Investigating an Integrated Interprofessional Diabetes Curriculum

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Our thanks!
Introduction

• Learning about diabetes prevention and management is critically important given the growing incidence and prevalence of diabetes.
• Many professions play an important role in prevention/management of the disease.
• Critical for health and related professionals to learn how to work collaboratively.
• Diabetes is a key component of future interprofessional education (IPE) in our division.
Introduction

We wanted to explore the use of an existing and proven integrated interprofessional curriculum model, a learning structure through which we could bring together students of different professions to learn about the interprofessional prevention and management of type 2 diabetes.
Introduction

Why the UofT Pain Curriculum model?

• Proven successful. Learners demonstrated increase in content knowledge (building on profession-specific knowledge) and greater appreciation of interprofessional collaboration.

• Experience with the program as external facilitators.

• Provides a comprehensive structure which allows for it to be incorporated within the core curriculum of all participating programs.

Continued…
Introduction

• UofT model utilizes a combination of individual preparation and face-to-face small team assignments.

• UofT model allows for incremental growth in the number of student participants and teams, based on the resources available (e.g. facilitators, space, scheduling, printing, etc.).
Objectives

1. To create a first version interprofessional curriculum about the interprofessional management of type 2 diabetes

2. To apply the proven integrated interprofessional curriculum model developed and utilised by UofT for the interprofessional Pain Curriculum

3. To test out the first version interprofessional curriculum about type 2 diabetes with a small volunteer group of students from various health care and related professions

4. To develop recommendations for creating and presenting the next version of the interprofessional curriculum about type 2 diabetes and for its incorporation within the core curriculum of at least two academic health sciences programs
Research Questions

1. How effective is an integrated interprofessional diabetes curriculum in increasing student’s understanding of the prevention and management of type 2 diabetes?

2. How effective is an integrated interprofessional diabetes curriculum in increasing students’ understanding of the role and contributions of various other professions in the prevention and management of type 2 diabetes?

Continued…
Research Questions

3. How effective is an integrated interprofessional diabetes curriculum in increasing students’ understanding of interprofessional collaborative practice?

4. What are the presage (logistical and other planning) challenges to implementing an integrated interprofessional curriculum involving a cohort of students from various academic programs?
Methodology – Project Design

• Co-investigator oversaw the development and delivery of the content and pilot program
• Principal Investigator conducted interviews with the UofT Centre for the Study of Pain and oversaw the program evaluation component
• Research assistant (4th year nursing) assisted with content development, program delivery, data analysis
• External support provided by:
  • Dr Scott Reeves, Li Ka Shing Institute
  • Anne Le-Quang and Joan Patch, Canadian Diabetes Assoc
  • Professors Bonnie Stevens and Judy Watt-Watson, UofT
Methodology – Curriculum Development

• First version curriculum completed between July-October 2010
• Adapted from existing interprofessional diabetes modules developed for another project
• Additional research, augmented content, new case studies, glossary, pre-reading materials
Methodology-Recruitment & Scheduling

• Volunteer learner cohort limited to 30 students
• Recruitment campaign started mid-Sept, included:
  • Promotional flyers, website and UPDATE announcements
  • Personal networking by Health Promotion students
  • In-class visits to promote program
  • Offered completion certificate and draw for $100 gift certificate for completion of all modules
• Scheduling issues:
  • How many sessions were required/acceptable?
  • When would we get the greatest participation?
Methodology – Program

- Three sessions - Wed Nov 3, 10, 17 from 5:30-8:30pm
- Co-facilitated with 4th yr nursing student with IPE experience
- Pre-readings sent beforehand
- Designed as team-based learning i.e. interactive small group activities with larger group debriefing
- Multiple learning methods: case scenarios, case studies, role play, brainstorming, and completion of a care plan
- Students assigned to small groups to ensure mix of professions
- Each session evaluated at the end for satisfaction and usefulness
Methodology – The Evaluation

• Mixed Method: qualitative and quantitative
• Pre- and post-program questionnaires
  • Interdisciplinary Education Perceptions Scale (IEPS)
  • Self-reported confidence scale
• Open-ended questions on pre- and post- program questionnaires
• Post-session feedback forms
• Semi-structured interviews, focus groups, and written feedback

