how the RE-AIM model provides a systematic way of evaluating asset-based interventions.

The review also introduced the community application focus. The borough of Tower Hamlets was briefly described in preparation for the multiple case study research, as well as the reasoning for choosing this area for this study.

In the next chapter the research methods are discussed, including a description of the multiple case study design, how cases were chosen, how key informant participants were recruited, and how data were collected and analyzed.

Chapter 3: Methodology

This chapter presents the methodology for the thesis research. It includes the research design, as well as the methods for the case selection, data sources, recruitment protocol, data collection, and data analysis.

3.1 Research Design

The overarching purpose of this research was to test the applicability of the RE-AIM model for evaluation of asset-based community health interventions with application to Tower Hamlets. To represent the complex and rich nature of these kind of interventions, the research consisted of a qualitative, multiple case study design.

The multiple case study design was adopted to facilitate a comparison of the RE-AIM model when applied to different cases of asset-based community health interventions in Tower Hamlets, London, UK. As opposed to the single case design, the multiple case study design explores the comparisons and contrasts of two or more different cases, and is therefore generally considered more robust (Herriott and Firestone, 1983). It is also well-suited for complex issues because it contributes to understanding real-world phenomena in their contexts, which aligns with the realist perspective (Pawley and Tilley, 1997). As previously mentioned in the literature review, asset-based community health interventions are complex in principle, and the Realist Evaluation approach focuses on understanding the mechanisms of phenomena in the context of the real-world; making the multiple case study design appropriate for this study.

To conduct this study, qualitative methods were used. Qualitative research allows exploration of complex interventions and their evaluations in asset-based research, while catalyzing the empowerment of individuals within the community, making it ideal for this study (Creswell, 2013). Qualitative research also allows the researcher to implicate himself or herself as an instrument in the data collection, which parallels community-based participatory approaches (Creswell, 2013). There is an imbalance between qualitative- and quantitative-based studies using RE-AIM. Currently, the majority of articles applying the framework are quantitative or mixed-method designs. It is only

recently that qualitative methodologies have been employed, and there are even fewer studies that explicitly consider both community-based and asset-based approaches within their focus. This research therefore explored qualitative and community-based methods in RE-AIM research.

A multiple case study design provided a clear method to compare the applicability of the RE-AIM model between multiple asset-based community health interventions. Tower Hamlets falls within the lower strata of London boroughs in regards to health and quality of life, and has only recently begun to participate in asset-based initiatives, therefore having a more robust evaluation method could encourage local health care professionals to engage in asset-based interventions that would further improve health benefits. It is this logic that could bring comparability of methods to the community, providing a reference point for others to follow.

Figure 3.1 shows the research design categorized by tasks of each research question. The process was iterative and some parts began before others had finished. The methodology for each section is outlined in more detail below.

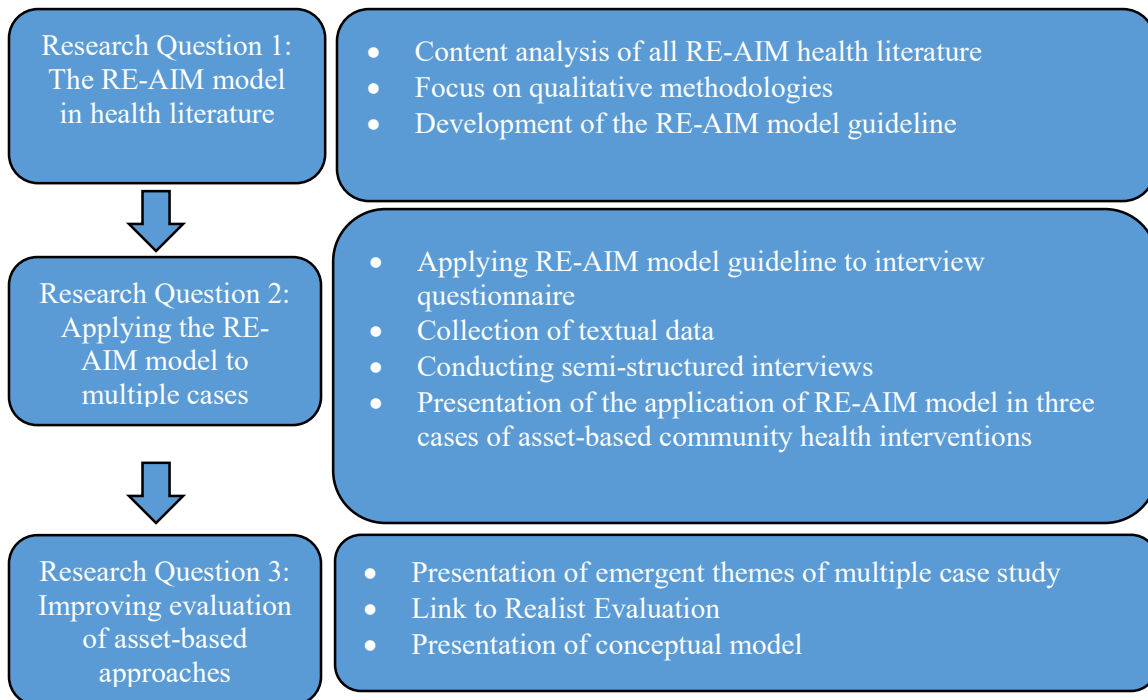


Figure 3.1 Research Design

3.2 The RE-AIM Model in Health Literature

In the first research question, content analysis of available RE-AIM literature was conducted to understand how the five dimensions could be applied to asset-based community health interventions. To conduct this analysis, the search terms “RE-AIM” and “health” were inputted into databases including Scopus, Pubmed, Scholars Portal, CINAHL, and PsycInfo. After duplicates were removed, articles with full text available were downloaded. No other exclusion criteria were considered. Following the collection of available publications, definitions and measurements of Reach, Effectiveness, Adoption, Implementation, and Maintenance dimensions from each article were manually and systematically extracted into an Excel spreadsheet database. The table was filled in by the principal investigator and three research assistants. Approximately 5% of the articles were verified to ensure robustness in the method of data extraction.

For this research study, we were interested in qualitative indicators and so we used the available qualitative RE-AIM health articles for the analysis. The definitions and measurements were coded to provide more succinct descriptions. Ultimately the coding provided a list of RE-AIM indicators representative of the model’s use since its development in 1999. These indicators were reorganized into a structured framework format for ease of use (presented in Chapter 4, “Results”).

3.3 Applying the RE-AIM Model to Asset-Based Community Health Interventions

For the second research question, three asset-based community health intervention cases were identified and archival and interview data were collected from each to produce the multiple case application of the RE-AIM evaluation model.

3.3.1 Case Selection

A preliminary online search was conducted for potential health intervention cases using Google as a search engine, which led to health organization websites, media articles, and online grey literature. The search was narrowed to yield a list of seven community asset-based health project cases. Table 3.1 presents a brief summary of these seven cases, displaying each project name, project type, organization type, intervention

setting and outcome, as well as whether the intervention was completed or is ongoing (A more detailed version is presented in Appendix A, “Seven Asset-based community health interventions cases in Tower Hamlets found in online search”).

Table 3.1 depicts the fundamental characteristics for each project/case. First, the majority of projects are classic health interventions, aimed at changing individual behavior within communities and achieving an overall change in population health. These projects range in focus, from smoking cessation programs, such as the BME Stop Tobacco Project, to weight loss projects, such as the My Weigh Project. Secondly, all projects are implemented with the help of some community organization or local institution such as the Sustrans Charity Organization or Tower Hamlets Public Health council, respectively. Thirdly, the majority of projects target the whole borough. The exceptions are the Health Early Years Project targeting only schools, and Bike it – U Can 2 with Ocean’s 11, which focused on implementing interventions in one primary school and one particular estate, respectively. There was a mix of complete and ongoing projects among the seven projects reviewed. This preliminary list was then narrowed to the final three projects described below.

Table 3. 1 Summary of information found in online search for seven asset-based community health intervention cases in Tower Hamlets

<u>Project Title</u>	<u>Project type</u>	<u>Hosting organization type</u>	<u>Intervention setting</u>	<u>Intervention Change</u>	<u>Intervention outcomes</u>	<u>Complete/ Ongoing</u>
BME Stop Tobacco Project (BME Stop Tobacco, 2016)	Smoking cessation program	Academic Institution	Borough-wide (Ethnicity-based)	Changing individual behaviour	Individual behaviour change leading to overall population decrease of rates of smoking	Continual service
The Goodgym (Goodgym, 2016)	Physical Fitness/ Civic Engagement	Grassroots community organization	Borough-wide (runner-based)	Changing individual behaviour	Individual behaviour change in physical fitness for members and community volunteer work leading to overall population increase of physical health community development	Continual service
Bike it – U Can 2 (Sustrans, 2009)	Cycling program	Large charity organization	One school (gender-based)	Changing individual behaviour	Individual behaviour change in physical activity leading to overall population increase of physical health	Complete
Ocean's 11 (McBrierty, 2014)	Cycling program	Large charity organization	One small region (gender-based)	Changing individual behaviour	Individual behaviour change in physical fitness leading to overall population increase in physical health and community development	Complete
Healthy Early Years Project (C4EO, 2011)	Health Accreditation project	Local government	Borough-wide (school type-based)	Changing population behaviour (location-based)	Health Promotion activities aimed at changing individual behaviour change leading to overall organizational changes	Continual Service
My Weigh* (Social Action for Health, 2012b)	Weight loss program	Community development organization	Borough-wide (BMI-based)	Changing individual behaviour	Individual behaviour change leading to overall population increase in health	Continual service
Local Links (Tower Hamlets Local Links, 2016)	Asset mapping project	Local government	Borough-wide	Asset mapping	Asset-mapping exercise and community assets	Preliminary stage complete

*The MyWeigh project was later replaced with the Good Moves project

The three asset-based community health intervention cases selected for this study were: (1) Local Links (LL), (2) Healthy Early Years (HEY), and (3) My Weigh (later replaced with the Good Moves project). They each occupy different settings - and consist of different kinds of activities.

The following inclusion and exclusion criteria were used to achieve this case selection. To maintain uniformity in cases, only community public health projects – as opposed to campaigns and multi-project initiatives – were included in the final results. All the health project cases needed to be community-based, meaning they had some purpose of improving the overall health and well-being of residents within the community. They also needed to employ an asset-based approach, building on resources within the given target of the intervention. Lastly, they all needed to have a health component, where their goal was either to improve individual health, population health or health assets. Some potential cases were excluded, due to a lack of information, or lack of focus on health assets.

Based on the information above, the variables that swayed the decision toward the final three cases were the project type and the intervention outcome. The host organization type was not considered because all projects were implemented by organizations and institutions on similar levels, and therefore did not provide enough diversity for the study. Intervention setting was one consideration for project selection, however, in comparison to the project type and intervention outcome, these are similar and provided little variation in sampling.

The first case (Local Links Asset Mapping Project) recruited community members to identify available and tangible assets in the borough so they can be presented together on an online asset search tool. The target of this project did not focus on directly changing the behavior of people or the structure of institutions, but rather on gaining awareness of the current health assets in the communities. The preliminary mapping has been completed, and ongoing maintenance is to follow (Tower Hamlets Local Links, 2015). The second case (The Healthy Early Years Project) is an ongoing project which is part of the larger Tower Hamlets healthy borough program, focused on implementing activities within Nursery Schools, Children's Centres, and Early Year Settings to help the

schools attain Healthy Early Years Accreditation (C4EO, 2015). This project targets institutional outcomes, rather than individual changes in health behaviour. The third case was originally the My Weigh project, a classic health intervention designed and implemented by the community development organization SAfH in partnership with the Bromley-by-Bow Health Centre. It is a continual, free, one-year program available to overweight/obese individual adult residents in the Tower Hamlets Borough who desire to lose weight (My Weigh, 2015). Upon the request of SAfH, the case was later replaced with Good Moves (GM), a similar lifestyle self-management intervention designed and implemented by the same organization. This new program is also a continual, free, and is a 6 to 8 week program available to those with diabetes or other chronic conditions living in Tower Hamlets (Social Action for Health, 2012a) As opposed to the HEY that brings activities to children in schools, GM depends on individuals pursuing the program from the community.

These projects include individual, institutional, and borough-wide health system levels of intervention. In addition, they are at different stages of implementation; the first two have been ongoing for at least five years, while the third has yet to be evaluated. This selection of projects covers a broad spectrum of asset-based interventions in Tower Hamlets.

3.3.2 Data Sources and Collection

For this research, multiple data sources were used, including documentary evidence, as well as qualitative semi-structured interviews with key project informants who supplemented the information available online to facilitate purposive data collection. This triangulation of data was designed to increase rigour (Yin, 1998).

Documentary evidence included any available information regarding case information, such as project descriptions and reports, and was collected from websites and other online or private sources, and organized in a database. It also included textual information later provided by project coordinators.

Semi-structured qualitative interviews for both the Local Links, and Healthy Early Years projects were generated with key informants (see also Chapter 4, Section 4.2 for

more detail). Data for the semi-structured interviews originated from responses to the interview questions. The interview guide, informed by the RE-AIM model guideline from the first research question included questions regarding the Reach, Effectiveness, Adoption, Implementation, and Maintenance of the programs. These questions were open-ended with prompts to allow for maximization of explanation and information. Questions pertaining to the Reach of the intervention addressed the element of proportion and representativeness of participants involved in the interventions. The Efficacy/Effectiveness questions addressed outcomes of each intervention. The questions related to Adoption included topics regarding the representativeness of settings within the interventions. The Implementation questions focused on whether the intervention was delivered as intended. Finally, the Maintenance questions asked about the sustainability and long-term impacts of the intervention.

The interviews were conducted in person or by telephone. An audio recorder was used with the permission of the interviewee and field notes were taken by the interviewer. Each interview lasted approximately 35-55 minutes. The audio recordings were transcribed verbatim and checked for accuracy. Data were stored securely, and will be held for five years (see also Appendix E, “Semi-Structured Interview Questionnaire”).

3.3.3 Recruitment Protocol

Prior to recruiting participants for the interview portion of this study, ethics approval was obtained through the University of Ottawa Research Ethics Board and the ethics committee at the Tower Hamlets Council in London, UK. Please refer to Appendix “B - Ethics Certificates”. As well, the researcher needed to establish rapport with the project coordinators and other management staff of each of the three cases’ implementing teams. This relationship was developed by extensive correspondence through email, telephone, and in-person meetings where the goals and objectives of the research were explained, and the interests of each party were considered. Ultimately, an agreement was made with the Tower Hamlets Public Health Council to engage in collaborative research on the Local Links and the Healthy Early Years projects. To align more optimally with the interests of SAlH, it was at this point that the MyWeigh project was substituted for Good

Moves, a similar ongoing project of theirs that required case evaluation. However, after several discussions between the researchers and the project team, interview data collection for this program was not feasible.

For the Local Links and the Healthy Early Years projects, participants were purposively selected for interviews, to supplement information available for each case. To accomplish this step, program coordinators were asked to forward a Recruitment Notice, by email, to colleagues and/or individuals involved in their programs. Interested participants were asked to contact the researcher to sign up for the study. Once participants replied to the recruitment notice, the researcher conducted a brief in-person or telephone meeting to discuss the details of the project and to explain the participants' roles so they would understand the protocol. They were provided with a project summary, consent form, and interview questions. Written informed consent was obtained prior to each interview. (See Appendix D – “Ethics Application Consent Form”, Appendix E – “Semi-Structured Interview Questionnaire”, and Appendix C – “Recruitment Notice” for the documents that were submitted to the research ethics committees for approval).

The inclusion criteria for the interviews included two types of participants. The first category comprised of professionals involved in the planning, implementation, and/or evaluation of the community health intervention. These participants were either part of the organization or engaged through other organizations integral to the program (e.g., nurses, physicians and technical professionals). The second category of participants was community members who are or have been direct participants in one of the interventions.

The recruitment strategy was to recruit 6 participants per case for a total of 18 interviews. It was intended that an equal number of professionals and participants would be included in each case to ensure balanced and uniform perspectives in the interviews. Hypothetically, if more than 6 individuals were to volunteer for each case project, participants would have been selected on the basis of representation. For example, if the community members that participated in a particular project belonged to multiple areas within Tower Hamlets, it would have been ideal to have as many of those areas as possible represented in the study. The selection criteria were based on geographical

demographics, as well as degree of involvement in the programs, roles, age, or participant background.

In the Local Links project, examples of professionals include Public Health Council staff involved in the design of the project, and the community members included community members involved in the asset-mapping activity. In the Healthy Early Years project, examples of professionals include staff within the Local Authority involved in the design of the program, and community members included school staff who participated in the activities, as well as parents of children who attended schools involved in the activities. In total across both projects, n=9 participants were interviewed. For Local links, 7 professional participants were recruited and 2 professional participants for Healthy Early Years. No participants were recruited for Good Moves due to challenges arising in the logistics of community engagement with SAfH, prompting the final decision not to recruit. For each of the three cases, please refer to Table 3.2 for participants interviewed for this research. All participants were over the age of 18.

Table 3. 2 Participants recruited in three asset-based community health intervention cases

<u>Case</u>	<u>Local Links</u>	<u>Healthy Early Years</u>	<u>Good Moves</u>
Professionals	7*	2	N/A
Community Members	1*	0	N/A

* 1 participant acted as both a professional and a community member

As well as interview data, textual data for each case were also collected, including content from websites, evaluation reports and other documentation provided from the project team relevant to the project. Table 3.3 presents a list of all the textual data included in the analysis.

