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Integrating Patient Decision Support in an Undergraduate Nursing Curriculum: An Implementation Project

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Integrating Patient Decision Support in an Undergraduate Nursing Curriculum: An Implementation Project*

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Abstract

A 4-year curriculum project (2004-2008) to integrate patient decision support into an existing curriculum was guided by the Knowledge-to-Action process model. The purpose of this project was to integrate a patient decision support theoretical framework and associated evidence-based resources throughout a four-year baccalaureate nursing curriculum. Interventions designed to adapt knowledge to local context and overcome barriers to knowledge use included faculty workshop to increase awareness, instructional resources designed for courses and core content, curricular blueprint of key threads to be included within courses, shared resources on the school of nursing internal website, and development of decision support resources in French. Curricular change and sustained use of knowledge was evidenced by repeated use of guest lecturers, assignments, and problem-based scenarios in courses, and students' evaluations on the tutorial and assignments.

KEYWORDS: nursing curriculum, patient decision support, faculty development, shared decision making, decision coaching, implementation

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Nursing faculty members are involved in continuous curricular review and renewal to ensure that their program prepares graduates to meet the challenges of clinical practice. An emerging body of evidence is the availability of effective tools to facilitate patients' involvement in health decisions and the need for nurses to better support patients facing decisions that require weighing of benefits and harms across options (e.g. mode of birth delivery, breast cancer surgery, location of care at end of life). Current decision support in clinical practice is inadequate and nurses have identified the need for better training in how to address patients' decision support needs (O'Connor, Hogg, et al., 2006; Murray, Wilson, Stacey, & O'Connor, in press; Stacey, Graham, O'Connor, & Pomey, 2005; Wirrmann & Askham, 2006). The purpose of this curriculum project was to improve the knowledge and skills of faculty and undergraduate nursing students in patient decision support. The university's Research Ethics Board provided ethics approval. Faculty members had free choice to determine their level of participation in the project (e.g. attend workshops, provide feedback, and/or integrate learning activities in their courses).

The *Knowledge to Action Process* conceptual framework (Graham et al., 2006) was used to guide the process of introducing this evidence-based practice innovation to faculty and students. This framework is intended to guide the implementation of evidence in clinical practice and was determined to be relevant to the process for integrating evidence in curriculum. At the core of the framework is *knowledge creation* process. The circular *action cycle* begins with the recognition of a problem followed by identification, review, and selection of knowledge relevant to the problem. The knowledge is then adapted to the local context. Barriers to knowledge use are assessed and interventions are introduced to overcome known barriers. In the next phases, knowledge use is monitored, outcomes are evaluated, and strategies for sustained knowledge use are identified. The curricular innovation will be described in more detail according to each of the components of the *Knowledge to Action Process*.

Knowledge Creation

According to the *Knowledge to Action Process*, (Graham et al., 2006), *knowledge creation* can be conceptualized as an inverted pyramid of knowledge leading to more tailored knowledge that is based on individual studies, then synthesized with systematic reviews or practice guidelines, and finally transferred into tools or products that are relevant for use in clinical practice. In patient decision support, there is a large body of knowledge based on the *Ottawa Decision Support Framework* (O'Connor, Tugwell, et al., 1998) and related tools such as the Decisional Conflict Scale, (O'Connor, 1995), patient decision aids

(Coulter & Ellins, 2007), and interventions for integrating decision support in practice (Stacey, O'Connor, Graham, & Pomey, 2006).