Continued…
Methodology – The Evaluation

• **Qualitative thematic analysis** by combing through and coding all the combined qualitative data seeking the most frequently arising emergent themes
• **Statistical analysis**, using matched pre- post- data sets, with SPSS
Participants

Table 1: Academic Program

<table>
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<tr>
<th>Academic Program</th>
<th>Count</th>
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<tbody>
<tr>
<td>Practical Nursing 1st year</td>
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<tr>
<td>Collaborative Nursing Program 2nd year</td>
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<tr>
<td>Collaborative Nursing Program 3rd year</td>
<td>8</td>
</tr>
<tr>
<td>Activation and Gerontology 2nd year</td>
<td>4</td>
</tr>
<tr>
<td>Social Service Worker 2nd year</td>
<td>2</td>
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<tr>
<td>Fitness and Lifestyle Management 2nd year</td>
<td>2</td>
</tr>
<tr>
<td>Prosthetic and Orthotic Clinician 2nd year</td>
<td>1</td>
</tr>
<tr>
<td>Dental Hygiene 2nd year</td>
<td>3</td>
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<td>Total</td>
<td>29</td>
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</table>
Results – Learners’ Expectations

Pre-program learner expectations for learning were mixed.

“I already know a lot about diabetes from clinical experience and information sessions at school. I hope that I learn new information that is relevant to my practice”.

“I've come with an open mind. Willing to take away what I can by the end”.

“to gain a stronger understanding of type 1 and type 2 diabetes. Hope that students from other professions will share interesting personal experiences I can learn from”.

“learning more about the aspects of diabetes and understanding the roles other professional play in terms of diabetes maintenance and prevention”.
Results

1. How effective is an integrated interprofessional diabetes curriculum in increasing student’s understanding of the prevention and management of type 2 diabetes?
Results

Key themes emerging from the combined qualitative data:

• Program increased my knowledge about diabetes, its complexity and impact on daily living
• Learned more about the range of interventions for diabetes
• Better understanding of prevention and patient education
• Not enough new information specifically about diabetes
Results

“Participating in this workshop has provided me an opportunity to increase my awareness and knowledge about diabetes and the impact it has on an individual’s daily life”.

“I've gained a greater insight on the different professional fields that contribute to the health of a diabetic patient. I also realized that I had very little understanding of this illness and the different interventions I can provide as a nurse”.

“It became clear right away that this was about the team approach to diabetes, to break down barriers, to get to know about the other professions, to communicate and to interact; I think whatever new stuff we learned about diabetes was a side benefit but not the focus here”.”
Results

- Increased confidence in identifying the signs and symptoms of type 2 diabetes. (Wilcoxon Signed Ranks Test, \( z = -4.142 \), \( p=0.000 \))

- Increased confidence in describing the risk factors related to type 2 diabetes. (\( z = -3.831 \), \( p=0.000 \))

- Increased confidence in describing the major complications of living with untreated type 2 diabetes. (\( z = -3.976 \), \( p=0.000 \))

- Increased confidence in describing best practice management strategies for adults living with type 2 diabetes. (\( z = -4.061 \), \( p=0.000 \))
2. How effective is an integrated interprofessional diabetes curriculum in increasing students’ understanding of the role and contributions of various other professions in the prevention and management of type 2 diabetes?
Results

Key themes emerging from the combined qualitative data:

• Appreciating the need for a holistic, interprofessional approach to diabetes management
• Increased knowledge about, and respect for, the range of professions that are involved in diabetes care
• Increased pride in own profession and a better understanding of the role of own profession in working with the others in diabetes care
“I feel one of the biggest benefits was being able to explain my role in diabetes management to other health care professionals. It was a great opportunity to really dispel myths and clarify my role.”

“I think the complexity of the disease was really emphasized when you consider how many different professionals are required in diabetes management”.

“It was great to be part of an interprofessional team and get to know how they manage type II diabetes”.

“Made me realize that we all have a common goal but the method of how we attain that goal is different depending on your profession”.

“I definitely learned to really listen to what others had to contribute to ensure patient has optimal care”.

“I learned more about the treatment and preventative measures that other professionals would provide in their care which becomes very complimentary to the way I would care for the diabetes patient as a nurse. The collaboration of the different expertise provides an overall holistic care”.