Table 3. 3 Textual data used in three asset-based community health intervention cases

Local Links	Healthy Early Years	Good Moves
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• “Proposal – Community asset mapping North East Tower Hamlets” (PDF) • “Local Links Asset Mapping Project – uses, impacts and sustainability” (PDF) • “About – Local Links: A Tower Hamlets initiative in Community Asset Mapping” (Web page) • Online asset map (web page) • “Asset mapping in Bow East and West, Bromley by Bow and Mile end East” (Advertising document) • “Proposal – South East Tower Hamlets” (PDF) • “New wards Post Boundary Change Oct 2013” (Map – print out) • “Evaluation of the Asset mapping project” (Referenced in interview and print out) • “Participatory Appraisal – A handbook for facilitators” (booklet) • Budget information (print out) • “Asset mapping commissioned by Tower hamlets Public health” (PPT print out)	• “Tower Hamlets Healthy Early Years accreditation: A Chance for you to be a part of the project!” (Advertising poster) • Excerpt from project description (PDF) • “Becoming a healthy borough: tackling the social and environmental causes of obesity in Tower Hamlets: Tower Hamlets Healthy Borough Programme Phase 1 Progress Report: Executive Summary September 2011” (NHS - PDF) • “Early Years, Childhood and Adolescent health in Tower hamlets – Tower Hamlets Public health October 2012 – Appendix 2” (NHS – PDF) • “Healthy Eating, active lives in Tower Hamlets (HEALTH): children and young people” (Web page) • “Women’s Health and Family Services: Healthy Start Champions” (Web page) • “Healthy Early Years Accreditation, Tower Hamlets” (C4EO evaluation, web page) • “Healthy Early Years Audit Tool” (PDF)	• “Good Move 2011-2012 Report: Social Action for Health” (Social Action for Health, 2012c) • “Good Move end of Year Certificate Event 2012” (Web page) • “Good Moves” (old and new version - Web page) • “Tower Hamlets Projects” (Web page) • “Health equity in primary care: Cardiovascular disease, diabetes and COPD in inner east London: Summary Final Report” (PDF) • “A Community Development approach to engaging local people and supporting skills development/ Project title: Developing lay people – truth to power” (PDF) • “Social Action for Health: working with communities to improve health and wellbeing” (Pamphlet) • “Social Action for Health Annual Report 2014” (Pamphlet)
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Respondents were considered for interviews on a first-come/first-serve basis. They were notified of this selection process in the recruitment notice and the researcher reiterated this information in writing by email or telephone correspondence. For

confidentiality purposes, participant names, the title of their organization, position, and role in intervention were omitted from the written transcripts, analysis, and final publications. Regardless, it is possible that due to the specific nature of the information they provided as part of the interview process they could be identified by peers or community members in the final publications due to their contributions. These details are included in the consent form (Appendix D – “Ethics Application Consent Form”).

Additionally, research assistants supporting the study were required to sign a confidentiality agreement prior to handling any participant data (please refer to Appendix F – “Confidentiality agreement”).

3.3.4 Data Analysis

Directed qualitative content analysis was used to evaluate textual and interview data. Content analysis is a method of systematically organizing textual data to understand it (Mayring, 2000; Miles and Huberman, 2014). The purpose of content analysis is to understand a phenomenon, and look at data “that is the product of open-ended data collection techniques aimed at detail and depth rather than measurement” (Forman and Damschroder, 2007, p.40). For this reason, content analysis was ideal for both the documentary evidence and the analysis of the semi-structured interviews in this study.

To conduct content analysis, three categories of processes were employed as suggested by Forman and Damschroder (2007). They included immersion, reduction, and interpretation phases of the data (Forman and Damschroder, 2007). Immersion allowed the researcher to become familiarized with the data. Reduction saw the organization of the data into more manageable pieces, and interpretation took the reorganized text and made sense of it with regards to relevant research questions. These three phases formed a fine-tuning process where the data collection and analysis were interlinked, following a circular process where there was constant comparison between what data have already been and have yet to be analyzed, to redefine and solidify concepts (Hennick and Bailey, 2011). Within these processes, steps such as purposeful sampling, case information collection, conceptual frameworks preparation, coding scheme development, and conclusion development were followed (Hennick and Bailey, 2011).

3.3.4.1 Immersion

To satisfy the first of three parts of the immersion phase in content analysis, comment sheets were developed to document first thoughts and analytical insights after each interview (Forman and Damschroder, 2007). These comment sheets allowed for continuity and organic development of ideas throughout the analytical process, and contributed to the evolution of more sophisticated interpretations. As part of the second section of the immersion process, the audio-recordings were studied and replayed. During the third part, the verbatim transcripts and textual documents/artefacts were read several times. Within both the second and third steps, the technique of memo-ing was used to record any triggered thoughts while listening or reading. This immersion process allowed the researcher to become familiar with the participants and authors' opinions and perspectives, and to gain insight into the dimensions of RE-AIM within the context of the cases.

3.3.4.2 Reduction

Reduction provides rigour to the analytical process by systematically reducing the data to a manageable amount relevant to the research questions. To do this, deductive and inductive codes were created and hierarchically organized according to the RE-AIM model and themes using NVivo 10 software (QsrInternational, 2015). First, background knowledge found within literature or previous knowledge was used, which included important jargon and concepts, to create deductive codes within the interview transcripts and other documentation. The deductive codes would then catalyze the development of new inductive codes originating specifically from the data itself, informing the third research question (Forman and Damschroder, 2007). It is important to note that interview data was coded separately from textual data and then later compared to help develop the coding grid.

The first draft of a coding grid was developed using previous information from the literature results in research question one, and revised after being tested on a small section of interview and textual data. This step included reading through the text, making

notes in the margins, and underlining passages that could be categorized in any of the deductive categories or would trigger any inductive codes. Since this is an iterative process, subsequent review of the data clarified these codes and their definitions as well as their organization in relation to each other. A second draft was then finalized, and included both deductive and inductive codes.

The notes were organized into a coding grid that included the list of code names as well as their abbreviated labels, their level within the coding hierarchy, their mutually exclusive descriptions (including clear definitions and inclusion/exclusion criteria), and example quotations (Forman and Damschroder, 2007) (please refer to Table 3. 4 for the full coding grid). The coding grid helped track definition changes within the latter coding process and was used to establish a coding tree with parent, child and grandchild nodes. To ensure rigour, inter-coder reliability was assessed by having a thesis supervisor (TO), code approximately 10% of the data. Discrepancies were discussed, the codes and definitions were revised, and the process was repeated to confirm reliability improved using the revised definitions and codes.

Table 3. 4 Coding Grid

<u>Parent Node</u>	<u>Child Node</u>	<u>Description</u>
REACH		
	<i>Target Participants</i>	Defines who the intervention was intended for and who ultimately participates. Includes the absolute number, proportion, and/or percentage of the people that participated in intervention as well as their demographic details, such as age, gender, ethnicity, and risk factors. Also includes the number and characteristic of non-participants. May include who is willing to participate, eligible to participate, and/or inquiring about intervention, but does not. Finally, information may include distinction between the originally targeted group and who actually ultimately participated in intervention. Excluded are the reasons why participants did or did not participate. Participants in each of the cases may be defined as the following: i) Local Links: community volunteers, ii) Healthy Early Years: children and parents in early year settings, and iii) Good Moves: community members that sign up for programme.
	<i>Enabling Factors and Barriers for Reach</i>	Describes intervention elements and factors beyond that helped make it easier or made it more difficult to recruit participants and to motivate individuals to participate.
	<i>Data Collection on Reach</i>	Information collected by management teams as part of the evaluation process about the intervention's reach. This can include instances mentioned about individuals exchanging information on project progress, data collection, reviews, reports, evaluations, etc., but particularly pertains to how many people participated or did not participate, in the intervention and who they are. Also includes mention of information that was not collected.
	<i>Requirements for Reach</i>	Describes intervention elements and factors beyond that need to occur for successful recruitment of individuals. Included if text directly states that a particular project element was needed as a prerequisite for reaching individuals.
EFFECTIVENESS		
	<i>Goals and Outcomes</i>	Describes the intended outcomes and the actual outcomes of the intervention. Goals are categorized as the interventions' overall targets and have been established prior to the

		start of the intervention. Outcomes are categorized as the results of the project on its participants and settings, which can include change in qualitative or quantitative indicators throughout the course of the project. In this code, included are all goals and short term outcomes, which are results lasting up to 6 months following last intervention contact. Excluded are long-term outcomes that extend further than 6 months following last intervention contact, as these should be coded under “Maintenance – Degree of Sustainability”. Goals and/or outcomes can be further divided into primary – dealing directly with the project’s main purpose, and secondary – dealing with less crucial and/or broader goals and outcomes. Included also are positive and negative goals/outcomes as well as unanticipated outcomes.
	<i>Enabling Factors and Barriers for Effectiveness</i>	Describes intervention elements and factors beyond that helped make it easier or made it more difficult to achieve goals and outcomes.
	<i>Data Collection on Effectiveness</i>	Information collected by management teams as part of the evaluation process about the intervention’s effectiveness. This can include instances mentioned about individuals exchanging information on project progress, data collection, reviews, reports, evaluations, etc., but particularly pertains to how well the outcomes were achieved in the intervention. Also includes mention of information that was not collected.
	<i>Requirements for Effectiveness</i>	Describes intervention elements and factors beyond that need to occur for successful achievement of outcomes. Included if text directly states that a particular project element was needed as a prerequisite for achieving primary and/or secondary outcomes.
ADOPTION		
	<i>Target Settings</i>	Defines what setting(s) the intervention was intended for and which settings ultimately participate. Includes the absolute number, proportion, and/or percentage of settings that participated as well as their characteristics, such as type of setting, size, and industry. Also includes the number and characteristic of non-participating settings. May include what settings are willing to participate, eligible to participate, and/or inquiring about intervention, but do not ultimately participate. Finally, information may include distinction between the originally targeted settings and those which actually participated

		in intervention. Excluded are the reasons why settings did or did not participate. Settings in each of the cases may be defined as the following: i) Local Links: community organizations; Healthy Early Years: Early Years Settings; Good Moves: Training/event/meeting locations
	<i>Enabling Factors and Barriers for Adoption</i>	Describes intervention elements and factors beyond that helped make it easier or made it more difficult to recruit settings and to motivate settings to participate.
	<i>Data Collection on Adoption</i>	Information collected by management teams as part of the evaluation process about the intervention's adoption. This can include instances mentioned about individuals exchanging information on project progress, data collection, reviews, reports, evaluations, etc., but particularly pertains to which settings participated or did not participate in the intervention. Also includes mention of information that was not collected.
	<i>Requirements for Adoption</i>	Describes intervention elements and factors beyond that need to occur for successful recruitment of settings. Included if text directly states that a particular project element was needed as a prerequisite for recruiting settings.
IMPLEMENTATION		
	<i>Methodology</i>	Describes the theoretical outline prepared prior to the delivery of the intervention. This includes any strategies or approaches that implementing teams wished to adopt for the intervention. This code includes people's assigned roles, proposed intervention procedure, the expected timeline, and information on budget. It also includes the description of ownership – grassroots community or top-down institutional design. Excluded are items describing how intervention was in reality delivered, as it should be coded under "Implementation – Delivery".
	<i>Delivery</i>	Describes the actual intervention execution. This includes the steps taken within the methodology, as well as the timing of intervention elements, the consistency with which they were delivered (in terms of regularity of content and delivery time), and actual costs. Excluded is the intended methodology if there is no mention of how it was actually implemented, which should be coded under "Implementation – Methodology".

	<i>Enabling Factors and Barriers for Implementation</i>	Describes intervention elements and factors beyond that helped make it easier or made it more difficult to follow the intervention methodology with fidelity, consistency, and good timing.
	<i>Data Collection for Implementation</i>	Information collected by management teams as part of the evaluation process about the intervention's implementation. This can include instances mentioned about individuals exchanging information on project progress, data collection, reviews, reports, evaluations, etc., but particularly pertains to how the project was delivered in terms of methodology and how far it deviated from the original protocol, and how consistently it was delivered. Also includes mention of information that was not collected.
	<i>Requirements for Implementation</i>	Describes intervention elements and factors beyond that need to occur for implementing the methodology. Included if text directly states that a particular project element was needed as a prerequisite for following the methodology accurately, consistently, and with good timing.
MAINTENANCE		
	<i>Degree of Sustainability</i>	Describes to what degree the intervention was maintained long-term (more than 6 months following last intervention contact). Includes description of intervention elements that are sustained long-term, as well as their long-term effects and impact on individuals' lives and on settings' routines, practices, and policies. Excluded are reasons why certain intervention elements, effects, and impact continue or have been discontinued from the individual participant and/or organizational standpoint.
	<i>Evolution</i>	Describes any revisions, development, or expansion to the intervention goals, outcomes, and methodology throughout the time of implementation. Excluded is the concept of delivery inconsistency, which should be coded under "Implementation – Delivery") and describes irregular intervention delivery. Delivery inconsistency, unlike intervention evolution usually does not lead to an overall shift in the intervention procedure.
	<i>Enabling Factors and Barriers for Maintenance</i>	Describes intervention elements and factors beyond that helped make it easier or made it more difficult to sustain project results, effects, and impact more than 6 months following last intervention contact.

	<i>Data Collection on Maintenance</i>	Describes information collected by management teams as part of the evaluation process about the intervention's sustainability. This can include instances mentioned about individuals exchanging information on project progress, data collection, reviews, reports, evaluations, etc., but particularly pertains to which intervention elements were or were not sustained 6 months after last intervention contact. Also includes mention of information that was not collected.
	<i>Requirements for Sustainability</i>	Describes intervention elements and factors beyond that need to occur for successful maintenance of outcomes more than 6 months following last intervention contact. Included only if text directly states that a particular project element was needed as a prerequisite for continuing the intervention long-term.
FUTURE DIRECTION		Describes intervention's potential future direction and recommendations for improvement. Includes proposed ideas and/or intervention elements different from what was already implemented that may be added to the methodology in the future. As well, includes suggestions and recommendations on how certain intervention elements that were implemented may be improved on in the future.

3.3.4.3 Interpretation

Once the coding was complete, deductive codes were organized per case and presented as separate case studies to provide examples of the application of the RE-AIM model to asset-based community health interventions. This same data was used for the third research question to find cross-cutting emergent themes and demonstrate the link between the RE-AIM model, Realist Evaluation, and the asset-based approach.

3.4 Summary

The methodology chapter presented the multiple case study research design. It described the recruitment protocol, data collection, and the method in which qualitative content analysis was conducted, including a brief description of how the themes were developed. The next chapter presents the results for the study.

Chapter 4. Results

This chapter presents the results for this study. It is structured below according to the results for the three separate research questions.

4.1 The RE-AIM Model in the Literature

The first research question reiterated is: *“How have the Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) been understood and applied across different types of public health interventions to date and how could they potentially be applied to asset-based community health interventions?”* The criteria to identify the definitions and measurements of these dimensions were that they be concrete, specific, and reflect the definitions of these dimensions as presented in the literature.

The literature search yielded 443 publications when the search terms “health” and “RE-AIM” were inputted to online databases. When duplicates and unattainable articles were removed from this list, the final count yielded 193 publications. Focusing strictly on qualitative publications, the final sample included 22 articles that evaluated health interventions using RE-AIM with qualitative methodology. The information from these articles was then coded to produce a shorter and more manageable list. Table 4.1 presents examples of the streamlined information such as target population for Reach and primary and secondary outcomes for Effectiveness. To view the full data results, please refer to Appendix G, “Summary of definitions and measurements of RE-AIM dimensions from the literature”.

Table 4. 1 Examples of RE-AIM indicators from the qualitative health literature

RE-AIM Dimension	Examples of definitions	Examples of measures
Reach	This dimension defines the target population who would use the intervention.	What is the number and percentage of people reached, inquiring, applying, participating, and having access to the intervention?
Effectiveness	This dimension defines the impact of the program on relevant, important, and specified primary and multiple outcomes.	Did the program achieve outcomes?
Adoption	This dimension defines the willingness of settings to initiate the program; which settings implement it, adopt steps, as well as the perceived barriers and solutions.	What is the number, proportion of service providers and consumers who have access to the program, adopt, and are available to deliver the program?
Implementation	This dimension defines the extent to which the program is delivered as intended.	How should the program be delivered (intervention protocol)?
Maintenance	This dimension defines the likelihood of long-term sustainability of the program.	Did the program produce lasting effects at individual or organizational levels?

The literature did not report on the five RE-AIM dimensions uniformly, meaning that within this summary, information was missing from different areas of the five dimensions. If these indicators were to be used in practise, they needed to be rearranged and presented in a consistent way to optimize ease of use. The results were therefore reorganized into a more standardized RE-AIM model guideline presented in Tables 4.2 - 4.6. This guideline provides a breakdown by dimension elements and provides examples of questions for evaluation, as well as indicators. To see how the 22 qualitative publications reported different elements within this standardized framework, please refer to Table 4.7. The evidence-based guideline just described was used to develop the interview questionnaire in research question 2.

Table 4. 2 The RE-AIM model guideline – Reach dimension

REACH	
General description	This is an individual level dimension - how many people the intervention reaches, who they are, and how well the intervention retains their participation, as well as how many people the intervention does not reach, who they are, and reasons for their non-participation.
Dimension specific elements	This dimension defines the target population, including the absolute number, proportion, and/or percentage of the target population participating in the intervention, as well as the characteristics of the participants. If possible, the absolute number, proportion, and/or percentage of target population who does not participate in the intervention, and the reasons for non-participation are also reported in this dimension.
Other dimension elements	Other dimension elements include the assessment of how well the actual participants fit the target population, enabling factors and barriers for recruitment and participation, requirements for recruitment and participation, and methods of recruitment.
Examples of questions for evaluation	• Who is the program intended for? • Who is willing to participate? Who is eligible to participate? Who inquires about the program? Who actually participates? • Demographic details such as age, gender, ethnicity, and risk factors • Who is willing to participate, eligible to participate, and/or inquiring about the intervention, but does not? • Why do non-participants not participate in the intervention? • Are the people reached the ones that need to be reached? • What features of the intervention encourage individuals to participate? • What features of the intervention discourage individuals from participating? • What elements of the intervention need to occur for successful recruitment? • How are the data to be collected for maximum Reach (i.e., interviews, surveys)
Examples of indicators	Examples of Reach indicators (and in particular enabling factors or barriers to Reach) are the participants' previous awareness or knowledge of the program, convenience and ease of access of the intervention for participants.