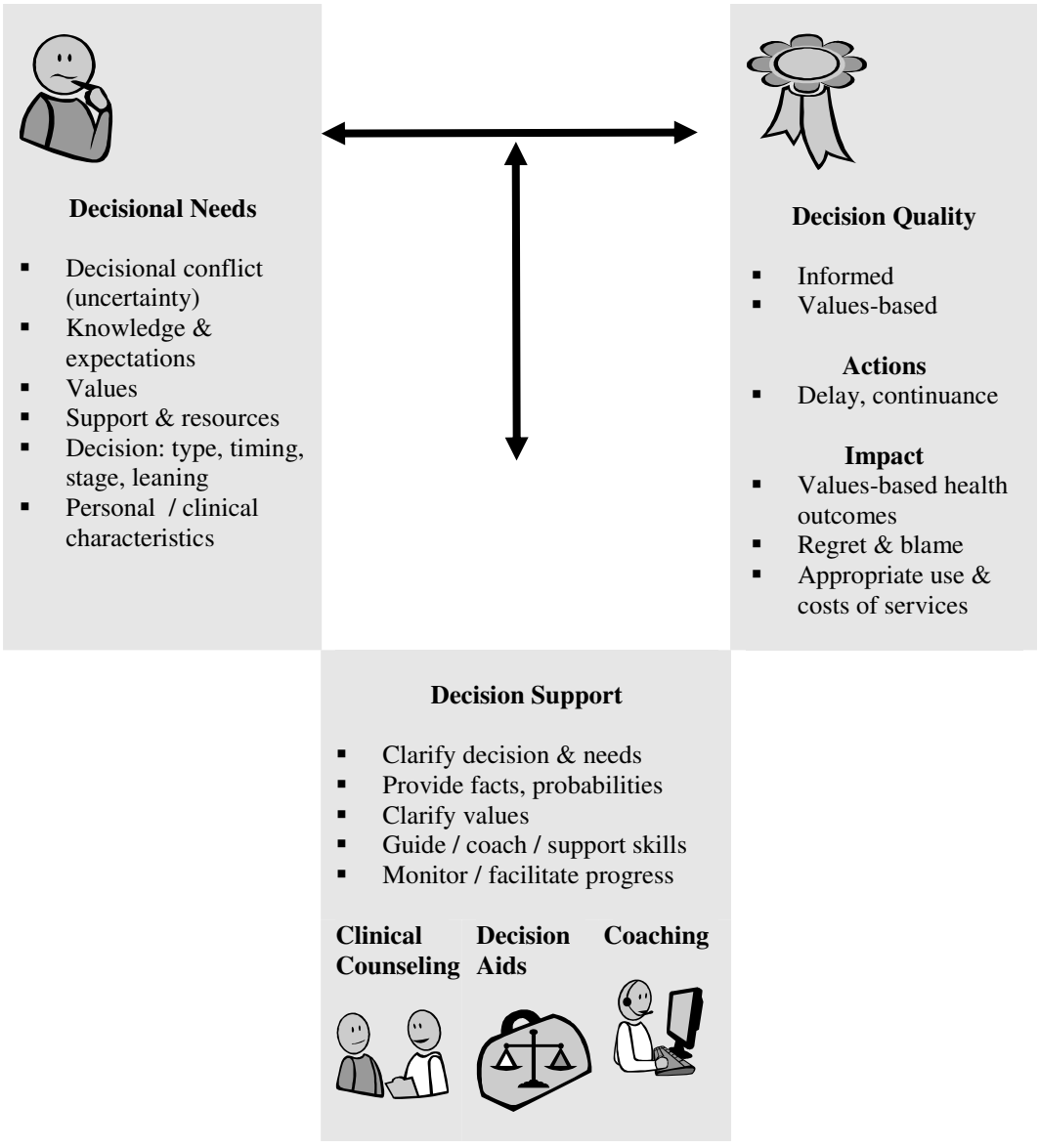

Figure. Ottawa Decision Support Framework.

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The *Ottawa Decision Support Framework* (Figure) is based on a nursing construct of decisional conflict (NANDA International, 2005) as well as theories from psychology, social psychology, economics, and social support (O'Connor, Tugwell, et al., 1998). Asserted in this framework is that the quality of decision-making can be adversely affected by decisional needs such as: decisional conflict (personal uncertainty about the best course of action); inadequate knowledge and unrealistic expectations; unclear values; inadequate support or resources; complex decision type; urgent timing; unreceptive stage of decision making; polarized leaning toward an option; and participants' characteristics (e.g. patients' cognitive limitations, poverty, limited education, or physical incapacitation). People whose decisional needs are unresolved after counseling are more likely to delay decisions, feel regret, express dissatisfaction, and blame the practitioner for poor outcomes (Gattellari & Ward, 2005; O'Connor, Sun, et al., 2005). However, decision support which is tailored to unresolved decisional needs can improve decision quality so that it is informed and based on personal values. Decision support involves: a) clarifying the decision and the person's needs; b) providing facts and probabilities; c) clarifying values; d) guiding/coaching/supporting in deliberation and communication; and e) monitoring/facilitating progress. Delivery of decision support depends on the context, but some combination of clinical counseling, decision tools, or coaching may be used. This framework has been used in multiple studies: to identify patients' decisional needs; to guide the development of patient decision aids and decision coaching tools; and to enhance health professionals' knowledge and skills in decision support (Legare, O'Connor, et al., 2006; O'Connor, Drake, et al., 1999; Stacey, O'Connor, et al., 2006).

Patient decision aids are used to translate evidence into patient-friendly tools that provide information on the benefits and harms of options, help clarify values for outcomes, and provide guidance in the decision making steps (O'Connor, Bennett, et al., 2007). A meta-systematic review of decision aid trials found that compared to usual care, patients exposed to decision aids had improved knowledge, more realistic expectations, decisions congruent with patients' values, and participated in decision making (Coulter & Ellins, 2007). When nurses involved in decision coaching used a decision aid to help patients clarify their values, it was more cost-effective (Kennedy et al., 2002).

Although patient involvement in health decisions is essential for patient centered care, patients frequently have unresolved decisional needs and current nursing practice is inadequate (Institute of Medicine, 2001; O'Connor, Bennett, et al., 2007; Registered Nurses' Association of Ontario [RNAO], 2006). In studies, it was revealed that nurses focus primarily on information provision, without addressing other needs such as unclear patients' values, inadequate support and

skills in decision making (Stacey, Graham, et al., 2005; Stacey, Chambers, Jacobsen, & Dunn, 2008). Despite the availability of patient decision aids, these resources have not been widely implemented in clinical practice or curriculum (Legare, Ratte, Gravel, & Graham, 2008).

Problem Identification

At this university, there was a lack of awareness and use of patient decision support resources by nursing students, and a lack of knowledge of decision support by faculty members. These observations were confirmed in an audit of the types of resources in course outlines for the 4-year undergraduate nursing program 2005-2006. Of 34 English program course outlines, only one course on nursing theories, included patient decision support references. This audit was limited by examining only easily accessible printed course outlines, because of the difficulties in accessing class materials posted on individual course websites.

In 2005 to 2007, a needs assessment was conducted with faculty members to determine the degree of decision support taught within their course(s), discuss the merits of including decision support, and explore factors influencing use of decision support, including need for instructional resources. Nineteen faculty members participated in an informal interview. Findings indicated that current teaching activities related to patient decision support were limited to a single 3-hour lecture in the nursing theories course offered in third year. Most faculty members were supportive of incorporating decision support within their course(s).

Adapt Knowledge to Local Context

The next step in the *action cycle* involved drafting a master plan for the integration of decision support as a thread throughout the 4-year nursing curriculum. The master plan aimed to have a stepwise approach to developing nursing students' decision support knowledge and skills (Table 1). To obtain internal support for the project in 2004, the plan was shared with the Director of the School of Nursing, and the Assistant Director of the Undergraduate Nursing program (the key decision-makers). A project advisory team was established that comprised faculty members and a graduate student that all had a strong interest in evidence-based nursing practice (the early adopters).

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Table 1.

Step-wise Building of Nursing Students' Decision Support Competencies

Year (clinical focus)	Overall objectives	Classroom lecture topics	Problem-based scenarios	Written assignments
I (health promotion with individuals)	To introduce patient decision making & influence of values on clinical decisions	Understand the influence of values on nursing practice* Support clients to be effective consumers & decision makers for lifestyle choices*	Students explored a personal decision that they were currently facing	1.1a Exploring the influence of patients & nurses values on health decisions
II (child-bearing & older families)	To identify the nurse's role in supporting families making decisions using patient decision support tools	Health decision making & the family for triage and values-sensitive decisions (English & French)*	2.1c-Circumcision; infant feeding 2.2c-Postpartum depression	2.1a Use of patient decision aids: maternity focus (English & French)* 2.1b Use of patient decision aids: birth control or tube feeding (English)
III (community health, acute care with adults & children, mental health)	To explore the ODSF & its relevance for clinical practice	ODSF as a mid-range nursing theory* Breast cancer patient decision making within 3-hr cancer nursing lecture*	3.1c-Lung cancer end of life care* 3.2c-Adolescent suicide*	3.1a Autotutorial with knowledge test* 3.2a Applying the ODSF*
IV (complex care, consolidating knowledge & skills)	To build & appraise decision coaching skills for supporting patients facing decisions in a complex care environment	Decision support skill building workshop* Address oncology patient information & decision support needs*	4.1c- Stroke rehabilitation	4.1a Critical appraisal of Patient Decision Coaching

Note. Lectures, problem-based cases, & assignments are publicly available.
* indicates those used with student. ODSF = Ottawa Decision Support Framework.