Table 4. 3 The RE-AIM model guideline – Effectiveness dimension

EFFECTIVENESS	
General description	This is an individual level measure - The impact of the intervention on relevant, important, and specified primary and multiple outcomes. Considered in this definition are both positive and negative outcomes, as well as short-term, mid-term, and long-term outcomes.
Dimension specific elements	This dimension defines potential outcomes, distinguishes between positive and negative outcomes, identifies unanticipated outcomes, and the extent to which the program reached desired outcomes.
Other dimension elements	Other dimension elements include how well the goals and outcomes fit the target population, enabling factors and barriers to successful achievement of outcomes, requirements for successful achievement of outcomes, and methods for achieving outcomes.
Examples of questions for evaluation	• What are the primary and secondary outcomes of the intervention? • What are the benefits of the program? What were the drawbacks of the program? • If any, what unexpected outcomes occurred? • How many outcomes did the program successfully achieve? Which ones? Why or why not? • How well do the goals and outcomes fit the target population? How well do they fit the organization's work? How well do they fit the intervention ethos? Whose perspective is collected to decide this? • What features of the intervention encourage or discourage achievement of outcomes? • What elements of the intervention need to occur for successful achievement of outcomes? • How are data to be collected for Effectiveness (i.e., interviews, surveys)
Examples of indicators	Examples of Effectiveness indicators include changes in behaviour, physiology, economic status, quality of life, patient satisfaction, lifestyle, self-management, health care utilization, and clinical outcomes. Examples of enabling factors or barriers to Effectiveness include convenience, privacy, anxiety, engagement of target audience, health disparities, communication inequalities, and location of delivery.

Table 4. 4 The RE-AIM model guideline – Adoption dimension

ADOPTION	
General description	This is a setting/organizational level measure - how many and what kind of settings adopt the intervention, as well as how many and what kind of settings do not adopt the intervention, and reasons they did not adopt.
Dimension specific elements	This dimension defines the target settings, including the absolute number, proportion, and/or percentage of the target settings participating in the intervention, as well as the characteristics of the settings. It also includes the absolute number, proportion, and/or percentage of target settings that do not participate in the intervention, and the reasons they do not adopt.
Other dimension elements	Other dimension elements include how well the actual settings fit the target settings, enabling factors and barriers that influence whether settings participate in an intervention, requirements for setting recruitment/participation, and methods for setting recruitment/participation.
Examples of questions for evaluation	• What settings is the program intended for? • What settings are willing to participate? What settings are eligible? Which settings inquire about the program? Which settings actually participate? • Which settings are willing to participate, eligible to participate, and/or inquiring about intervention, but do not? • Why do some settings not participate in the intervention? • Are the settings reached the ones that need to be reached? Do the target settings fit the objectives of the intervention? • Which features of the intervention encourage or discourage settings to participate? • Which elements of the intervention need to occur for successful adoption among targeted settings? (i.e., the program being implemented correctly, training, electronic support) • How are data to be collected for Adoption (i.e., interviews, surveys)

Table 4. 5 The RE-AIM model guideline – Implementation dimension

IMPLEMENTATION	
General description	This is an organizational level measure - the extent to which the intervention was delivered as intended, including the quality, integrity, and consistency of program delivery, and adherence to essential program elements. It also examines the costs of the intervention.
Dimension specific elements	This dimension defines the intervention protocol, describing the delivery of the intervention protocol, consistency of protocol adherence, reasons for consistency and/or lack of consistency/fidelity, and program costs in comparison with effectiveness and benefits.
Other dimension elements	Other dimension elements include how well the methods fit the goals of the intervention, enabling factors and barriers to successful intervention implementation, requirements for implementation, and methods of implementation.
Examples of questions for evaluation	• What are the elements of the intervention methodology/strategy? • How was the intervention delivered in its natural context? • Was the intervention delivered in the same way every time, and in every setting? Is consistency necessary across all settings? • What costs are associated with program implementation? • What elements of the intervention need to occur for successful implementation (i.e., time technical support, budget)? • How are data to be collected for Implementation (i.e., interviews, surveys)
Examples of indicators	Examples of Implementation indicators include methods of message dissemination, staff training, support, clear intervention protocol, monitoring, providing feedback, recognition. As well, it includes description of the recruitment process, sharing coordination, how many materials distributed, how many staff members, different levels of staff departments, and program components. Lastly, examples of enabling factors or barriers to Implementation include more specific information, communication between organizations and communities, encouragement, missing data, and repeated tailoring costs.

Table 4. 6 The RE-AIM model guideline – Maintenance dimension

MAINTENANCE	
General description	This is an individual/organizational level measure - the likelihood of long-term sustainability of the intervention. It examines the degree to which interventions becomes routine, or part of the everyday culture and norms of organizations or individuals' lives.
Dimension specific elements	This dimension defines the current stage of the intervention, reasons for continuation or discontinuation of the intervention, intervention evolution, and the definition of immediate, short-term, and long-term effects on individual and organizational levels.
Other dimension elements	Other dimension elements include how well the methods encourage sustainability, how well the choice of individuals/organizations encourage sustainability, enabling factors and barriers that may influence sustainability, requirements for sustainability, and methods for ensuring successful sustainability.
Examples of questions for evaluation	• Is the intervention still ongoing? What elements have been continued? • Reasons for organizations/individuals continuing or discontinuing the intervention. • Were there any revisions to the program protocol over the time of implementation? • What were the immediate effects of the intervention on the individuals' lives and on the organizations' routines, practices, or policies? • What were the short-term effects (< 6 months) of the intervention on the individuals' lives and on the organizations' routines, practices, or policies? • What were the long-term effects (>6 months) of intervention on the individuals' lives and on the organizations' routines, practices, or policies? • How well do the methods encourage sustainability? • Were the individuals/organizations that sustained intervention activities those most in need? • Which features of the intervention encourage or discourage individuals/organizations from continuing the intervention activities? • Which elements of the intervention need to occur for successful sustainability? • How are qualitative data to be collected (i.e., interviews, surveys, questionnaires?)
Examples of indicators	Examples of indicators for Maintenance include the inclusion of appropriate follow-up contacts, participants' previous awareness, or knowledge of the program, convenience and ease of access of the intervention to participants.

Table 4. 7 The coverage of RE-AIM elements in qualitative literature

RE-AIM dimension	Dimension Element	Article
Reach	The absolute number, proportion, and/or percentage of the target population participating in the intervention	(Andrews et al., 2013), (Bakken and Ruland, 2009), (Bopp et al., 2007), (Glasgow et al., 2001), (Huye et al., 2014), (Mahabee-Gittens et al., 2014), (Minichiello et al., 2013), (Nigg et al., 2012), (Ory et al., 2014), (Ory et al., 2007), (Payne et al., 2011), (Planas, 2008), (Prohaska and Etkin, 2010), (Quinn et al., 2015), (Thomas, Krevers, and Bendtsen, 2015), (Zanko et al., 2014)
	The characteristics of the participants	(Andrews et al., 2013), (Bopp et al., 2007), (Huye et al., 2014), (Mahabee-Gittens et al., 2014), (Minichiello et al., 2013), (Nigg et al., 2012), (Ory et al., 2014), (Payne et al., 2011), (Planas, 2008), (Prohaska and Etkin, 2010), (Quinn et al., 2015), (Thomas, Krevers, and Bendtsen, 2015), (Zanko et al., 2014)
	The absolute number, proportion, and/or percentage of the target population who does not participate in the intervention	(Glasgow et al., 2001)
	How well the participants fit the target population	(Andrews et al., 2013), (Bakken and Ruland, 2009), (Bopp et al., 2007), (Glasgow et al., 2011), (Huye et al., 2014), (Mahabee-Gittens et al., 2014), (Ory et al., 2014), (Ory et al., 2007), (Payne et al., 2011), (Planas, 2008), (Prohaska and Etkin, 2010), (Zanko et al., 2014)
	Enabling factors and barriers for recruitment and/or participation	(Brug, Tak, and Te Velde, 2011), (Glasgow et al., 2001), (Graffy et al., 2012), (Ory et al., 2007), (Zanko et al., 2014)
	Requirements for recruitment and/or participation	(Graffy et al., 2012), (Zanko et al., 2014)
	Methods for recruitment and/or participation	(Andrews et al., 2013), (Bodenheimer et al., 2005), (Glasgow et al., 2001), (Huye et al., 2014), (Mahabee-Gittens et al., 2014), (Nigg et al., 2012), (Ory et al., 2014), (Ory et al., 2007), (Payne et al., 2011), (Planas, 2008), (Thomas, Krevers, and Bendtsen, 2015), (Zanko et al., 2014)

Effectiveness	Potential outcomes (primary and secondary)	(Andrews et al., 2013), (Bakken and Ruland, 2009), (Bopp et al., 2007), (Brug, Tak, and Te Velde, 2011), (Glasgow et al., 2011), (Glasgow et al., 2001), (Huye et al., 2014), (Mahabee-Gittens et al., 2014), (Nigg et al., 2012), (Ory et al., 2014), (Ory et al., 2007), (Payne et al., 2011), (Planas, 2008), (Thomas, Krevers, and Bendtsen, 2015), (Zanko et al., 2014)
	Positive and negative outcomes	(Bakken and Ruland, 2009), (Bopp et al., 2007), (Brug, Tak, and Te Velde, 2011), (Glasgow et al., 2011), (Huye et al., 2014), (Mahabee-Gittens et al., 2014), (Nigg et al., 2012), (Ory et al., 2014), (Ory et al., 2007), (Thomas, Krevers, and Bendtsen, 2015), (Zanko et al., 2014)
	Unanticipated outcomes	(Bakken and Ruland, 2009), (Brug, Tak, and Te Velde, 2011), (Ory et al., 2014), (Ory et al., 2007), (Zanko et al., 2014)
	Extent to which the program reached outcomes	(Bakken and Ruland, 2009), (Bopp et al., 2007), (Brug, Tak, Te Velde, 2011), (Glasgow et al., 2001), (Huye et al., 2014), (Mahabee-Gittens et al., 2014), (Nigg et al., 2012), (Ory et al., 2014), (Ory et al., 2007), (Payne et al., 2011), (Prohaska and Etkin, 2010), (Zanko et al., 2014)
	How well do the goals and outcomes fit the target population	(Glasgow et al., 2011), (Huye et al., 2014), (Mahabee-Gittens et al., 2014)
	Enabling factors and barriers to successful achievement of outcomes	(Graffy et al., 2012), (Mahabee-Gittens et al., 2014), (Minichiello et al., 2013), (Zanko et al., 2014)
	Requirements for successful achievement of outcomes	(Graffy et al., 2012), (Mahabee-Gittens et al., 2014)
	Methods for achieving outcomes	(Andrews et al., 2013), (Bopp et al., 2007), (Brug, Tak, Te Velde, 2011), (Graffy et al., 2012), (Ory et al., 2007), (Payne et al., 2011), (Thomas, Krevers, and Bendtsen, 2015), (Zanko et al., 2014)
Adoption	The absolute number, proportion, and/or percentage of the target settings participating in the intervention	(Bakken and Ruland, 2009), (Bopp et al., 2007), (Brug, Tak, and Te Velde, 2011), (Glasgow et al., 2011), (Glasgow et al., 2001), (Huye et al., 2014), (Mahabee-Gittens et al., 2014), (Minichiello et al., 2013), (Ory et al., 2014), (Ory et al., 2007), (Payne et al., 2011), (Planas, 2008), (Prohaska and Etkin, 2010), (Thomas, Krevers, and Bendtsen, 2015), (Zanko et al., 2014)

	The characteristics of the settings	(Bakken and Ruland, 2009), (Bopp et al., 2007), (Brug, Tak, and Te Velde, 2011), (Glasgow et al., 2011), (Glasgow et al., 2001), (Huye et al., 2014), (Mahabee-Gittens et al., 2014), (Minichiello et al., 2012), (Ory et al., 2014), (Payne et al., 2011), (Planas, 2008), (Prohaska and Etkin, 2010), (Thomas, Krevers, and Bendtsen, 2015)
	The absolute number, proportion, and/or percentage of target settings that does not participate in the intervention	(Brug, Tak, and Te Velde, 2011), (Ory et al., 2007)
	Reasons for settings not participating	(Brug, Tak, and Te Velde, 2011), (Ory et al., 2014)
	How well the actual settings fit the target settings	(Bakken and Ruland, 2009), (Bopp et al., 2007), (Glasgow et al., 2011), (Mahabee-Gittens et al., 2014), (Ory et al., 2014), (Ory et al., 2007), (Payne et al., 2011), (Planas, 2008)
	Enabling factors and barriers influencing whether settings participate in an intervention	(Bopp et al., 2007), (Graffy et al., 2012), (Huye et al., 2014), (Mahabee-Gittens et al., 2014), (Ory et al., 2014), (Zanko et al., 2014)
	Requirements for setting recruitment and/or participation	(Glasgow et al., 2001), ((Graffy et al., 2012), (Huye et al., 2014), (Mahabee-Gittens et al., 2014)
	Methods for setting recruitment and/or participation	(Andrews et al., 2013), (Bopp et al., 2007), (Glasgow et al., 2001), (Graffy et al., 2012), (Mahabee-Gittens et al., 2014), (Nigg et al., 2012), (Ory et al., 2007), (Thomas, Krevers, and Bendtsen, 2015), (Zanko et al., 2014)
Implementation	The intervention protocol defined	(Bakken and Ruland, 2009), (Bopp et al., 2007), (Graffy et al., 2012), (Mahabee-Gittens et al., 2014), (Nigg et al., 2012), (Ory et al., 2014), (Payne et al., 2011), (Planas, 2008), (Prohaska and Etkin, 2010), (Thomas, Krevers, and Bendtsen, 2015), (Zanko et al., 2014)
	How is the intervention executed and comparing actual delivery with the intervention protocol (fidelity)	(Andrews et al., 2013), (Bakken and Ruland, 2009), (Bopp et al., 2007), (Brug, Tak, Te Velde, 2011), (Clemson et al., 2014), (Glasgow et al., 2001), (Huye et al., 2014), (Minichiello et al., 2013), (Nigg et al., 2012), (Quinn et al., 2015), (Ory et al., 2014), (Ory et al., 2007), (Payne et al., 2011), (Planas, 2008), (Thomas, Krevers, and Bendtsen, 2015), (Zanko et al., 2014)
	Consistency	(Bakken and Ruland, 2009), (Glasgow et al., 2011), (Glasgow et al., 2001), (Huye et al., 2011), (Nigg et al., 2012), (Ory et al., 2014)

	Reasons for consistency and/or lack of consistency	(Glasgow et al., 2001)
	Costs	(Bakken and Ruland, 2009), (Glasgow et al., 2011), (Glasgow et al., 2001), (Huye et al., 2014), (Mahabee-Gittens et al., 2014), (Payne et al., 2011)
	How well do the methods fit the intervention goals	(Clemson et al., 2014), (Glasgow et al., 2001), (Huye et al., 2014)
	Enabling factors and barriers to successful intervention implementation	(Andrews et al., 2013), (Bakken and Ruland, 2009), (Clemson et al., 2014), (Glasgow et al., 2001), (Graffy et al., 2012), (Huye et al., 2014)
	Requirements for implementation	(Graffy et al., 2012), (Mahabee-Gittens et al., 2014), (Ory et al., 2014), (Ory et al., 2007)
	Methods of implementation	(Andrews et al., 2013), (Bodenheimer et al., 2005), (Brug, Tak, and Te Velde, 2011), (Clemson et al., 2014), (Ory et al., 2014), (Ory et al., 2007), (Payne et al., 2011), (Planas, 2008), (Prohaska and Etkin, 2010), (Thomas, Krevers, and Bendtsen, 2015), (Zanko et al., 2014)
Maintenance	What is the current stage of the intervention (Degree of sustainability, or extent to which intervention was sustained)	(Andrews et al., 2013), (Bakken and Ruland, 2009), (Bopp et al., 2007), (Graffy et al., 2012), (Huye et al., 2014), (Mahabee-Gittens et al., 2014), (Minichiello et al., 2013), (Nigg et al., 2012), (Payne et al., 2011), (Planas, 2008), (Prohaska and Etkin, 2010), (Zanko et al., 2014)
	Reasons for continuation and/or discontinuation of the intervention	(Andrews et al., 2013), (Bopp et al., 2007), (Planas, 2008),
	Intervention evolution	(Bakken and Ruland, 2009), (Huye et al., 2014), (Minichiello et al., 2013), (Prohaska and Etkin, 2010)
	Immediate effects on individual and organizational levels	(Andrews et al., 2013), (Glasgow et al., 2011), (Glasgow et al., 2001), (Payne et al., 2011), (Prohaska and Etkin, 2010)
	Short-term effects on individual and organizational levels	(Glasgow et al., 2011), (Glasgow et al., 2001), (Ory et al., 2007), (Payne et al., 2011), (Prohaska and Etkin, 2010)

	Long-term effects on individual and organizational levels	(Andrews et al., 2013), (Bakken and Ruland, 2009), (Bodenheimer et al., 2005), (Bopp et al., 2007), (Glasgow et al., 2011), (Glasgow et al., 2001), (Huye et al., 2014), (Mahabee-Gittens et al., 2014), (Ory et al., 2014), (Ory et al., 2007), (Payne et al., 2011), (Planas, 2008), (Prohaska and Etkin, 2010), (Zanko et al., 2014)
	How well do methods encourage sustainability	(Brug, Tak, and Te Velde, 2011), (Glasgow et al., 2011), (Glasgow et al., 2001), (Mahabee-Gittens et al., 2014), (Ory et al., 2014), (Payne et al., 2011),
	How well does the choice of individuals/organizations encourage sustainability	(Bakken and Ruland, 2009), (Glasgow et al., 2011) (Mahabee-Gittens et al., 2014)
	Enabling factors and barriers to intervention sustainability	(Bakken and Ruland, 2009), (Bopp et al., 2007), (Brug, Tak, and Te Velde, 2011), (Graffy et al., 2012), (Huye et al., 2014), (Mahabee-Gittens et al., 2014), (Planas, 2008), (Zanko et al., 2014)
	Requirements for sustainability	(Bakken and Ruland, 2009), (Mahabee-Gittens et al., 2014), (Ory et al., 2007),
	Methods for ensuring successful sustainability	(Andrews et al., 2013), (Brug, Tak, and Te Velde, 2011), (Ory et al., 2007), (Planas, 2008), (Zanko et al., 2014)

4.2 Applying the RE-AIM Model to Asset-Based Community Health Interventions

This section focuses on the results of the second research question, “*How can the dimensions of the RE-AIM model be applied to the evaluation of selected asset-based community health interventions within the East London borough of Tower Hamlets?*”. After the finalization of the RE-AIM model guideline described in section 4.1, we used this guideline to develop an interview guide to help structure interviews with participants from two asset-based community interventions. For the Local Links (LL) project, n=7 participants were interviewed. For the Healthy Early Years (HEY) project, n=2 participants were interviewed. Textual data from both projects, and the third community intervention (Good Moves, (GM)) was also used in the analyses.

Interview and textual data were deductively coded according to the five dimensions of the RE-AIM model. The results were grouped according to each case and presented below. The results provide insight to how Reach, Effectiveness, Adoption, Implementation, and Maintenance were understood by interview participants or reported in textual documents for each intervention.

Case Study 1: Local Links

The first project, Local Links, is a pilot project commissioned by Tower Hamlets Public Health Council, with the goal of conducting an asset-mapping exercise of the borough. In the summer of 2014, the four localities within the borough took part in this project. They used semi-autonomous approaches toward achieving two goals: 1) to engage local stakeholders and train local volunteers, and 2) to have the volunteers collect rich qualitative data on local assets that people valued in their communities, creating an online map of the results in the process. Volunteers were trained, assets were identified, and an online asset map was created with the intention of complementing other online directories. The project team is in the process now of establishing project sustainability so that asset data collection may continue into the future and the online map may be updated regularly and linked to other Tower Hamlets information resources.

In our study, interview and textual data were collected to inform the application of the RE-AIM model to this case. There were n=7 participants interviewed and in the description below, they are identified as LL1 to LL7. Table 4.8 categorizes Local Links elements by the five dimensions and lists some of the most important concepts associated with each dimension.

Table 4. 8 Applying the RE-AIM model to the Local Links project

REACH
There were three important concepts in Local Links related to Reach. First, Reach depended on project understanding and the recruitment strategy. Although not everyone on the project team initially understood Reach the same way, this dimension was ultimately defined as the number and characteristics of community members recruited by Tower Hamlets Public Health council and trained as community researchers. The definition also included local organization stakeholders invited to brainstorming sessions.
In this project, Reach depended on the recruitment strategy the Council's Locality Managers used for each of their geographical areas. The Local Links project was divided into sub-regions of Tower Hamlets, and depending on which strategy was used in each area, the attributes and number of participants recruited and trained would differ. One locality commissioned a lead organization to recruit all available volunteers, while another commissioned a set of specialized organizations that targeted certain demographics, such as young mothers, youth, and seniors with chronic illness. Within this context, the number of volunteers recruited and trained by each locality varied from one to two dozen and the characteristics in the first locality were broad, while the demographics in the second were specific and pre-selected.
Second, because the project had a limited timeline and budget, the project team needed to use their professional relationships and social networks efficiently, and so many participants were recruited from previous volunteer networks. Alternatively, the data suggested stakeholders with existing connections to the Public Health Council may have been more inclined to participate in the project.
The Reach of the Local Links project was affected by the project structure, and in particular the training schedule. Having training sessions during the day determined which volunteers were available. People without day jobs were most likely to attend the day sessions.

The recruitment strategy, the use of networks, and the accommodations of the project structure all affected the Reach, which in turn affected the outcomes and Effectiveness of the project.
EFFECTIVENESS
Effectiveness of Local Links was affected by the definition of objectives and outcomes by individual people in the project team, the integration of the objectives into the project design, and the overall methodology used to track the objectives. The Local Links data revealed two main goals: 1) volunteer capacity-building using participatory appraisal methods, and 2) the development of an online asset map for use as a tool for further community development. Whereas both goals were met in that community researchers and an online map exist, the objectives and outcomes varied between localities and were not always defined. This created a challenge in determining project effectiveness. In some localities the goal was for community researchers to explore new assets, while in others, the goal was to trace the paths in their everyday lives and map familiar assets, leading to different kinds of assets available online. Half of the localities also aimed to increase the quantity of identified assets, while the other half focused on collecting more depth to the stories, leading to variable numbers and details of community assets. The data also suggested that Effectiveness depended on the inclusion of project goals/objectives in the project design. Sustainability played an important role in the second goal of Local Links— building a useful online asset map - but plans for sustainability were not included in the project’s original methodology due to it being a pilot project. As a result, the asset map was delayed in transitioning into an updatable working tool. Using a pilot project and multi-method design made it possible to compare approaches and assess relative effectiveness between regions. As the localities approached the overarching goals independently, the Public Health Council now has the opportunity to evaluate which approach was most effective, and improve the project design accordingly.
ADOPTION
The RE-AIM evaluation revealed two important concepts related to the Adoption of Local Links. First the definition of settings was not clearly distinguished between the two parts of the project (the volunteer-capacity building and the asset-mapping portion). Typically, in RE-

AIM evaluation settings adopting an intervention are defined as discrete organizations, communities, or groups of people, but in Local Links, settings were simultaneously the commissioned organizations that led volunteer recruitment, the training venues, the communities from which volunteers were recruited, as well as the locations and groups included on the asset map. Depending on the definition used, the number and characteristics of the adopting settings were reported differently, challenging the assessment of the level of community adoption. This barrier subsequently influenced assessment of other RE-AIM dimensions. The data suggested that the establishment of partnerships between organizations was a key factor influencing the number of organizations adopting the project. These partnerships facilitated public, contractual agreements, and the asset mapping process.
IMPLEMENTATION
There were three important implementation concepts of Local Links. First, having a common overarching ethos of community-based and emergent approaches allowed locality managers to experiment with different methodologies when they approached the asset-mapping exercise. This strategy provided the volunteers flexibility with research techniques and the project team with forms of qualitative data and outcomes that were not pre-determined, while still maintaining a common vision. From a different perspective, differences in understanding about project goals contributed to inconsistent implementation. While some teams believed volunteers should have collected assets familiar to them and along routine pathways, other localities understood that volunteers should focus on new assets in unfamiliar areas. This difference in understanding led to different data and outcomes. The third concept that emerged from the data was the impact of limited resources on implementation. Due to a limited budget and timeline, it was possible to do only one round of training and asset-mapping. This constraint forced localities to be more efficient and streamline opportunities with other Tower Hamlets community development initiatives, engage with previous volunteer networks, and proactively take on additional tasks to finish the project on time. Although Local Links did not have an optimal level of resources, the project team took full advantage of what they did have access to.
MAINTENANCE

As described in the Literature Review (Chapter 2), the Maintenance dimension of RE-AIM describes project outcomes or impacts lasting more than six months after the last point of intervention contact.

In Local Links, the first part of the project (recruitment and training of local volunteers) finished at a certain point in the project, and the sustained impact was perceived by the project team through the built capacity of the community members. Evidence for this view originated from observations of volunteers having learned and used new local assets, and ongoing social interactions with other volunteers six months post-training.

The second part of the Local Links project (collection and mapping of community assets) did not have a clear end point, so it was difficult to determine a post-intervention point to describe maintenance. Furthermore, although asset-mapping is still ongoing, the online map is now out of date, making it difficult to assess sustainability.

Another important concept related to Maintenance of the Local Links project was the question of data ownership. Although the second goal was to produce an online map, the institutional ownership of the collected data affected sustainability. There was no transition from institutional to community ownership, therefore when the project and technical teams experienced competing priorities, the project lost momentum. After nearly two years, it is only now starting to transition from a pilot project to a more sustainable version.

This table explored the Local Links project through the lens of RE-AIM. Another noteworthy concept that emerged from the interviews includes the recommendation that the project should become embedded or institutionalized into more secure organizations (i.e., the Idea Store libraries – owners of the online community directories) where the asset map may continue spreading awareness by complementing existing services. As well, participants suggested that data ownership must transition to the community, allowing accessible self-management of the map, and for the Tower Hamlets council to focus on managing other project elements. Lastly, it was deemed important to update methods and advance data collection technologically (i.e., create an app) to reduce the time community-based methods take. The next section presents the second case study.

Case Study 2: Healthy Early Years

The second case, Healthy Early Years, is an accreditation program commissioned by the Tower Hamlets Council. Its purpose is to address health risks attributed to childhood obesity by supporting Early Years settings in Tower Hamlets – community organizations that provide services for infants and children aged 0-5 years. The foundation of this strategy is to achieve a standard of practice that encourages behavioural change in physical education and nutrition. This program started in 2009, and under the direction of one project coordinator, a centralized approach, annually supports settings that seek this accreditation.

To achieve accreditation status, the Early Years settings are required to provide evidence of change according to very specific measurable criteria in five areas – physical health, nutrition, emotional health, oral health, and communication. After they submit their evidence and it has been validated, they receive the recognized Healthy Early Years accreditation. This project has adapted to local policies and context to stay current and interesting, and to maintain interest in future participation.

Interview and textual data were collected to inform on the application of the five RE-AIM dimensions to this case. Two participants were interviewed and are numbered HEY1 and HEY2 according to the order of their interview within this research. Table 4.9 categorizes the Healthy Early Years project by the five dimensions and lists important concepts associated with each dimension.

Table 4. 9 Applying the RE-AIM model to the Healthy Early Years project (HEY)

REACH
Reach was difficult to assess for Healthy Early Years because the project did not focus on individual participants. Rather, the Reach component was assumed by recruiting settings, and supporting them to achieve accreditation. As a result, few individual measures were collected for evaluation, making it difficult to measure the number and characteristics of the target population. Because staff members were responsible for project implementation in their organizations, they could be viewed as project participants; however, data were not tracked on indicators such as training attendance, or number of staff, making it difficult to track Reach. Instead, the project focused primarily on settings.

EFFECTIVENESS
The RE-AIM evaluation revealed that Effectiveness of the Healthy Early Years project was largely attributable to the existence of the audit tool. This tool, developed by an external consultant and revised later by internal teams covered the program’s five focus areas of health: physical activity, nutrition, communication, emotional health and oral health. It provided clear, standardized and measurable criteria allowing settings to systematically identify areas of improvement, and track progress throughout the accreditation program. Through this audit tool, it was clear to the project team how close each setting was to achieving the accreditation, and helped them adapt the level of provided support to each organization. Further details of this information were not readily publically accessible as there was only one external evaluation reported online. Another key element to Effectiveness was organizational readiness for change. Organizations’ willingness and capacity to send staff to training, accept project team support, accept recommendations and follow through with change decidedly affected whether they achieved the accreditation or not.
ADOPTION
For this case, Adoption was simpler to assess than Reach because settings, as opposed to individual participants, were the project focus. The data clearly demonstrate that the Early Years organizations acted as the settings for this project. Individual children who attended these organizations were not included in this definition and neither were the staff members. It was therefore possible to measure the number and characteristics of settings, but not the demographics of staff, children, or parents for whom they provide services. The data suggested that the voluntary nature of the program encouraged settings to participate and helped attain more registrations. Publicity helped spread awareness and build continual interest in the program. Word-of-mouth interactions, advertising through larger institutions, and the program becoming more visible as a “Validated Practice” were all forms of publicity that encouraged more settings to sign up annually.
IMPLEMENTATION
In the Healthy Early Years project, the project team had a single full-time project coordinator responsible for recruiting and guiding settings through the program. This was a completely opposite approach to the Local Links project, which had multiple project coordinators. In the Healthy Early Years project, other team members supported the coordinator on a part-time basis, implying variability in types of support. This centralized approach provided clearer understanding for people in the project team of the project’s

progress. Alternatively, it impeded continuity; when the coordinator left for secondment, project implementation was forced to pause. The data suggested that using a proven methodology facilitated implementation in this case. The project design was adapted from a previous model used nationally, and later by another borough, Hackney. Therefore, Healthy Early Years did not do a pilot phase. The project benefitted from being embedded within the larger Tower Hamlets Council, as the project team acquired access to huge professional networks, which facilitated publicity, recruitment, and continuous implementation support.
MAINTENANCE
The data suggested that continuous adaptation of program content and design improved sustainability. When Early Years settings underwent mandatory annual inspection, the project aligned curriculum to support the evaluation process. Streamlining the Healthy Early Years project to this inspection process helped create future need for the program. The training and course activities were also continually improved and changed to keep interest and participation rates each year. Furthermore, data shows how relationships maintained program work. The project coordinator established positive relationships and rapport with settings, which motivated setting staff to continue work even during the coordinator's nine-month secondment.

The table shown above provided insight into Healthy Early Years from a RE-AIM perspective. Some other concepts and recommendations that emerged from the data include: a) the recommendation to further improve and standardize the validation process; and b) to recruit a second project coordinator. The next section presents the third case study.

Case Study 3: Good Moves

Good Moves, a lifestyle intervention designed and implemented by the community development organization SAfH, targets local people in Tower Hamlets with diabetes, hypertension, or a heart condition and offers courses to improve their knowledge and self-management through physical activity and nutrition. This program

has been ongoing since before 2010 and runs multiple groups per year. Textual data was collected for this project to inform the application of the five RE-AIM dimensions to this case. Collection of interview data for this project was not feasible. Table 4.10 categorizes Good Moves by the five dimensions and lists important concepts associated with each dimension.

Table 4. 10 Applying the RE-AIM model to the Good Moves program

REACH
In the Good Moves program, there was a disease-based focus for Reach; the target participants were chosen specifically for their medical profiles. Specifically, the program was oriented toward people with chronic conditions such as diabetes and high blood pressure. Multiple participant indicators, such as the number of participants and their ethnicities were tracked at each course and reported in the program’s annual report, providing a clear picture of the Reach in each cohort. Available data were mostly descriptive and/or outcome data, making it difficult to make comparisons between target and actual participants.
EFFECTIVENESS
The main program goals, objectives, and outcomes of the Good Moves program are provided in documents (i.e., annual reports). They provide evidence of the effectiveness of the program on participants’ health, and tracks the evolution of program elements year to year. These reports also identified improvement areas for future project cycles. The evaluation documents describe how the project’s success was measured through the number of people who attended at least 4 of 6 courses, as well as the impact of the courses on the participant lifestyles post-implementation.
ADOPTION
In the Good Moves program, the definition of ‘setting’ was clear. Prior to commencing a new program cycle, settings were pre-determined and clearly defined as the venues in which courses were offered. In the year 2010/2011, for example, there were 20 venues, including health centres, community centres, and mosques.

The available textual data did not provide evidence on setting recruitment strategy, making it difficult to identify reasons for adoption, enabling factors and barriers, and requirements for adoption.
IMPLEMENTATION
For this case, the textual data did not provide evidence on the fidelity of program delivery, making it difficult to have insight on overall implementation.
The data suggested instead that partnerships between SAfH and other community organizations facilitated program implementation. For example, partnerships with General Practices allowed access to patient lists for recruitment and biometric indicators for measuring outcomes, while partnerships with other community organizations allowed access to spaces where courses and events could be held.
MAINTENANCE
Several evaluations were conducted from the start of the Good Moves program, contributing to evidence for short-, mid, and long-term effectiveness. These multi-method evaluations provided opportunities for improvement and adaptation, leading to program sustainability, despite limited funding. One evaluation demonstrated a negative result for one of many indicators, leading to adaptation of program design. The program also expanded to include multiple course streams, engaging new groups of participants such as young mothers, and families.
Another feature of the Good Moves program that enhanced overall sustainability was the growth of knowledge and skills through champions. As well as participating in the program, community members had the opportunity to become community champions, which gave them the leadership opportunity to teach others in the program, perpetuating learning into the community and helping sustain project impact.

The table shown above provides a summary of Good Moves by the RE-AIM dimensions. Another concept that emerged from the RE-AIM evaluation is how Good Moves engages in continuous quality improvement -constantly improving evaluation methodologies, adapting to evaluation results, improving course flexibility and marketing every year.

This section presented summaries of the Local Links, Healthy Early Years, and Good Moves projects by RE-AIM dimensions, providing several examples of how

Reach, Effectiveness, Adoption, Implementation, and Maintenance were defined and captured in these three cases.

Table 4.11 provides a brief summary and comparison of the major findings of this multiple case study, showing examples how each project can be interpreted in terms of its success and impact on the local community. Despite the three asset-based community health projects being geographically bound by the borough of Tower Hamlets, each was very different in that they were at different stages of implementation and evaluation, consisted of differing methodologies, and targeted very different people and settings. Local Links is a pilot project with promising results in community development and asset-mapping. The project team is working towards sustaining the online asset map so the asset-mapping may continue. Healthy Early Years is a well-established accreditation program that has gained much interest over the last few years. Much of the success seems attributable to the structured audit tool that settings must complete and submit to the Council as part of the verification process. Good Moves is a well-established and culturally-sensitive lifestyle program, garnering interest from the community over several years. This program is offered by SAtH, and has substantial evaluation documentation.