The proposed master plan was subsequently adapted to this school of nursing by tailoring the proposed levels for building decision support knowledge and skills to match the clinical focus within each of the years of the nursing program. For example, the initial objective in the master plan was to introduce patient decision support and the influence of values on clinical decisions. In the introductory nursing courses, the focus was limited to individual decision making without consideration of other family members, and decisions used were relevant to health promotion.

Assess Barriers to Knowledge Use

The faculty needs assessment, identified several barriers to integrating patient decision support (Table 2). These included: lack of faculty members' awareness of decision support resources and evidence to support their use; feeling of time pressure to teach previously established content; limited resources in French; and lack of instructional tools tailored to specific courses (e.g. presentations, problem-based case scenarios for small group seminars, exam questions, assignments related to decision support).

Select, Tailor, and Implement Interventions

Faculty development activities were designed to address the identified barriers and to facilitate implementation of patient decision support knowledge into the undergraduate curriculum (Table 2). For example in 2004, six full-time and part-time faculty members teaching in Year I attended a 90-minute workshop on patient decision support. The goal of the workshop was to increase faculty awareness of decision support resources for use in Year I courses and seminars. At a faculty-wide curriculum day in 2005, 56 faculty members received a 2-page newsletter profiling the various types of decision support resources, including a website of patient decision support resources and the Healthwise Handbook. The Handbook is a self-care manual for patients making basic decisions about home treatment, when to call a doctor, and lifestyle choices to improve health.

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Table 2

Interventions for Barriers to Integrating Decision Support in Curriculum

Barrier	Data source	Interventions to overcome barriers
Lack of awareness of decision support	Faculty interviews	▪ provided faculty education workshops ▪ created 2-page newsletter of decision support resources
Limited resources in French	Faculty interviews	▪ identified French resources ▪ translated class lectures in French ▪ planned to seek funding to translate the tutorial
Felt time pressure to teach core content	Faculty interviews	▪ integrated core content (e.g. oncology) as content to discuss decision support
Lack of instructional resources for courses	Faculty interviews	▪ developed problem based scenarios, lectures, and assignments for specific courses
Lack of common location to share curriculum resources	Research team	▪ added decision support instructional resources to www.ohri.ca/decisionaid ▪ placed decision support instructional resources on school of nursing website
Academic freedom in course design	Faculty interviews	▪ planned to draft a curricular blueprint that identifies key threads and concepts for specific courses

Faculty members who were open to incorporating patient decision support within their course(s) identified the needed instructional resources (Table 1). These resources were based on the original curricular plan for building of knowledge across the curriculum. For example, presentations were developed about decision support and tailored to the specific course with related exam questions. As well, problem-based case scenarios and new learning assignments

were created. To ensure realistic and accurate scenarios, the problem-based case scenarios and assignments were also reviewed by clinical experts that included advanced practice nurses and physicians.

In Year I, two presentations were provided: the influence of patients' and nurses' values on decision making and the processes used by patients to make health decisions (Table 1). The learning activities in Year II further developed their understanding by having students explore the use of decision support tools to facilitate decision making within families. Case studies in Year II seminars were designed to facilitate discussion of decisions, values, and resources to support patients' participation in decision making.

To assess student learning of the new curricular concepts, assignments were created and tailored to the level of the learner. For example, in a Year II course focused on the care of child bearing and older families, the learning assessment activity included a 4-page assignment where students were instructed to critically examine a patient decision aid (Table 3). The assignment objectives, guidelines, and marking criteria remained consistent for several years (2005 to 2008). To discourage plagiarism, the clinical scenario changed each year (e.g., decisions related to amniocentesis, vaginal birth after cesarean, infant feeding, circumcision, and tube feeding in a frail senior). One month prior to the assignment submission deadline, students received a class lecture on decision support for families. In 2006, students chose either the clinical scenario on birth control (n=67) or tube feeding (n=47), and the mean grade was 72% (range 42 to 95%). Students scoring greater than 85% were invited to present their assignment to the entire class. The faculty member, who did not self-identify as an expert in decision support, said "*I feel that this was the best learning strategy of the term*".