Table 4. 11 Summary of the application of RE-AIM to asset-based community health interventions

RE-AIM dimension	Local Links	Healthy Early Years	Good Moves
<u>Reach</u>	Estimated 33-43 community researchers recruited and 23-37 stakeholders for whole borough; fairly representative demographics; slightly skewed towards people available for day-time training sessions and asset-mapping exercises	Children and parents attending Early Years settings are target participants; no individual measures were captured on participation or impact	In 2011/2012, 317 community members started courses, and 194-210 completed at least 4/6 sessions by the end; the majority were of Bengali ethnicity, and there was an equal proportion of female and male participants
<u>Effectiveness</u>	Main goal 1: To recruit and train community volunteers in participatory	Main goal: To have Early Years settings achieve Healthy Early Years accreditation by	Main goal: To support health and lifestyle improvement in 7 domains: general health, physical,

	approaches (Completed). Main goal 2: Collect data on local assets and produce online map (Completed)	making changes to their environments in five areas: physical, oral, emotional, nutritional health, and communication (80% rate in first year; changes every year)	vitality, social functioning, emotional role, mental (2013/2014 – 8/8 domains produced statistically significant improvement; 2011/2012 – 6/8)
<u>Adoption</u>	Estimated 1-3 community organizations per locality helped recruit participants; 2 organizations hosted training (1 for East, 1 for West); entire Tower Hamlets borough was the setting for the asset-mapping exercise	29 Early Years settings enrolled in the project in the first year, and in 2015, there were 105 settings enrolled	15 community organizations hosted courses in 2011/2012; 9-10 GP practices helped recruit patients for courses
<u>Implementation</u>	The project focused on participatory methods; The design was experimental, flexible and de-centralized between the four localities; budget and timeline were limited	The project used existing design (non-experimental), and was centralized; Annual cycles for settings to complete (with flexibility to accommodate some settings); the project coordinator was on secondment for nine months; diminishing budget yearly	6-8 week courses; cook and eat, and exercise sessions; evaluations included; commissioned by NHS Tower Hamlets to deliver 20 courses
<u>Maintenance</u>	The project is in its pilot phase; community volunteers have sustained knowledge and networks; the online map is out of date	Multiple years that the project has been running; funding is continuing, and the project is constantly adapting	Multiple years that the project has been running; evaluation results have shown constant adaptation

The next section of the results discusses the limitations of this approach and provides recommendations to refine the model for use with asset-based community health evaluation.

4.3 Improving Evaluation of Asset-Based Approaches

The third research question, “*How can asset-based health interventions evaluation methodologies be improved for community public health?*” examined the qualitative data to explore cross-cutting emergent themes of the RE-AIM evaluation for Local Links, Healthy Early Years, and Good Moves projects. The three themes, found through the use of the coding grid presented in Chapter 3 (Table 3.4) centre around how 1) people’s motivation, behaviour, and relationships, 2) the project structure, and 3) the surrounding context, can all affect project impact. These themes are presented in detail below.

Theme 1: People’s motivation, behaviour, and relationships can affect project impact

The most referenced theme was “*people’s motivation, behaviour, and relationships can affect project impact*”, which focused mostly on intrapersonal (individual people), and interpersonal (relationships and connectivity between people) concepts. People’s interests, behaviours, relationships, levels of communication, and support for each other all impacted how the project cases progressed.

All three cases demonstrated the impact of people’s motivation to participate and how their behaviour impacted project success. When people were interested and enthusiastic about a project, when they understood the value of the project and its methodology, achieving project goals became easier because people were proactive and adhering to delivering specific content on time to the project team. In the Healthy Early Years project for example, staff motivation and proactivity was critical to settings successfully submitting their menu plans on time for revision:

HEY 1: “...there [are] always some settings that are really good and submit on time. Maybe they’re the proactive ones, or they’re quite keen on nutrition [...] you don’t have to chase them as much.”

HEY 1: “It was just a lot of promotion, and a lot of work to keep it interesting, because I think people who’ve been part of it for four years, unless they’ve got something different to work on, they’re not going to really want to be a part of it

anymore, otherwise it would just be something they could just be accredited and just a certificate that just, just gets stuck on their wall.”

Proactivity and motivation were also important in Local Links and Good Moves:

LL 3: ...the organizations that had the leaders training. They were really keen to make it to work because they really saw the value in it with what they were doing.”

GM: “Reasons why they were not still using techniques included being too lazy or having forgotten what they were. It could be that they need more support and reminders to be able to maintain the impact of attending the course and how it affects their diabetes.” (Social Action for Health, 2012a, p. 9)

In terms of interpersonal concepts, all three cases demonstrated how the nature of relationships, the use of networks, interactions between people and the support available impacted others as well as the projects.

Having existing relationships and networks between the project team and community members affected the team’s ability to embed the project successfully into the community. Close relationships and networks facilitated engagement, and the absence of these relationships or networks challenged collaboration between different working groups. There was a recognized importance of improving networks between various individuals and sectors. In the Local Links project for example, participants described scenarios where the presence of working relationships or the lack of those networks may have had an effect on the project:

LL 6: “...I had a close working relationship with someone in Public Health, so it was something that they said, “this is happening. Would you be interested in it?” And I was like “Yeah! I’d love to, I’d love to come and hear what’s going on and understand how we can utilize an asset map like this, or how we can assign some people to it...”

LL 5: We used our network of community organizations that we were already very involved with [...] we’re like a community hub here ... So, we’ve got lots of projects going on that reach into different parts of the community. All ages, all cultural backgrounds. So we just put the word out (laughs) throughout.”

Effective communication between people enabled completion of program tasks and reaching project outcomes. Alternatively, miscommunication created challenges such as double-booking of meetings, lack of contact details, community members not being aware of results or benefits- all causing challenges for recruitment of participants. In the Local Links project for example, a miscommunication between the project team and community development workers caused a setback in participant recruitment:

LL 1: "I think we were probably not clear enough in terms of what the role of the community development workers was and what our role was as well, and sort of in that miscommunication, potentially we lost that cohort because there was no one actively communicating to them and encouraging them to turn up to the training and take part in the asset mapping."

In Good Moves, the textual data describes how communication improved as a result of the participation in the program:

GM: "An important result of people learning to self care is the number of people who emerge as keen to engage in the public arena, giving feedback to service providers and communicating to other people what they have learnt. We have found that local people are keen to be useful and to take responsibility, to become active citizens." (Hanooman, 201, p.9)

The medium of communication – face-to-face or electronic correspondence - also impacted project implementation. Face-to-face interactions improved the quality of results and evaluations, but were considered labour-intensive and slow and so did not contribute to the timeliness of results. There was a recognized importance for face-to-face interactions in community-based work, while sole use of electronic correspondence decreased the richness of communication:

LL 1: "The way we did the recruitment was obviously through face to face contact. So we went into the children's centres, had meetings with them and [...] explained the projects and then we also sent out emails within our networks [...] to relevant stakeholders who work with community [...]."

HEY 2: “So it’s done through email basically. But I am open to telephone advice and support, but rarely I get any telephone questions. Basically correspondence from settings, which is a bit frustrating. [...] And then the other way that settings can reach me is basically, I deliver practical menu planning training [...] for all the settings. So that’s maybe two or three times in the year.”

Clarity and awareness were identified in the data as two important elements of communication. Having clear instructions, measurable outcomes, clear and accessible standards all support achievement of outcomes. Lack of clarity among goals, instructions, roles, and responsibilities impeded both project team and community members from executing program methodology and achieving the desired results. There was recognized importance in getting clear and timely information to participants to improve awareness and facilitate outcome achievement. In the Healthy Early Years project, the audit tool, which had clear criteria, was given to all settings that applied for the accreditation:

HEY 1: “...in terms of how we evaluated it, we had very clear measurable outcomes at the beginning in terms of what we wanted settings [...], what were the targets that we wanted, and so there were measurable outcomes for those four areas, and the audit tool’s [...] adapted to, to make sure that they would meet these measurable outcomes, so we evaluated the project that way in terms of whether those settings met those measurable outcomes.”

For program participants, awareness of project methodology, theories, and knowledge as well as people’s roles in the project help them achieve their designated project deliverables. For example, Participant Appraisal techniques in Local Links, knowledge of how to control habits to help self-manage diabetes in Good Moves, or knowledge of health professional roles to know who to contact to help achieve accreditation in Healthy Early Years. Lack of awareness, however, impeded project team members and program participants from correctly executing their roles, or supporting project sustainability. Arguably, a project team can improve awareness of project details as a strategy to improve project success. In the Local Links project, community members’ being aware of their local assets – having local intelligence and being able to communicate it to project team was key to project success:

LL 1: "...because we had a few community researchers who were in existing jobs, for example we had one gentleman who was working for the Safer Neighbourhoods team and we thought that was great because he had a lot of local intelligence and to train somebody up in the Safer Neighbourhoods team with Participatory Appraisal tools and methodologies, I think that was quite great for us."

In the Healthy Early Years project, when children's parents become aware of how the project contributes to positive school evaluations, it influenced motivation among schools to register for or continue with the project:

HEY 1: "Ofsted is an external body that come in and it's across the whole of the UK, and they rate schools and settings and they could be good, outstanding, or be in special measures, or requires improvement. [...] No setting wants to be 'requires improvement' and most parents now are aware of the Ofsted, so if they've gotten an outstanding school, it's good for them because it promotes to their parents and it shows, it demonstrates the work we're doing. [...] it has come up in some of the Ofsted reports how that it's been good that they demonstrate that they're working with Health or other [...] external projects. So that's been a good incentive for some schools to be a part of the project..."

Having trust within relationships between individuals and organizations enabled successful project implementation.

HEY 1: "We had established relationships already ... from other projects that we worked on. So that was good. That really helped because there was already a sense of trust and communication."

LL 4: "I think for them it was very beneficial... So there were positives. I think people felt quite safe in that environment, and met nice people and were able, like I've said, go off and do it, and feel better about themselves."

The last interpersonal concept included within the first theme was *support*. This included support from management, local organizations, institutions, and staff, and appeared in various forms like meetings, financial support, and support in accomplishing tasks, all which enabled program effectiveness. The support was at times directed toward community members, and at other times to the project team. Insufficient support had the

potential to challenge program effectiveness. Sometimes, success in other RE-AIM dimensions would lead to decreased support. Overall, there is recognized importance to gain more support from institutional/financial bodies to help move projects forward. One participant from the Healthy Early Years project describes how the project adapted an individual tailored approach to the amount of support the project team provided to their registered settings:

HEY 1: "...one of the things that we agreed was there's different tiers of support the settings need. So within the Early Years service, they rated some of the settings that need a lot of support and minimal support. So all the ones that were doing really well were expected to achieve the accreditation as the next step. So their development worker or someone who would support them regularly would encourage them to be a part of it, but we agreed that the ones that needed - who hadn't even the basic [...] standards in place couldn't work on the accreditation, unless they met their basic standards."

The types of support provided by the project team included emotional, technical, informational, and financial support. In Local Links, emotional support was provided by means of "... a celebration. [...] A bit of a party. I think that's important too, and to say thank you [...] (LL 2)".

Technical support in the Local Links project was provided by the technical teams, through troubleshooting services when issues arose. Informational support was offered through educational opportunities and resources/tools in the form of workshops, training, and booklets to teach program participants about theories and application of techniques to support outcome achievement. In some circumstances, lack of informational support was a barrier when not included, or when participants were not motivated to sustain their knowledge. These opportunities helped develop participant skills and knowledge, which developed personal assets as well as the program:

HEY 1: "We provided training with each of those so the healthy eating, physical development, and emotional well-being within our services we provided training to up-skill their members of staff and then they were then expected to go back and share it with all the rest of staff."

LL 1: "...on the back of that, we did some training for some of the front-line staff, digital inclusion package, sort of familiarizing them with the asset map and how they

could be using this to sort of promote local services and assets to their services as well.”

HEY: “Feedback from the training was very positive and practitioners discussed various ways that physical development could be included in their observations of the children.” (C4EO, 2011)

There was a recognized need to motivate people to participate in the projects. Seeing that most participants were involved on a volunteer-basis (unless they were commissioned organizations), if they did not have motivation to contribute to the projects, one strategy was for the project team to provide financial incentives:

LL 2: “If you have incentives, which we did have, I think that’s good because in terms of self-esteem and especially quite a lot of the women involved [...] But if you say, “I get some travel for this. I get 50 [pounds] worth of vouchers or whatever [...] well, you’re contributing to your family and yeah. It’s about self-esteem.”

Efforts made to improve accessibility and accommodation for people involved in the project were another form of support outlined in the data. When the program, training, criteria, and outcomes were more accessible to community members, it became easier to achieve project outcomes. Lack of resources and results post-program for both the project team and volunteers hindered sustainability. When the project team accommodated community members and settings to help them participate in program, it allowed achievement of outcomes, albeit a more flexible approach. When this accommodation was absent, participation was a struggle. The following quotations are examples of how accessibility and accommodation to project elements may have impacted project outcomes:

LL 1: “We used a venue, which was quite accessible across the two localities because it was quite well linked by the transport links. [...] and we did sort of provide [a crèche] on-site just so sort of people who needed child care throughout the training, so that helped.”

LL 7: “I’m not a health professional, and I find quite a lot of their jargon very impenetrable. But, that’s not anyone’s fault. It’s just that every field has its own language [...] and it’s not just about academic language. I think it’s often about the language of councils. Like, what is a locality? for example, which [...] like you know,

[...] has a very specific meaning within a council. It's quite challenging. We talk about accessibility a lot, especially in community research, but actually, the language of accessibility is actually not very accessible (laughs) if that makes sense. There's a whole slew of jargon about how you make things accessible, which in itself is quite inaccessible, and I think that's been, that's been quite a challenge to try and translate terms from these various words into things, which are much more approachable and understandable."

HEY 2: "It was [...] clear that [the food-based standards] were accessible obviously on the websites [...]. ...They have them a hard copy in the actual setting. So that's what I think made the, in my point of view is that, when they submitted the menus, I used the [...] the menu [...] checklist, which is part of the food-based standards [...] for settings to look at their food and drink provision and see if they're meeting the food based standards."

LL 3: "...one of the organizations that was the lead organization within that time folded their operations [...] so they didn't actually have the people there to talk with afterwards. [...] I mean, that's not a common thing to happen in the voluntary sector, but it is a consideration because when organizations work on short term contracts, we just don't know what their survival is going to be, if that makes sense."

The first theme describes how people's motivations, behaviours, and the nature of relationships can affect project impact. It demonstrates there is recognition by interview participants and within textual data that motivating people to participate fully in the project improves project success. This can be done through providing adequate support and clear communication, which in turn leads to better awareness and trust.

Theme 2: Project structure can affect project impact

The second theme in this research was, "*project structure can affect project impact*", of which the project methodology and evaluation were most referenced concepts in interview and textual data. Decisions about methodology directly affected how project elements were implemented, and evaluation affected sustainability of the project in the long-term.

In terms of methodology, all three cases, despite having different foci, were constructed in terms of community-based methodologies. In Local Links for example, one choice of methodology was Participatory Appraisal, which resulted in additional positive outcomes for participants:

LL 1: “...taking the members of the community through this process of training and giving them the skills around Participatory Appraisal [...] and also when people come together, there’s links that are formed between the community researchers as well, so it’s about forming those social links as well. It’s about them having the knowledge of assets in the community that they might not have been aware of...”

The data suggest that project methodologies focused on collaborative approaches, face-to-face interactions, flexibility, and evolving strategies, which would have a positive effect on the projects.

LL 5: “...when we got the brief for the project, the proposal came through for Public Health [...], we read and we thought, “you know, we could deliver that.” Because we, that’s what we do. [...] For this locality we’re as well connected as anybody. We have about 800 people a week coming through the centre here, but we run projects that reach thousands, we add up all the people who were affected and then we’ve got stakeholder partnerships with loads of statutory and voluntary sector organizations who are connected with as large a proportion of who you want to engage as you can possibly do. [...] So we used our existing projects, we used our stakeholder groups, we used our website, we used our notice boards, we put the word out to people to say, “This is a project that is going on. Would you like to volunteer?” And we got a really good response.”

LL 7: “...it needed to be about face-to-face research because I think the results are better. But I think it does mean that it’s very labour intensive, and it’s slow, and, I think it’s a question about not only technology but also about how you can, move these things forward in the future and keeping that information coming in yeah.”

GM: “Over 75% of patients heard about these courses through a friend, indicating the importance of ‘word of mouth’ as a recruitment method.” (Bart and the London School of Medicine and Dentistry, 2010, p.12)

The decision of what type of data to collect also affected program implementation. Whereas quantitative indicators facilitated data collection and analysis, qualitative data provided richer information, despite the difficulty of imposing frameworks.

HEY 1: "...we were quite mindful that we didn't want this to be a checklist because it's [...] a tool for them to complete, [...], we wanted it to be them reflective of their practice, [...] their environment and with the training that we offer, we hoped it encouraged practitioners to think about things to take back to their settings and how they could adapt that within their own practice. So that was the whole model that we really used."

LL 7: "I think it's quite tricky as well [...] just from a methodological perspective because [...] I mean, Participatory Appraisal is, it has a certain rigour in terms of community engagement and I think in terms of the sheer, quality of data you get through it. I mean, people's stories are really, really strong, but in terms of strict, I think it's difficult to impose [...] a quantitative framework on that and it doesn't really stand up in that sense."

LL 2: "So we wanted stories, highly qualitative information, because sometimes they are same places, we don't want to duplicate what somebody else has so it's a complementary activity."

In terms of evaluation, all three cases collected performance data to differing degrees. Local Links has not formally begun any evaluation being in the pilot phase, Healthy Early Years have internal evaluations and external validation, but very few externally available evaluation documents, and Good Moves has extensive public evaluation documentation. Reports were produced for commissioners, but otherwise, finding a balance between project implementation and evaluation was a struggle for programs at times. Some evaluative elements and the evolution of these elements played a part in the sustainability aspect of programs. Below are examples of quotations describing the evaluation efforts of the three projects:

LL 5: "...in our area, we had a little end of program celebration event, and we produced certificates for people who had completed the Participatory Appraisal [...]. Had some food together and we got them to fill in evaluation and response sheets. [...] We asked 'what do you think about taking part in this project?', and people then scored it either 10 out of 10, 9 out of 10, or 8 out of 10. [...] Really positive feedback."

HEY 1: "...for the children and families without actually contacting each school, we couldn't physically say which ones were impacted from just the Healthy Early Years

accreditation. And with our evaluation process that's what we've always kind of struggled with but then I suppose that's with anything. It's really hard to say that your one thing is impacting."

Theme 3: Surrounding context can affect project impact

The third theme in this research was “*surrounding context can affect project impact*”, which describes factors beyond the people and the project structure that exercised an impact on project outcomes. Concepts most often referenced within this theme included external factors, opportunities, and resources.

External factors are outside the direct control of the project team, and include seasonal, geographical, and organizational/political influences, as well as influences caused by people's external lives. In the Local Links project, depending on the season, different numbers and types of participants were able to participate:

LL 2: “We would have stopped doing the research properly with this team before the summer holidays because we had Eid and Ramadan in the middle of it. And you can't do much in the summer holidays with mothers. [...] And it depends on who you are working with. It's quite good to do this in the summer because people can go out and people are more on the street, so it is a good time to do it, so if you did it in the winter, you might miss out on the place in the park where people go to do stuff.”

Changes in geographical boundaries within the borough directly impacted the area in which each project was implemented:

LL 4: “This is just LAP 7. And then you've got Canary Wharf is included now, and Island Gardens. So there's more. The boundary's got bigger, basically. I think it's to do with voting as well, you know, that kind of made it bigger boundaries.”

People's external lives and conflicting priorities – occupations, or health, financial, and family situations – also impacted project outcomes:

LL 4: “...for people they have children, or if having to do it at night-time, say if we were researching a club at 8 o'clock at night, we had to have people that were able to do different time scales.”

LL 7: “I don’t know what Tower Hamlets plans for it, and how they want to take it forward. I think they would be keen to take it forward, but they’re extremely busy, and I think, they have other things that they’re looking at so I’m not really sure.”

Lastly, organizational/political influences also had an impact on project implementation:

HEY 1: “I’ve worked with some really hard settings and some [...] haven’t even achieved the accreditation because it’s just been a long ongoing progress and it’s always me giving support and input, but they’ve had high staff turnover changes, their management structure has not been good, so for them to then implement changes for the Healthy Early Years or implement anything, that I was suggesting just was never going to work within their structure.”

HEY 1: So when there was a big change within, the Early Years foundation stage, which is the curriculum for the Early Years, the project really kind of [fell] into that and led the way cause [...] when we reshaped the audit tool, and restructured it, we were almost ahead of the changes of the curriculum, the focus of the curriculum were focuses what we had within the project. So it was a good kind of selling point for us really.”

The presence or lack of community opportunities to strengthen the project also impacted program outcomes. These opportunities were diverse, appearing in forms such as financial or political investment, publicity campaigns, and the alignment of priorities of public health and other sectors in the community. When such opportunities appeared and aligned with a given project, it allowed community members to gain knowledge, skills, and become more involved, and provided better employment opportunities in the community, leading to sustainability of program outcomes. When a lack of such opportunities existed, the result was a decrease in project effectiveness and sustainability.

LL 3: “I think what it is about, being able to coordinate this process alongside opportunity, and I think that’s what really hinges on being able to implement that opportunity, use this knowledge, and have a lot of money come inside because we did the process but the opportunities aren’t coming along until later. So therefore you lose people. You lose the energy. You lose the sort of the drivers. And then we can actually do something about this now.

LL 3: “Some people want to be like, “oh why am I going to be wasting my time if nothing happens with this?” Some people might have seen it as an opportunity to influence decision-making. So they would have taken part because they might have seen the bigger picture on it. It’s just, it’s just hard to know really”

Having resources to align project elements with external opportunities can support sustainability. At the same time, a lack of resources – whether it be community members not having the time or underestimating time commitments, or management not having funding, sufficient time, infrastructure, or physical space - becomes a barrier to project success.

HEY 1: “[The project] was funded yearly by public health but I think because it met most of its targets, and really demonstrated the impact that they kept extending the contract and the funding for the project although the funding has decreased over the years, they kept it going.”

LL 1: “We had restrictions on budget and we had quite a restricted timeline as well, but I would say, in an ideal world if we had a longer time to deliver this project across, it would have given us more time to go out and recruit people, spread the message, make sure that we involved a lot more stakeholder organizations, recruiting a bigger cohort of community researchers because the way it panned out was, we didn’t have a lot of scope for people dropping out, which always happens, so I think I would have liked a little bit more time in preparing for the project.”

LL 4: “I did speak to a person who said, “we wouldn’t be able to do it, cause either it’s too busy,” very similar to our small organizations. So maybe they didn’t have the time or the resources because it was for anyone in Tower Hamlets. If you lived or worked in these areas. So people were interested who were working so they couldn’t give up the time for the training element, part...”

4.5 Summary

This chapter presented the results for this research including the literature-based RE-AIM model guideline, multiple case application of the RE-AIM model, and

discussion of emergent themes. In the next chapter, the conceptual model is presented, which combines the themes with the RE-AIM model to show a modified version to support evaluation of asset-based community health interventions. To help structure evaluation in a broader sociological real-view perspective, we have included a discussion of how a Realist Evaluation approach can be combined with RE-AIM.

Chapter 5: Discussion

The overarching purpose of this research was to test the applicability of the RE-AIM model for evaluation of asset-based community health interventions in the context of Tower Hamlets, London, UK. To guide this research, three research questions were presented (Chapter 1, Section 1.2, “Research Questions and Objectives”).

1. Which key indicators related to the Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM) can be applied across different types of asset-based interventions?
2. How have the dimensions of the RE-AIM model been applied to the evaluation of selected asset-based community health interventions within the East London borough of Tower Hamlets?
3. How can asset-based health interventions evaluation methodologies be improved for community public health?

Chapter 4 provided responses to these questions through a review of RE-AIM and health literature, application of the RE-AIM model to three asset-based community health interventions, and discussion of emergent themes. In this chapter, the results of the research are interpreted and compared to broader literature, including the Realist Evaluation approach. As well, a conceptual model and limitations to the research are presented.

5.1 The RE-AIM Model Guideline

The first research question explored indicators of RE-AIM for the purpose of applying them to three cases of asset-based interventions. The resulting RE-AIM model guideline is a tool that summarizes elements relevant to each RE-AIM dimension – Reach, Effectiveness, Adoption, Implementation, and Maintenance – as described in RE-AIM health literature. It is based on publications that combine diverse topics and system levels including Community-Based Participatory Research (CBPR), health informatics,

physical activity and nutrition, alcohol and tobacco, sexual health, pharmaceuticals, and geriatrics, as well as community, organizational, and institutional level research, respectively (Andrews et al., 2013; Bakken and Ruland, 2009; Belza et al., 2014; Bopp et al., 2007; Graffy et al., 2012; Huye et al., 2014; Mahabee-Gittens et al., 2014; Minichiello et al., 2013; Nigg et al., 2012; Ory et al., 2014; Ory et al., 2007; Planas, 2008; Payne et al., 2011; Thomas, Krevers, and Bendtsen, 2015; Zanko et al., 2014).

The RE-AIM model guideline (Table 4.7) unifies this research and provides a guide for professionals interested in conducting RE-AIM evaluation in public health, combining qualitative and quantitative measures. This evidence-based guideline also provides a structure and examples of relevant concepts to support evaluation methodology, and improve evaluation reporting in health.

General planning tools for RE-AIM evaluation range from self-evaluation checklists to more formal documents about how to prepare for evaluation using the RE-AIM model. The RE-AIM model guideline developed in this research contains similar components included in the “Checklist for Study or Intervention Planning” with descriptions of RE-AIM dimensions, key concepts, and potential questions to apply to evaluation methodology (Virginia Polytechnic Institute and State University, 2016). The Virginia Polytechnic Institute tool, however, has a focus on projects in the design phase, whereas the guideline presented here is based on qualitative methods and asset-based approaches.

The RE-AIM model is a powerful tool because it is flexible in application, capable of accommodating multiple domains and research methodologies in the evaluation. As well, it considers the representativeness of both people and settings in its structure (Glasgow et al., 1999). Nevertheless, this evaluation tool has limitations, one of which is that the RE-AIM dimensions focus largely on individual behaviour changes, whereas public health often focuses on population level changes. While Glasgow, Vogt, and Boles’ (1999, p.1323) originally stated that RE-AIM “is compatible with systems-based and social-ecological thinking as well as community-based and public health interventions”, Finch and Donaldson (2009) argue that RE-AIM may require adaptations

to improve appropriateness for multi-level, multi-faceted public health interventions. This is typically the context for asset-based community interventions.

Not surprisingly, different researchers are currently exploring applications of RE-AIM and modifying the original model for different contexts. In one study, the RE-AIM model was operationalized to facilitate quantitative evaluation of large, multi-sector partnerships – specifically the community-university partnership Spinal Cord Injury (SCI) Action Canada (Sweet et al., 2014). The resulting framework was a quantitative structure of the RE-AIM model. Finch and Donaldson (2009) similarly adapted RE-AIM to a community sports context introducing a real-world and holistic interpretation of physical activity in their evaluation. They renamed their version RE-AIM SSM (Sports Setting Matrix), which combined the RE-AIM dimensions with elements related to the level of assessment, intervention setting, or targets in community sport interventions. Both these examples show strategies researchers are using to tailor RE-AIM to specific contexts.

The RE-AIM model guideline presented in this research provides a similar first step in exploring the applicability of RE-AIM to asset-based community health interventions. The next sections describe how applying this guideline to three community interventions allowed identification of improvement areas and subsequent adaptation of the model to this particular context.

5.2 Applying the RE-AIM Model to Asset-Based Community Health Interventions

Research question 2 applied indicators found in question 1 to three asset-based community health interventions to explore how RE-AIM can be applied for this type of health intervention. The RE-AIM model guideline provided the necessary indicators on which data collection (i.e., interview questionnaire) and subsequent analysis (i.e., coding grid) were based. The guideline acted as a structure to help categorize each asset-based community health intervention case by the RE-AIM dimensions. The evidence-based indicators from the RE-AIM model guideline informed this case study process, and resulted in the ability to compare how the different interventions addressed Reach, Effectiveness, Adoption, Implementation, and Maintenance. Please refer to Table 4.11

for a comparison of the major findings of the multiple case study application of the RE-AIM model to the three cases.

It was difficult to compare the overall impact of the cases because of how differently the reported results are for each dimension. Glasgow, Vogt, and Boyles (1999) argued that there is no good way to combine the RE-AIM dimensions into one value, and so each should be measured individually (Glasgow, Vogt, and Boyles, 1999). Each dimension was therefore analyzed separately, but is presented side-by-side to show the main dimensions in different contexts. This multiple case comparison may be interpreted to improve certain elements of each project.

Throughout the data collection and analysis phases, it became apparent there were elements important to asset-based community health interventions that were not being captured by the RE-AIM model. The following is a non-exhaustive list of such elements:

- I. The RE-AIM model limits understanding of the project vision and overall goals, challenging the measurement of dimensions such as Reach and Adoption
- II. Not every community project focuses or reports equally on evaluation and implementation, therefore Effectiveness and Maintenance are challenging to measure
- III. RE-AIM does not account for multiple and ongoing project cohorts, challenging the measurement of implementation, maintenance, and project evolution
- IV. RE-AIM does not specifically focus on health assets, so may not capture the essence of what it takes to define, measure, evaluate, and build assets within the community.

This list portrays some of the challenges experienced in the process of analysis. It shows how the complexity of asset-based community health interventions is not always captured in tools with broad application. Overall, because the RE-AIM model is typically “intended for individual behaviour program change”, applying it to a community level was a challenge in this research (Issel, 2013, p.538). Although working with RE-AIM as a framework increases the potential generalizability of findings into public health practice, it does not guarantee a comprehensive description of implementation in natural

settings (Loef and Walach, 2005). What is needed is further exploration into strategies on how to make RE-AIM more representative of asset-based and community-based approaches in natural settings. To explore how the RE-AIM model may be adapted, the next section used the data and results from this research question to look for cross-cutting themes important to asset-based and community-based approaches.

5.3 Emergent Themes and Adapting the RE-AIM Model to Asset-Based Community Health Evaluation

In the third research question, data from the previous case studies were further explored to identify how the RE-AIM model could be adapted for asset-based community health interventions. There were three themes presented in Chapter 4 that emerged as a result of this exploration process. They focused on how people's motivation, behaviours, and relationships, the project structure, and the surrounding context, all affected the overall project impact. The themes are the representation of concepts referenced most commonly; they reveal relevant elements to these health interventions.

The themes show that beyond Reach, Effectiveness, Adoption, Implementation, and Maintenance, there are additional and more nuanced ideas that describe more accurately asset-based approaches. These ideas may not be adequately addressed in RE-AIM evaluation.

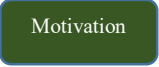
The most referenced theme was theme 1 (*people's motivation, behaviours, and relationships can affect project impact*). The initiatives would have been meaningless without people's motivation and proactivity to participate and lead these projects. Their relationships, communication, trust, and support for each other powered the collaboration between institutional and community partners, and helped move the projects forward. The second theme (*project structure can affect project impact*), introduced the idea that project methodology, decisions regarding data collection, and evaluation efforts directly affect project outcomes. Both the first and second themes made up the strength of the community projects. The third theme (*surrounding context can affect project impact*), is external to the people and project structure, but identifies other influences that impact on project elements.

It is important to note how all these themes are continually in a dynamic state. Throughout the interplay of people's behaviours and relationships, the project structure, and the project context, these elements are also always changing to create new and complex project scenarios. The projects adapt to these occurring changes, leading to an eventual project evolution, seen on a larger level.

All three of these themes played important roles in the projects studied, and are all interconnected. Together, they can be used as a conceptual springboard to support the adaptation of the RE-AIM model to asset-based health interventions. Specifically, these themes provided opportunities for certain concepts to emerge as nuanced aspects of asset-based interventions. The richness of the qualitative data provided direction in extracting examples of questions that capture both finer details of community-based projects and an asset-based lens.

The questions presented in Table 5.1 form a list of additional concepts in asset-based community health interventions worthy of exploration when using the RE-AIM model. These questions are presented with flexibility in mind; they may be incorporated simultaneously alongside the RE-AIM model, or used as a reflective tool for analysis.

Table 5. 1 Thematic questions

Theme	Concept	Questions
 PEOPLE	 Motivation	• What motivates individual people (community members, staff within organizations) to participate fully? • How does the project increase intrinsic motivation and buy-in? • What do people value about the project that makes them interested?
	 Behaviours	• In what circumstances do people adhere to their roles within the project? • How does the project attempt to reduce uncooperative behaviours? • Is it apparent what people's interests are? What are they, and how do they contribute to the project?
	 Relationships/ networks	• What kind of relationships and networks exist between the people involved? Do they consist of strong or weak ties? • How are people using their existing relationships and networks? • How does the project improve professional relationships and networks?
	 Communication	• What methods of communication are used to connect with others? Which are effective? Which methods are more effective than others? • How do people understand the project and communicate their understanding to others? • Does project team have a common understanding, and if not, how can this process be facilitated?
	 Trust	• What power dynamics exist, and how do they impact trust between people involved in project? • How does the project attempt to improve openness of individuals throughout the design, implementation, and evaluation phases?
	 Support	• How are people supported within this project? (i.e., financial, informational, technical, emotional support) Is the support effective? • Are people aware of and taking advantage of the resources and support available? • How can the level or quality of support be improved?

PROJECT STRUCTURE	Methodology	• Is there a centralized or de-centralized approach? • What impact will the approach have on outcomes? • What is the structure of the project team? • What are some unique skills of the people involved in the project and how can they be optimized?
	Data Collection	• What kind of data will be collected, and for what purpose? • At what time points will this data be collected? Is there a benefit to a different time?
	Evaluation	• What intentions and capabilities does the project team have to evaluate the program? • Is reporting of results required by a funding/commissioning organization? • How are results being disseminated? • How are people being recognized for their efforts?
CONTEXT	External Factors	• How does the project accommodate for potential seasonal, geographical, organizational, and political influences? • Regarding the people involved in the project, what kind of occupations do they have? How can this information be used to optimize project success?
	Opportunities	• What opportunities exist in the local community that could help improve project success? (i.e., events, campaigns, bigger programs, fundraisers) • How can the project team use these opportunities effectively to improve project success?
	Resources	• What resources are currently available for the project? (time, human, financial, etc.) • What resources could become available, and how to obtain them?

The third research question took the case study results of the applied RE-AIM model guideline, and explored emergent themes and the development of thematic questions to help adapt RE-AIM to an asset-based community health intervention context. This process allowed for more granularity of the RE-AIM model in relation to aspects of people's behaviours, relationships, project structure, context, and the dynamic nature of all elements, as previously it did not describe nuances of the asset-based community health interventions.

As Rütten et al. (2010) describes, what asset-based approaches require in terms of evaluation is an expansion to a more socio-cultural definition. The list of questions in Table 5.1 is a first step in expanding this definition. The limitation, however, is that the answers may or may not lead to appropriate understanding of the dynamics of the health intervention. With this in mind, the last step of this research is to present a complementary approach, known as the Realist Evaluation, that addresses this need for further granularity.

5.4 The Link to Realist Evaluation

The three themes presented in the research question 3 expand the RE-AIM model by incorporating relevant elements of asset-based community health interventions. Realist Evaluation is presented in this section to address some remaining shortcomings of the RE-AIM model.