All faculty members and students in the English and French streams of Years I and II in the nursing program received a copy of the Healthwise Handbook and access to the related online information, including patient decision aids. This information source was selected because it includes decision support resources and is used by members of health plans in the United States, and by residents living within several Canadian provinces. Faculty and students in Year I were encouraged to use the patient decision support resources for personal health issues. Students in Year II were also encouraged to use these resources as part of the course assignment described above.

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Table 3

Assignment to Explore Resources for Providing Decision Support

Objectives	▪ describe the concept of decisional conflict ▪ discuss the nurses' role in helping clients make informed, values-based decisions ▪ describe the role of other health team members ▪ write an academic paper with interventions justified by literature
Scenario	Ms. D is a 32-year-old woman who gave birth to a healthy daughter yesterday and is breastfeeding. In a routine postpartum assessment, she expresses uncertainty about what birth control method to use. Although she has a history of infertility problems, after the birth of her first daughter 18 months ago (conceived using fertility drugs) she became pregnant. Now, she and her husband do not plan to have more children and are concerned about subsequent pregnancies. Ms. D would prefer not to take daily pills for birth control but she is unsure about the success with other birth control methods, including sterilization.
Assignment Structure / Grading Scheme	1. Introduction (20%): describe decisional conflict in this family 2. Literature (25%): describe risks and benefits of options supported by evidence from at least 3 references 3. Clinical Interventions (25%): select and describe a patient decision aid that could be used with this family; justify the choice of this patient decision aid; describe the role of nursing in coaching clients to make informed, values-based decisions; describe the role of other healthcare providers in decision making 4. Conclusion (20%): describe key highlights of the paper 5. Format (10%): 5-pages typed; references to scholarly literature

In 2006, the *Ottawa Decision Support Framework* lecture provided in the Year III nursing theories class was changed from an in-class learning activity to an online self-directed tutorial. The rationale for this change was to expose students to a publicly available resource for which they could have ongoing access (in the program and after graduation). To assess student learning from the tutorial, the final test in the tutorial accounted for 5% to 15% of their final course grade as determined by the faculty member. The three cohorts of students had median scores of 83% (N=78), 90% (N=110), and 92% (N=92) on the final tutorial test (range 29.2-100%). Overall, the students were highly satisfied with the tutorial as a method of learning. For example, one student said *"I think it was great, easy to understand and provided only relevant information."* In response to the questions provided as a review at the end of each section another student said *"I found it especially helpful that when a question was answered incorrectly, there was a rationale provided as to why it was incorrect."* Students suggested that the tutorial could be strengthened by having more case studies *"to improve guidance and understanding of how to work through the ODST* (Ottawa Decision Support Tutorial)*"*, *"things in point form"* and *"more focus on mental health"*.

Problem-based case scenarios were created based on the standardized format proposed by Rideout (2001), with the aim to further develop nursing students' critical thinking and application of decision support knowledge and skills. Some scenarios included decision support as central to the problem (e.g. prostate cancer decision to stop treatment with family pressure to continue treatment); while others included decision support more peripheral to the problem (e.g. anti-depressant medication decision for suicidal adolescent) (see Table 1). For example, the case focused on an adolescent girl who had undertaken several suicide attempts and was expressing uncertainty in trying a new anti-depressant due to previous side effects with other anti-depressants. Students are expected to identify the decisional conflict and contributing factors, and subsequently explore treatment options for depression, available decision tools, and evidence-based references to support or refute these options. All problem-based learning cases consisted of a case scenario, pertinent chart data and a tutor guide including references. Students verbalized that the cases were "*realistic*" and *"relevant to their clinical practicum experiences"*.

Monitor Knowledge Use

According to the *Knowledge to Action Process*, after the initial implementation of the intervention, monitoring use involves assessing changes in levels of knowledge, understanding, attitudes, and behaviours (Graham et al., 2006). In this project, there was faculty support for the integration of decision

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support throughout the undergraduate curriculum, as evidenced by the eight initial guest speaker invitations for courses (6 English, 2 French) and use of problem-based scenarios and assignments (Table 1). Lectures were given by one faculty member and/or graduate student. Moreover, there was repeated use of learning activities and assignments over multiple academic years, even when faculty members responsible for courses changed between 2005 and 2008. Although the original plan was to concentrate on the junior years of the program in English only, there were requests for presentations and access to the assignments as other faculty informally became aware of the curriculum project.