The Realist Evaluation approach, as defined in Chapter 2, is an evaluation philosophy and tool that describes real-world processes by breaking them down into the context, mechanisms, and outcomes. More accurately, it describes how every process consists of a unique set of context (C), mechanisms (M), and outcomes (O), otherwise known as C-M-O configurations. This approach identifies “what works in which circumstances and for whom?” (Pawson & Tilley, 1997). The RE-AIM model similarly breaks down programs by their processes, outcomes, people, and settings using the five dimensions of Reach, Effectiveness, Adoption, Implementation, and Maintenance.

When RE-AIM was applied to three asset-based community health interventions, the results revealed mainly static elements, in lieu of dynamic and socio-culturally relevant concepts, which are arguably necessary for evaluation of asset-based and community-based approaches (Rütten et al., 2010). Following analysis, emergent themes revealed that beyond isolated *people*

and organizations, dynamic relationships and partnerships between people mattered very much. The themes uncovered that beyond the *project structure* of the three cases, the *changing context* had a significant impact on project outcomes and long-term sustainability. Because these themes pointed to a broader interpretative lens rather than mere descriptions of project elements in isolation, thematic questions were further introduced. Realist Evaluation approach was subsequently used to complement and further interpret the results in the hopes that a fuller picture would emerge.

Table 5.2 below outlines a collection of potential C-M-O configurations for the 1st theme suggested through interview or textual data in this thesis research. This table is meant to serve as an example of Realist Evaluation application to asset-based community health interventions. Further research is needed to properly test and confirm these configurations.

Table 5. 2 Example of C-M-O configurations

Theme	Concept	Specific <u>mechanism</u> →	In a given <u>context</u> →	Leads to specific <u>outcome</u>
Theme 1: “People’s motivation, behaviours, and relationships affect project impact”	Clarity, awareness, and buy-in	Project team communicated clear instructions and details to CMs	CM*s were capable and willing to listen	CMs’ project awareness increased
		CMs became aware of project instructions	Project details and instructions aligned with CMs’ values/ interests	CMs project buy-in increased
		CMs accepted project ethos	No major external factors interfered	CMs were more willing to commit to tasks
	Incentive and Adherence	Project team offered organization financial contract to recruit CMs	Contract was clear and there were sufficient resources available	Organization was incentivized to deliver desired outcomes
	Proactivity and accomplishment of tasks	Project team members taking on some CM tasks	Time and location of tasks was not too far	Tasks were accomplished
		Project team and/or CM engaged with community face-to-face	There was sufficient resources and time for community engagement	Likelihood of participant recruitment increases and/or people are more willing to contribute

*CM: Community member

5.5 Conceptual Model: “The Roadmap to Asset-Based Evaluation”

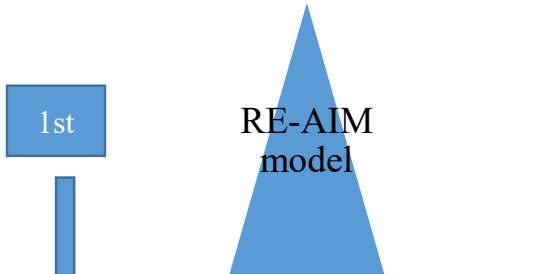
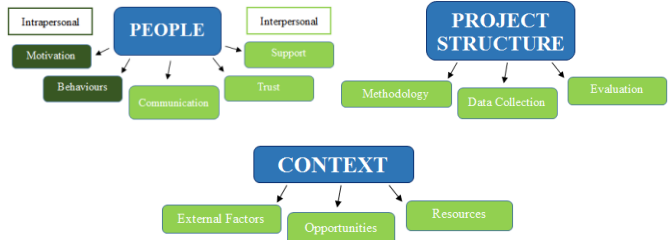
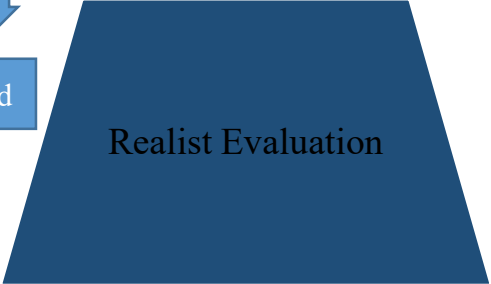
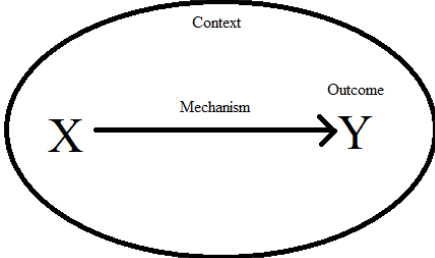
The RE-AIM model, by itself, is a general tool. To improve its applicability for specific contexts, it needs to be adapted according to elements relevant to those particular contexts. King, Glasgow, and Leeman-Castillo (2010) made amendments to the model to include built environments, resembling the *context* theme in this research. As previously mentioned, this is not the first time that the RE-AIM model has been extended in health research to include additional elements relevant to particular contexts. Finch and Donaldson’s (2009) version of the model included a sports setting matrix to help define the implementation context for community sport more comprehensively than the original model.

In this research, multiple stages contributed to helping adapt the RE-AIM model to asset-based community health interventions. First, data from RE-AIM health literature was used to develop a guideline of RE-AIM indicators. Second, these indicators were applied to data collection and analysis of three separate asset-based community health interventions. Third, emergent themes were used to develop probing questions, and fourth, the Realist Evaluation approach was introduced, and provided an opportunity to build on the RE-AIM model by adding further granulation of concepts for Reach, Effectiveness, Adoption, Implementation, and Maintenance, and investigating the C-M-O configurations present within each dimension.

When put together, these points of research create a roadmap to guide evaluation for asset-based approaches. This process of increasing granularity is presented as a conceptual model in the shape of a pyramid (Table 5.3). At the 1st and highest level of this pyramid is the RE-AIM model, which as demonstrated from this research, provides a broad evaluation framework to categorize project elements. The five dimensions of the RE-AIM model are relevant concepts for this level and the RE-AIM model guideline may be used as a tool to support evaluation planning and research. The 2nd and middle level of the pyramid is the “asset- and community-based lens”, which is more granular in that it allows a deeper understanding of program dynamics beyond the five dimensions of RE-AIM, as represented by the three emergent themes in this research. The thematic questions may be used to help support further planning and evaluation. The 3rd and bottom level of the pyramid is Realist Evaluation, where each individual process within the project may be mapped, leading to a fuller understanding of how a project works in asset-based

approaches. The concepts of Context, Mechanism, and Outcomes become relevant at this level, especially in the format of C-M-O configurations, which may be used to support evaluation. The three levels of this pyramid create a roadmap that can be followed from broader evaluation approaches to more context-specific strategies. This whole table is meant to act as a tool for planning better asset-based community health intervention evaluation.

Table 5. 3 Conceptual model “Roadmap to asset-based evaluation”, related concepts and evaluation tools

Conceptual model “Roadmap to asset-based evaluation” (Levels of granularity)	Relevant Concepts	Evaluation Tool
 RE-AIM model	R (Reach) E (Effectiveness) A (Adoption) I (Implementation) M (Maintenance)	RE-AIM model guideline
 Asset- and community-based lens	Themes 	Thematic Questions
 Realist Evaluation		CMO-Configurations

5.6 Lessons Learned

Many insights emerged from the process of this research analysis. First, to effectively measure any of the RE-AIM dimensions it was crucial that all project team members understand the project theory. Regardless of people's roles, it was necessary that people collectively understand the main purpose, philosophies or methodologies of their project. Otherwise, people provided different recollections of project facts, leading to a confusing evaluation story. Second, the attempt to use a single interview questionnaire for three very different community-based projects proved challenging as the dimensions were defined very differently across each project to the point that they were often incomparable. Third, the textual data by nature largely consisted of evaluation results making them useful for outcome measures, but often could not provide answers pertaining other indicators.

As a recommendation for future use, when developing indicators for RE-AIM evaluation for asset-based community health interventions, researchers need to work with community members to develop assets and measures that are linked to the social context (Durlauf and Fafchamps 2006; Povtin, 2007). To accomplish this, it is crucial to meet with community people involved in the project and brainstorm how the five dimensions of the RE-AIM model uniquely apply to their project - prior to evaluation. This brainstorming process could include informal asset-mapping, and framing questions about the RE-AIM dimensions around these assets, for example. This process would simultaneously help project teams obtain the same program understanding.

5.7 Study Limitations

This study is recognized to have several limitations. First, the findings are specific to three community-based projects in Tower Hamlets, London, UK, which limits generalizability to other projects. To improve transferability of results, a single version of the interview questionnaire was used, and results were triangulated between interviews and textual data. Secondly, the sample was purposively selected, and although a balance between community members and professionals was desired, the resulting interviews (n=9) included all professionals. This small sample size may influence the validity of the findings. To help offset this, community

member testimonials were included in analysis from textual data (evaluation result documents). In addition, depending on each project's team structure and the willingness of the team to involve their organization in research, the level of engagement varied by project.

Chapter 6: Conclusion

This chapter summarizes the contribution of this research to the field of knowledge in evaluation of asset-based approaches, implications for practice, and future research opportunities.

6.1 Contribution to Knowledge

There is a need for more systematized evaluation methods and structures in the field of asset-based approaches in public health. This research addresses this gap in evaluation research. First, a RE-AIM model guideline was developed for professionals who desire to use RE-AIM in their evaluation with qualitative methods. Second, this study provided a multiple case demonstration of how the RE-AIM model could potentially be applied to asset-based community health interventions. Third, a list of questions was developed from emergent themes, depicting important concepts that can be included in asset-based evaluation. Fourth, this study provided a demonstration of how the Realist Evaluation approach could potentially extend the RE-AIM model. Lastly, this research introduced the conceptual model, “the Roadmap to Asset-based Evaluation”, which combines the RE-AIM model, themes, and the Realist Evaluation in one evaluation structure.

6.2 Implications for Practice

The application of the RE-AIM model to multiple cases of asset-based community health interventions supports evaluation and asset-based approaches for the communities of Tower Hamlets, London, UK. Ideally, this research will help provide ideas or guidance for future evaluation efforts – whether specifically at a program level (Local Links, Healthy Early Years, and Good Moves), organization level (Tower Hamlets Public Health Council, Social Action for Health), or borough-wide (Tower Hamlets Council).

6.3 Future Research Opportunities

Moving forward, it would be valuable to conduct a similar study to include community members as interviewees, to gain the community perspective on RE-AIM evaluation of health programs. This would provide a balanced perspective between professionals implementing projects and community members partaking in the intervention. Also, expanding to a mixed-methods approach, or having more data sources could improve data triangulation. Although qualitative methods provide rich data, having quantitative and qualitative data would further increase rigour in results. Lastly, more studies are needed to assess the impact of using RE-AIM in combination with community-based concepts and Realist Evaluation approaches to see if it accurately captures important results in asset-based community health interventions. This study was the first step in explicitly assessing impact of programs using RE-AIM in asset-based contexts.

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Appendix A

Seven Asset-based Community Health Interventions Cases in Tower Hamlets Found in Online Search

Appendix A provides a list of the seven asset-based community health intervention cases found online and used in consideration for the multiple case study design. For each intervention, the table provides the project title, type of asset-based activity, organization responsible for intervention, intervention description, intervention setting and target, as well as potential contribution of case to this study and its limitations.

The purpose of this appendix is to provide a thorough comparison of different types of asset-based community health intervention cases in Tower Hamlets. This comparison ultimately aided in the decision of the three final cases for this research.

<u>Project Title</u>	<u>Type of Asset-based activity</u>	<u>Organization name</u>	<u>Description</u>	<u>Level of intervention</u>	<u>Target of intervention</u>	<u>Outcome of intervention</u>	<u>Intervention completed?</u>	<u>Potential Contribution to case study research</u>	<u>Limitations of contribution to case study research</u>
BME Stop Tobacco Project	Community-based health behaviour intervention	King's College London - Dental Institute	This project is part of the change4life campaign; it is a service that supports Bangladeshi and South Asian individuals in Tower Hamlets in stopping smoking or smokeless tobacco	Academic institution level	Borough-wide: Bangladeshi and South Asian Tower Hamlets residents who wish to stop smoking	Individual behaviour change leading to overall population decrease of rates of smoking	Continual service	Provide insight into borough-wide ethnically sensitive tobacco cessation program	No contacts yet
The GoodGym	Community-based health behaviour intervention	The GoodGym	This is a community-based organization composed of runners and coaches who motivate each other to improve/sustain their physical activity while performing different community errands and volunteer work. Slogan is "get fit, do good, connect"	Community organization/grassroots level	Residents who wish to run and sign up for this gym - anyone can sign up except that office is located in Tower Hamlets (and a few other wards)	Individual behaviour change in physical fitness for members and community volunteer work leading to overall population increase of physical health and civic engagement	Continual service	Provide insight into grassroots organization that tries to mix physical exercise with civic engagement	No contacts yet and information on website is unclear (i.e structure of organization, types of people involved in organization)

Bike it – U Can 2	Community-based health behaviour intervention	Sustrans Charity Organization	Part of the Tower Hamlets Healthy Borough Programme and the Bike it Project; taught mothers at particular Bike it schools how to cycle; 8 week programme in 2009 that provided lessons and tools for riding, safety, and maintenance	Community organization Level	Mothers who want to learn how to bike of kids at Cubitt Town Primary School	Individual behaviour change leading to overall population increase of cycling rates	Complete	Provide insight into community cycling programs implemented by large charity organization	No contacts yet and unclear cross-over between the Bike it and the Bike it- U can 2 Project; project is not as recent
Ocean's 11	Community-based health behaviour intervention	Sustrans Charity Organization	Part of the "Get up, Get active" programme in Tower Hamlets; eleven women in the Ocean estate who had not cycled before learned how to bike in three months in 2010-2011	Community organization Level	Eleven women in the Ocean Estate	Individual behaviour change leading to overall population increase of cycling rates	Complete	Provide insight into community cycling program implemented by large charity organization; relatively more recent	No contacts; project is not as recent
Healthy Early Years Project	Community-based health institution and behaviour intervention	Tower Hamlets Local Authority - Tower Hamlets Early Years Service	Part of the Tower Hamlets Healthy Borough Programme; started in 2010; tried to get multiple nursery and targets nursery schools, childrens centres, and early year settings to attain healthy early years accreditation	Political Institution level	Early Year schools in Tower Hamlets	Health Promotion activities aimed at changing individual behaviour with ultimate goal of attaining Healthy Early Years Accreditation	Complete	Provide insight into completed government-led project that tried to increase health assets in children's schools to get them to qualify for a particular level of health	No contacts

MyWeigh	Community-based health behaviour intervention	Social Action for Health (Tower Hamlets)	free-one year programme in partnership with bromley-by-bow meant to help people lose weight	Community organization Level	Overweight/ Obese adult residents in Tower Hamlets who wish to lose weight	Individual behaviour change leading to overall population decrease in obesity rates	Continual Service	Provide insight into ongoing community organization-led weight loss programme in Tower Hamlets; contacts with this organization already established; Lots of information online available	Previous contact established
LocalLinks	Community-based asset-mapping intervention	Tower Hamlets Public Health Council	Asset-mapping project that received community input and was put online as a tool Project supported by local designer and Council to map community assets	Political Institution Level	Tower Hamlets Borough-wide	Asset-mapping exercise and community assets visual online tool	Preliminary mapping complete and ongoing maintenance	Provide insight into government-led asset-mapping project; contacts with this project group already established	No structure of evaluation created thus far

Appendix B
Research Ethics Certificates

Appendix B provides the Tower Hamlets Local Research Ethics certificate as well as the University of Ottawa Research and Ethics Board certificate of approval.



Ms Karolina Kaminska
55 Laurier Avenue East
Ottawa
ON
K1N 6WS

Law, Probity and Governance
Corporate Research Unit
6th Floor
Town Hall, Mulberry Place
5 Clove Crescent
London E14 2BG

Tel: 020 7364 4238
Email: rgf@towerhamlets.gov.uk

Our Ref: CERGF187

Date: 7th September 2015

Dear Ms Kaminska,

Research Title: Applying the RE-AIM model to asset-based community interventions: a multiple case study in Tower Hamlets.

This is to confirm that your research proposal has been approved by the Research Governance Framework Panel. Because of the potentially sensitive information you are proposing to capture, the Panel requires that an encrypted Iron Key is used for data storage.

Upon completion can you please submit a copy of your report or an extract from your conclusion to the above postal or email address. We may then publish details of your research on the National Social Care Research Register.

I would be grateful if you would complete a short questionnaire to provide feedback on the service that you have received. Please click on the link below.
<https://www.surveymonkey.com/s/rgfsurvey> We want to ensure that we offer the best quality service to our users and your feedback is essential in improving our services further.

Please do not hesitate to contact me should you need any further assistance.

I wish you well in your research study.

Yours sincerely,

A black rectangular box redacting the signature of Juanita Haynes.

Juanita Haynes
RGF Co-ordinator

File Number: 03-14-18B

Date (mm/dd/yyyy): 09/11/2015



Université d'Ottawa
Bureau d'éthique et d'intégrité de la recherche

University of Ottawa
Office of Research Ethics and Integrity

Ethics Approval Notice
Social Science and Humanities REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

<u>First Name</u>	<u>Last Name</u>	<u>Affiliation</u>	<u>Role</u>
Tracey	O'Sullivan	Interdisciplinary Health Sciences	Supervisor
Daniel	Lane	Telfer School of Management	Co-Supervisor
Antony	Morgan	Glasgow Caledonian University	Co-Supervisor
Karolina	Kaminska	Telfer School of Management	Student Researcher

File Number: 03-14-18B

Type of Project: Master's Thesis

Title: Applying the RE-AIM model to asset-based community health interventions: a multiple case study in Tower Hamlets, London, UK

Approval Date (mm/dd/yyyy)	Expiry Date (mm/dd/yyyy)	Approval Type
09/11/2015	09/10/2016	Ia

(Ia: Approval, Ib: Approval for initial stage only)

Special Conditions / Comments:
N/A

File Number: 03-14-18B

Date (mm/dd/yyyy): 09/11/2015



Université d'Ottawa
Bureau d'éthique et d'intégrité de la recherche

University of Ottawa
Office of Research Ethics and Integrity

This is to confirm that the University of Ottawa Research Ethics Board identified above, which operates in accordance with the Tri-Council Policy Statement (2010) and other applicable laws and regulations in Ontario, has examined and approved the ethics application for the above named research project. Ethics approval is valid for the period indicated above and subject to the conditions listed in the section entitled "Special Conditions / Comments".