Knowledge use among students was observed in the course assignments described above. More recently, part-time faculty members involved in supervising students in their clinical placements have requested an educational session on patient decision support so they can better support their students using this knowledge within their clinical placements. Student's knowledge of the *Ottawa Decision Support Framework* and related resources, critical thinking and application of decision support resources was measured within the online tutorial, small group seminars, examination questions, and written learning assignments.

Evaluate Outcomes and Sustained Knowledge Use

The next two phases of the *Knowledge to Action Process* target: a) evaluating the impact of knowledge use on health outcomes, practitioners, and health systems; and b) re-assessing the barriers and facilitators for ongoing sustainable knowledge use (Graham et al., 2006). For this project, more formal evaluation is required to evaluate the impact of integrating decision support in the nursing curriculum on outcomes at the level of the faculty member, student, and patient. More specifically, a study should be designed to measure the impact of integrating decision support on faculty teaching outcomes and on whether students providing decision support improves patients' involvement in discussing decisions with their physicians and surgeons.

During the curriculum implementation process, there were several barriers identified by the faculty that had the potential to interfere with sustained use of decision support within the curriculum. These barriers included, lack of resources available in French, faculty autonomy in course design, lack of a system to share curriculum resources with current and new faculty (Table 2). To address the lack of instructional resources available in French, French language resources were located that included decision aids (*La vasectomie: est-ce le bon choix pour moi?; Faire des choix: l'installation d'une sonde d'alimentation a long terme chez les*

patients âgés), or English versions translated (e.g. class presentations). Currently, funding is being sought to translate the decision support tutorial into French.

Some faculty members expressed concern about being required to teach decision support, versus academic freedom to choose what is taught in their assigned course. As a result, the sustained use of the decision support instructional activities over time will be strongly influenced by which faculty members are assigned to specific courses. One initiative to overcome this issue is to seek faculty agreement for a curricular blueprint that identifies key curricular threads and concepts to be integrated into specific courses.

Another barrier was a lack of an organized system to be able to share decision support resources among faculty and students. Access to individual courses is limited to students registered for the course, or to others given special permission. To address this barrier, the curriculum resources (e.g. problem-based scenarios, assignments) and the tutorial were made publicly available on a research website at www.ohri.ca/decisionaid. These available assignments and problem-based scenarios can be easily adapted to other health decisions and clinical situations. Given the change of faculty course assignments from year to year, it has also been necessary to make contact with the newly assigned faculty to inform them of the range of decision support instructional activities available and/or previously used.

In response to ongoing requests for faculty support, they are routinely referred to the publicly available resources, offered individual discussion on use of resources within their course(s) including guest lectures, and/or if appropriate invited to workshops. For example, in spring 2008, there was a half-day workshop for faculty members on integrating threads such as decision support within the curriculum. A recent request for a workshop by the large academic teaching hospital directly associated with the university was stimulated by students' discussions about patient decision support with nursing staff in clinical areas.

DISCUSSION

This is the first known curriculum project to focus on implementing evidence-based patient decision support within an existing nursing curriculum. Overall, most faculty members in the School of Nursing were very positive and supportive of working with the project team to develop resources for use within their courses, to incorporate guest presentations relevant to their courses, and to evaluate student learning using focused exam questions and assignments. However, some remaining barriers are likely to interfere with longer-term

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sustainable integration of decision support in the curriculum. Furthermore, there is a need for ongoing monitoring of barriers and for research to evaluate the impact of these curricular initiatives on patient care.

Findings from this curriculum project are similar to other studies that focused on integrating new curriculum content and/or implementation of decision support with health care professionals' practices. The barriers identified are consistent with others who have reported that curriculum change is frequently met with resistance by faculty who may be reluctant to embrace change (Iwasiw, Goldenberg, & Andrusyszyn, 2005), or cite academic freedom as the rationale for maintaining the status quo (Larson, 1997). In another study to determine applicability of the *Ottawa Decision Support Framework* for use in primary care, clinical practices reported similar barriers by 118 health care professionals (mostly physicians) such as being unfamiliar with the topic, lack of time, perception of topic not being relevant, need for practical tools, forgetting, and challenge to autonomy to make practice decisions (Legare, O'Connor, et al., 2006). Studies involving over 100 call centre health professionals (mostly nurses) identified that the most common barriers to providing decision support were lack of time, lack of knowledge and skills, and lack of clear organizational mandate (Stacey, O'Connor, et al., 2006; Stacey, Chambers, et al., 2008). Although lack of time is commonly identified, the length of time for nurses to provide decision support is not necessarily longer than when nurses provide information only (Stacey, Pomey, O'Connor, & Graham, 2006).

The *Knowledge to Action Process* (Graham et al., 2006) was a useful conceptual framework to guide faculty development and the integration of new knowledge into an existing undergraduate curriculum. The majority of studies in which knowledge translation was investigated, have focused on health care professionals in the practice context (Grol, Wensing & Eccles, 2005). It is equally important that the faculty teaching in both classroom and clinical courses incorporate evidence-based decision support into their courses. Despite extensive literature on the importance of developing a process-focused curriculum, many faculty members continue to develop their courses using a content-based approach (Rideout, 2001). Integrating evidence-based patient decision support needs to be viewed as a process of supporting patients that is applicable across numerous health conditions, social situations, and clinical practice environments.

Although the decision support implementation project was not evaluated extensively, students' evaluations revealed that they had learned key concepts relevant to patient decision support. Students' scores of 83% or higher on the final tutorial test was either similar or better than health care professionals in practice.

For example, nurses scored 60% control group versus 74% post tutorial and health professionals in a cancer call centre had 61% pre and 84% post tutorial (Stacey, Pomey, et al., 2006; Stacey, Chambers, et al., 2008). Requests for repeat lectures and more workshops were additional indicators of success.

CONCLUSION

To better meet the needs of patients and to achieve patient-centered care, nurses should enhance their decision support knowledge and skills. One approach is to embed evidence-based approaches for nurses to provide decision support within nursing curricula. A stepped approach to developing decision support competencies being used at a school of nursing, involves increasing students' awareness of decision making needs of patients and resources to support patients, and immersing students in learning activities to increase their knowledge, skills, and competencies in providing decision support. Learning activities such as problem-based clinical case scenarios, online self-paced tutorial, and assignments are publicly available for use in healthcare professional curriculum.

Subsequent research is needed to measure the effect of curricular changes on patient outcomes and the effect on the patient-practitioner decision making. Conceptual models inclusive of the nurses' role in providing decision support within the broader interprofessional health care team could further enhance teaching to nursing students. A new interprofessional approach to shared decision making conceptual model for use in clinical practice, education and research is being validated (Legare, Stacey, et al., 2008). Finally, the *Knowledge to Action Process* conceptual model was helpful in guiding the integration of patient decision support in curriculum and could be considered for other curriculum change initiatives requiring the integration of scientific knowledge.

REFERENCES

Coulter, A. & Ellins, J. (2007). Effectiveness of strategies for informing, educating, and involving patients. *British Medical Journal, 335,* 24-27.

Gattellari, M. & Ward, J. E. (2005). Men's reactions to disclosed and undisclosed opportunistic PSA screening for prostate cancer. *Medical Journal of Australia, 182,* 386-389.

Graham, I. D., Logan, J., Harrison, M. B., Straus, S. E., Tetroe, J., Caswell, W., et al. (2006). Lost in knowledge translation: Time for a map? *Journal of Continuing Education in the Health Professions, 26,* 13-24.

DOI: 10.2202/1548-923X.1741

Grol, R., Wensing, M., & Eccles, M. (2005). *Improving patient care: The implementation of change in clinical practice*. Toronto, ON: Elsevier.

Institute of Medicine. (2001). *Crossing the quality chasm: A new health system for the 21st century*. Washington, DC: National Academy of Sciences.

Iwasiw, C., Goldenberg, D., & Andrusyszyn, M. (2005). *Curriculum development in nursing education*. Sudbury, MT: Jones and Bartlett.

Kennedy, A., Sculpher, M. J., Coulter, A., Dwyer, N., Rees, M., Abrams, K. R., et al. (2002). Effects of decision aids for menorrhagia on treatment choices, health outcomes, and costs. A randomized controlled trial. *Journal of the American Medical Association, 288,* 2701-2708.

Larson, E. (1997). Academic freedom amidst competing demands. *Journal of Professional Nursing, 13,* 211-216.