During the course of the project, the protocol may not be modified without prior written approval from the REB except when necessary to remove participants from immediate endangerment or when the modification(s) pertain to only administrative or logistical components of the project (e.g., change of telephone number). Investigators must also promptly alert the REB of any changes which increase the risk to participant(s), any changes which considerably affect the conduct of the project, all unanticipated and harmful events that occur, and new information that may negatively affect the conduct of the project and safety of the participant(s). Modifications to the project, including consent and recruitment documentation, should be submitted to the Ethics Office for approval using the "Modification to research project" form available at: <http://research.uottawa.ca/ethics/submissions-and-reviews>.

Please submit an annual report to the Ethics Office four weeks before the above-referenced expiry date to request a renewal of this ethics approval. To close the file, a final report must be submitted. These documents can be found at: <http://research.uottawa.ca/ethics/submissions-and-reviews>.

If you have any questions, please do not hesitate to contact the Ethics Office at extension 5387 or by e-mail at: ethics@uOttawa.ca.

Signature:

Riana Marcotte
Protocol Officer for Ethics in Research
For Barbara Graves, Chair of the Social Sciences and Humanities REB

Appendix C

Recruitment Notice

Appendix C provides the recruitment notice. This notice was sent to all project coordinators for the purpose of forwarding to potential participants. It includes the title of the research project, a brief description of participant's role in study, as well as the Principal Investigator's name and contact information.



Recruitment Notice

Dear [Mr. / Ms. LAST NAME],

Thank you for your interest in the research study titled “Applying the RE-AIM model to asset-based community health interventions: a multiple case study in Tower Hamlets, London, UK”. I am writing to ask whether you would be willing to participate in this research study in the capacity of an interviewee. The purpose of the interview would be to explore your perspective on the strengths and weaknesses of the [Title of case project]. This interview will be one-on-one and could be in person or by the telephone, and will last approximately one hour.

If you are interested, and/or have further questions I would please ask to contact me at [REDACTED] or [REDACTED]

I look forward to hearing from you.

Thank you for your time and consideration.

Sincerely,

Karolina Kaminska

Appendix D

Interview Participant Consent Form

Appendix D provides is the consent form used to obtain consent the interview participants. It includes researcher contact information, as well as description of the intention of participant invitation, study purpose, description of role of participant, benefits of participating in study, information on confidentiality and anonymity, how data will be conserved, the compensation provided, the status of voluntary participation, and a space to provide written, and informed consent by dated signature.



**Consent form – Research Conducted as part of Graduate Thesis for
Masters in Health Systems**

Name and coordinates of student researcher:

Karolina Kaminska

Telfer School of Management

In affiliation with Glasgow Caledonian University - London

University of Ottawa



Name and coordinates of supervisors and research mentor:

Tracey O’Sullivan

School of Health Sciences

University of Ottawa



Daniel Lane

Telfer School of Management

University of Ottawa



Antony Morgan

Public Health with Social Action

Glasgow Caledonian University



Invitation to participate: I am invited to participate in the thesis research study entitled “Applying the RE-AIM model to asset-based community health interventions: a multiple case study in Tower Hamlets, London, UK”, conducted by Karolina Kaminska for the Masters in Health Systems program.

Purpose of the study: I understand that the purpose of the study is to examine the applicability of the RE-AIM model to multiple cases of asset-based community health interventions in the borough of Tower Hamlets, London, UK.

Participation: My participation will consist of taking part in an individual interview lasting about one hour, during which I will be asked to answer a set of open-ended questions relating to the purpose of the thesis project. The interview will be audio-recorded. I will have the

opportunity after the interview to review the written transcript. These transcripts will be sent to me by secure email and will be passcode protected.

Benefits: My participation will provide insight into the applicability of the RE-AIM model to asset-based community health interventions in East London.

Confidentiality and anonymity: I have received assurance from the researcher that the information I will share will remain confidential. The contents will be used only for this thesis research project. I have been assured that in written reports, my name, title of my organization, position, and role will be disguised. Regardless, there is a chance that I could be identified from my contributions in the final publications due to the specific nature of the information I share in the interview.

Conservation of data: The data collected (digital recording of interview) will be kept in a secure manner. It will be stored on a computer with secure password. Only the student researcher, the supervising professors (Dr. Tracey O'Sullivan, Dr. Dan Lane, and Dr. Antony Morgan), and the research assistants will have access to the interview data. The data will be conserved for five years.

Compensation: No monetary compensation will be provided.

Voluntary participation: I am under no obligation to participate and if I choose to participate, I may withdraw from the study at any time and/or refuse to answer any questions. If I choose to withdraw, I will also have the option to remove my data from the study.

Acceptance: I, _____, agree to participate in the above research study conducted by Karolina Kaminska of the Telfer School of Management, whose research is under the supervision of Dr. Tracey O'Sullivan, Dr. Daniel Lane, and Dr. Antony Morgan. I understand that by accepting to participate I am in no way waiving my right to withdraw from the study.

If I have any questions about the study, I may contact the student and/or the supervisors/research mentors at the numbers mentioned above.

If I have any ethical concerns regarding my participation in this study, I may contact the Protocol Officer for Ethics in Research, University of Ottawa, 550 Cumberland Street, Room 154, (613) 562-5387 or ethics@uottawa.ca.

There are two copies of the consent form, one of which is mine to keep.

Participant's signature: _____ Date: _____

Researcher's signature: _____ Date: _____

Appendix E

Semi-Structured Interview Questionnaire

Appendix E provides the interview questionnaire. It was based on the Reach, Effectiveness, Adoption, Implementation, and Maintenance of the RE-AIM model (Glasgow, Vogt, and Boyles, 1999). It includes the most recent version after the RE-AIM model guideline was completed and the information from the framework was applied. The same questionnaire was used at every semi-structured interview, and was used as a guide for the benefit of the interviewer.

Interview Guide:

1. Do you know what group of people was originally targeted for the project/program? If so, who?
2. How many people wanted to participate and/or actually participated in project/program?
 - a. What were their characteristics/demographics?
3. Please describe how participants could have learned about and signed up for the project/program.
4. Do you know of anyone/any group of people who did not participate? If so, who?
 - a. Why do you believe this person/these people did not participate?
 - b. What do you believe could be changed to help them participate?
5. What were the goals outlined at the start of the project/program?
 - a. Do you feel these goals were realistic?
6. What were the real outcomes of the project/program?
 - a. How were these outcomes tracked?
7. What other outcomes were you hoping to see in the future?
8. Did the project/program have any unexpected or negative effects?
9. Please describe if there was anything that made it easier to achieve project/program goals.
 - a. Was there something about the project/program's structure that helped?
 - b. Was there something about the physical environment that helped?
 - c. Was there something about the people (staff, other participants, family) that helped?
10. Please describe if there was anything that made it more difficult to achieve project/program goals.
 - a. Was there something about the project/program's structure that made it more difficult?
 - b. Was there something about the physical environment that made it more difficult?
 - c. Was there something about the people (staff, other participants, family) that made it more difficult?
11. Where was this project/program offered?
 - a. Was there only one location/organization/department? Or multiple?

12. What was the structure of the project/program?
 - a. What steps were outlined at the beginning of project/program to be followed?
13. Please describe how these steps were followed.
 - a. Were any steps not followed?
14. Please describe if there was anything that made it easier to follow the project/program's steps.
 - a. Was there something about the physical environment that helped?
 - b. Was there something about the people (staff, other participants, family) that helped?
15. Please describe if there was anything that made it more difficult to follow the project/program's steps.
 - a. Was there something about the physical environment that made it more difficult?
 - b. Was there something about the people (staff, other participants, family) that made it more difficult?
16. Do you have any suggestions/recommendations on what would make the project/program more successful?
17. What is the current state of the project/program?
 - a. Are you still involved? Why or why not?
18. Were any of the goals reached during the project/program maintained? If so, what were they?
 - a. Why or why not?
19. Did the project/program structure change during its existence? If so, can you please describe these changes?
20. What do you think would help the project/program continue into the future?

Appendix F

Confidentiality Agreement

Appendix F provides the confidentiality agreement. All research assistants signed this form prior to handling any confidential data. The agreement form includes information on the research project title, research objectives, and the conditions of agreement to protect confidentiality when handling data for the research project.



Research Assistant Confidentiality Agreement
Monday, July 13, 2015

This study, “Applying the RE-AIM model to asset-based community health interventions: a multiple case study in Tower Hamlets, London, UK”, is being undertaken by Karolina Kaminska (HBHSc, MScHS Candidate) at the University of Ottawa in affiliation with Glasgow Caledonian University - London.

The study has 3 objectives:

1. To understand key indicators of the RE-AIM dimensions Reach, Effectiveness, Adoption, Implementation, and Maintenance and how these are of particular relevance to asset-based community health interventions
2. Determine emergent themes from documentary evidence and interviews with key informants on three cases of the asset-based community health interventions in the East London borough of Tower Hamlets using the RE-AIM model.
3. Incorporate mechanisms, contexts, and regularities principles of the Realist Evaluation perspective into the RE-AIM evaluation analysis.

Data from this study will be used for thematic analysis to provide a better understanding on the applicability of the RE-AIM model on a series of different asset-based community health interventions.

I, _____, agree to:
 (name of research assistant)

1. Keep all the research information shared with me confidential by not discussing or sharing the research information in any form or format (e.g. disks, tapes, transcripts) with anyone other than the Principal Investigator(s);
2. Keep all research information in any form or format secure while it is in my possession;
3. Return all research information in any form or format to the Principal Investigator(s) when I have completed the research tasks;
4. After consulting with the Principal Investigator(s), erase or destroy all research information in any form or format regarding this research project that is not returnable to the Principal Investigator(s) (e.g. information sorted on computer hard drive).

Research Assistant:

(print name) (signature) (date)____

Principal Investigator:

(print name) (signature) (date)____

If you have any questions or concerns about this study, please contact:

Karolina Kaminska
40 Fashion St, London E1 6PX



This study has obtained approval by the Research Ethics Board at the University of Ottawa. For questions regarding participants rights and ethical conduct of research, contact the University of Ottawa Research Office at +1 (613) 562-5387 or ethics@uottawa.ca.

Appendix G

Summary of Definitions and Measurements of RE-AIM Dimensions from the Literature

Appendix G shows five tables containing the information systematically extracted from qualitative RE-AIM articles regarding the definition and measurements of Reach, Effectiveness, Adoption, Implementation, and Maintenance. Each table includes the following elements describing each RE-AIM dimension: the type of evaluation the dimension would be involved in, the description of the dimension, enabling factors and barriers, requirements for the given dimension, as well as the appropriateness, methods, and examples of the respective dimension. The purpose of this appendix is to provide the data results extracted from RE-AIM articles, and to ultimately display how RE-AIM has been used in the context of qualitative evaluation studies.

RE-AIM Dimensions		Definition	Measure
Codes	Type of evaluation	Process evaluation	
	System level	Individual level measure	
	Description	%, #, or proportion of target population, who would use intervention, willing to participate, eligible to participate, who participate, and who received intervention in last 6 months; Representativeness of individuals willing to participate (extent to which participants represent target population (characteristics of participants vs. non participants); Extent of program's attraction and retention	# and % of people reached, inquiring, applying, participating, and have access to the intervention; Types and characteristics of people (demographic details)
	Enabling Factors/Barriers	Barriers to participation	(Reasons for participation/ Enabling factors versus barriers) Participants' awareness, previous knowledge, recall/recognition, convenience, access to intervention, having the program's technical concepts explained in local language, having outreach
	Requirements	No data	No data
	Appropriateness	Are the people reached the ones that need to be reached?; Appropriateness of target audience	Appropriateness of target population: Are they most in need? Should there be a subset of people getting priority?
	Methods	No data	Analyzing enrolment and consent process; survey; interviews; recruitment strategy, # of channels of recruitment
	Examples	Health professionals who were mailed package of resources; individuals willing to participate in tobacco screening, proportion of parents they would be willing to target	age, gender, race, and risk factors

RE-AIM Dimensions		Effectiveness	
		Definition	Measure
Codes	Type of evaluation	Impact and long-term evaluation	
	System level	Individual level measure	
	Description	Impact of program on relevant, important, and specified primary and multiple outcomes; Positive (benefits) and negative (drawbacks) outcomes; Outcomes: Behavioural, physiological, economic, quality of life, patient satisfaction; Long-term/short-term	Did program achieve outcomes?; Outcomes: Process and program outcomes, Lifestyle and health behaviour changes, symptom management, health care utilization, clinical outcomes, quality of life, economic; Did program produce adverse/unanticipated outcomes? (Need for project revision)
	Enabling Factors/Barriers	No data	Enabling factors/Barriers to achieving outcomes: Convenience, privacy, decreased anxiety; Engagement of target audience, Health disparities, Communication inequalities, Quality of information, Location of delivery, Time of professional, Educational environment, Effect of evaluation on outcomes
	Requirements	No data	No data
	Appropriateness	No data	Appropriateness of outcomes on target population for organizations? Whose perspective are results coming from?
	Methods	No data	Standardized evaluation tools, midterm evaluation, overall evaluation program, consent process, surveys, interviews, questionnaires, methods to better achieve outcomes
	Examples	Percentage of people who use intervention; Who benefit; Professionals who completed questionnaire, cared for pregnant women; Attitudes and competency of staff by end of program; Participants' perception of what it could and what program did achieve	PA participation by church mentors, Percentage of church members who participated in program, Healthy eating index; blood pressure change

RE-AIM Dimensions		Adoption	
		Definition	Measure
Codes	Type of evaluation	Impact evaluation	
	System level	Setting and/or organizational	
	Description	Absolute #, proportion, and % of intervention agents (people who deliver program) and settings willing to initiate program, who implement, to adopt steps, perceived barriers and solutions; In other words, extent to which program was adopted by key intermediaries, participation rate of settings, saturation or penetration of program into settings; Representativeness of providers, organizations, settings (type, characteristics)	#, proportion of service providers and consumers who have access to program, who adopt, who are available to deliver; Representativeness: type; Adoption rate; reasons for non-participation; How adoption affects outcomes?
	Enabling Factors/Barriers	How similar different program is from organizations procedures, Organizational capacity, Partnership support	Barriers and plans to overcome; Use of resources; Costs; Fidelity to program protocol; Knowledge, awareness, peer pressure, religious constraints
	Requirements	Costs, resources	Program implementation correctly; Training; Electronic support
	Appropriateness	No data	Appropriateness of organization/setting selection: Settings with most contact with target audience; Who should administer? Is program consistent with values and priorities of organization?
	Methods	Lifestyle promotion, practice among staff	Review teams' pilot proposals, self-assessments; Staff questionnaire; Interviews
	Examples	No data	awareness of early testing, knowledge about difference between HIV and AIDS

RE-AIM Dimensions		Implementation	
		Definition	Measure
Codes	Type of evaluation	Process evaluation	
	System level	Organizational level measure (setting/individual)	
	Description	Extent to which program is delivered as intended; Extent to which program is delivered as intended; Consistency; Fidelity (Adherence to essential elements) Quality of intervention's delivery; How program was delivered; Frequency, duration; Resources used (client's use of intervention); Intervention integrity	How program should be delivered (Intervention protocol): How messages should be conveyed, delivery, staff training, support, clear intervention protocol, monitor, provide feedback, recognition, mentorship; How it is delivered: Recruitment process, sharing coordination, How many materials distributed, how many staff members, different levels of staff departments, program components; Consistency between execution and research protocol; Extent to which resources became part of routine
	Enabling Factors/Barriers	No data	More specific information; Communication between organizations and communities; Encouragement; Missing data; Repeated tailoring; Costs
	Requirements	Time, technical support, \$	Type of technical support needed; Training for providers, trainers
	Appropriateness	No data	Appropriateness of intervention agents, methods, organization/people
	Methods	Survey	monitoring, fidelity checklists, interviews, consent process, recommendations for sustainability
	Examples	Production of education resources/distribution; Total packages; HP who completed/withdrew from program	No data

RE-AIM Dimensions		Maintenance	
		Definition	Measure
Codes	Type of evaluation	Process and long term evaluation	
	System level	Individual and organizational	
	Description	Likelihood of long-term sustainability of program (degree to which programs becomes routine (everyday culture and norms) intervention's effectiveness at achieving desired outcomes for an extended time (usually 6 months of 1 year)); Individual: How well behaviour change efforts hold up in long-term, maintained self-management/adherence; Organizational: Extent to which program becomes institutionalized, part of organizational practices and policies, sustained delivery in settings	Individual: Did program produce lasting effects at individual level; Organizational: Did organization sustain program? Details of maintained components: Still ongoing activities no longer offered, which components were never delivered; Degree of sustainability: Level of lasting social networks, Health policy decisions embedded in policy plans, renewed, adjusted, updated annually; Evolution: How should interventions be incorporated so that it is delivered over long-term?, Incorporate natural environmental and community support
	Enabling Factors/Barriers	Enabling factors/barriers: Did resources assist in changing practice? Intent of HP to improve practice; # of professionals who already changed practice	Challenges, Budget/costs
	Requirements	No data	Improved accessibility and integrity as regards to service delivery and policies; Providing evidence of value of program; Coordination of care; Continue to track evaluative data
	Appropriateness	No data	Did those that sustain include those in most need? Inclusion of appropriate follow-up contacts
	Methods	No data	No data
	Examples	No data	No data