Legare, F., O'Connor, A. M., Graham, I. D., Saucier, D., Cote, L., Blais, J., et al. (2006). Primary health care professionals' views on barriers and facilitators to the implementation of the Ottawa Decision Support Framework in practice. *Patient Education & Counseling, 63,* 380-390.

Legare, F., Ratte, S., Gravel, K., & Graham, I. D. (2008). Barriers and facilitators to implementing shared decision-making in clinical practice: Update of a systematic review of health professionals' perceptions. *Patient Education & Counseling, 73,* 526-535.

Legare, F., Stacey, D., Graham, I. D., Elwyn, G., Pluye, P., Gagnon, M. P., et al. (May, 2008). *Interprofessional approaches to shared decision-making: Advancing conceptual models and measures*. Paper presented at the Canadian Association for Health Services and Policy Research Conference, Gatineau, Quebec, Canada.

Murray, M. A., Wilson, K. G., Stacey, D., & O'Connor, A. M. (in press). Nurse's perceptions of factors influencing patient decision support around place of care at end-of-life. *American Journal of Hospice and Palliative Medicine.*

NANDA International. (2005). *NANDA Nursing diagnoses: Definitions & classification 2005-2006*. Philadelphia: Author.

O'Connor, A. M. (1995). Validation of a Decisional Conflict Scale. *Medical Decision Making, 15,* 25-30.

O'Connor, A. M., Bennett, C., Stacey, D., Barry, M., Col, N. F., Eden, K. B., et al. (2007). Do patient decision aids meet effectiveness criteria of the International Patient Decision Aid Standards Collaboration? A systematic review and meta-analysis. *Medical Decision Making, 27,* 554-574.

O'Connor, A. M., Drake, E., Fiset, V., Graham, I., Laupacis, A., & Tugwell, P. (1999). The Ottawa Patient Decision Aids. *Effective Clinical Practice, 2,* 163-170.

O'Connor, A. M., Hogg, W., Legare, F., Stacey, D., & Bayne, S. (2006). *Improving the quality and cost-effectiveness of decision support provided by primary health care practitioners in Family Health Networks* (Rep. No. G03-05697). Ottawa, ON: Ottawa Health Decision Centre.

O'Connor, A. M., Sun, Q., Dodin, S., Feldman-Stewart, D., Man-Son-Hing, M., Laupacis, A., et al. (June, 2005). *Predicting downstream effects of high decisional conflict*. Paper presented at the 3rd International Shared Decision Making Conference, Ottawa, Ontario, Canada.

O'Connor, A. M., Tugwell, P., Wells, G., Elmslie, T., Jolly, E., & Hollingworth, G. (1998). A decision aid for women considering hormone therapy after menopause: Decision support framework and evaluation. *Patient Education & Counseling, 33,* 267-279.

Registered Nurses' Association of Ontario (RNAO) (2006). *Client Centred Care Nursing Best Practice Guideline.* Toronto, ON: Author.

Rideout, E. (2001). *Transforming nursing education through problem-based learning*. Toronto, ON: Jones and Bartlett.

Stacey, D., Chambers, S. K., Jacobsen, M. J., & Dunn, J. (2008). Overcoming barriers to cancer - helpline professionals providing decision support for callers: An implementation study. *Oncology Nursing Forum, 35,* 1-9.

Stacey, D., Graham, I. D., O'Connor, A. M., & Pomey, M. P. (2005). Barriers and facilitators influencing call centre nurses' decision support for callers facing values-sensitive decisions: A mixed methods study. *Worldviews on Evidence-Based Nursing, 2,* 184-195.

Stacey, D., O'Connor, A. M., Graham, I. D., & Pomey, M. P. (2006). Randomized controlled trial of the effectiveness of an intervention to implement evidence-based patient decision support in a nursing call centre. *Journal of Telemedicine and Telecare, 12,* 410-415.

Stacey, D., Pomey, M. P., O'Connor, A. M., & Graham, I. D. (2006). Adoption and sustainability of decision support for patients facing health decisions: an implementation case study in nursing. *Implementation Science, 1,* 1-10.

Wirrmann, E. & Askham, J. (2006). *Implementing patient decision aids in urology* (Rep. No. ISBN 1 905945 02 7). Oxford: Picker Institute Europe.

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