Results
Results

• Increased confidence in explaining to others the role of my own profession in the care/management of type 2 diabetes. (Wilcoxon Signed Ranks Test, z = -4.071, p = 0.000)

• Increased confidence in identifying the key members of a diabetes management team. (z = -4.255, p = 0.000)

• Increased confidence in describing the roles of other professions in the care/management of type 2 diabetes. (z = -3.857, p = 0.000)

• Increased confidence in describing an example of interprofessional collaboration in the care/management of type 2 diabetes. (z = -4.049, p = 0.000)

• Increased confidence in explaining how interprofessional management of type 2 diabetes can impact patient/client outcomes. (z = -4.078, p = 0.000)

• Increased confidence in developing an interprofessional type 2 diabetes care plan for a patient/client in collaboration with other professions. (z = -4.158, p = 0.000)

• Increased confidence in discussing diabetes management strategies with members of other professions. (z = -4.053, p = 0.000)
Results

3. How effective is an integrated interprofessional diabetes curriculum in increasing students’ understanding of interprofessional collaborative practice?
Results

Key themes emerging from the combined qualitative data:

• Importance and complexity of interprofessional collaboration in planning patient care
• Realization that the bio-psychosocial model is common to many professions
• Importance of excellent communication and related skills in working in teams
• Importance of professions taking joint responsibility for patient care
• How working with other professions helps me to understand my own role in patient care
Results

“I have a more thorough understanding of professional roles. Each profession has something to contribute; interprofessional teamwork is important in holistic care”.

“Interprofessional teamwork is a daunting task that involves a lot of people, time and energy. There are also many mental and physical barriers to good interprofessional teamwork”.

“I will make sure ‘jargon’ specific to my profession is used carefully”.

“I learned about the importance of effective communication, taking accountability and responsibility for your job, knowing what other peoples’ jobs are, having an open mind, listening to what others say, taking common ownership of caring for the patient, looking at the patient’s health as a whole, understanding that certain tasks are better done by specific professionals, not just my profession”.

“Interprofessional teamwork in any facility and condition can help me better understand my role and help me determine my next steps of necessary action towards providing care for the patient”.

Results

• Increased confidence in identifying the six interprofessional collaborative competencies. (Wilcoxon Signed Ranks Test, \( z = -4.145, p=0.000 \))

• Increased confidence in communicating my own professional point of view effectively to other professions. (\( z = -3.955, p=0.000 \))

• Increased confidence in demonstrating open-mindedness in evaluating the viewpoints of other professions. (\( z = -3.331, p=0.001 \))

• Increased confidence in contributing effectively to an interprofessional discussion about patient care. (\( z = -3.507, p=0.000 \))

• Increased confidence in demonstrating awareness, through self-reflection, of my own values and attitudes about working with other professions. (\( z = -2.914, p=0.004 \))
Results

*From Interdisciplinary Education Perceptions Scale*

- “Individuals in other professions respect the work done in my profession”. (Wilcoxon Signed Ranks Test, $z = -3.259$, $p = 0.001$)
- “Individuals in my profession need to cooperate with other professions”. ($z = -2.333$, $p = 0.02$)
- “Individuals in my profession are able to work closely with individuals in other professions”. ($z = -2.111$, $p = 0.035$)
- “Individuals in my profession think highly of other related professions”. ($z = -2.138$, $p = 0.033$)
Please outline the ways in which you think your interprofessional learning experience may have changed your views of other health care professionals.
Please outline the ways in which you think your interprofessional learning experience may have changed your views about interprofessional teamwork.
Please outline the ways in which you think your interprofessional learning experience may have changed how you collaborate with other health care professionals.
Discussion: What We Learned

4. Students do value and enjoy simulated learning experiences which facilitate interprofessional discussion and collaborative planning.
Results

4. What are the presage (logistical and other planning) challenges to implementing an integrated interprofessional curriculum involving a cohort of students from various academic programs?
Results – Developers’ Perspectives

Key themes emerging from the combined qualitative data:

• Scheduling an interprofessional learning program outside the core curriculum of participants’ academic programs
• Recruiting sufficient numbers of participants
• Ensuring the involvement of the appropriate professions and reflecting a balance of professional perspectives
• Managing learner expectations about the educational benefits of the program
• Participant familiarity with team-based, interactive learning vs traditional didactic learning

Continued…
Results – Developers’ Perspectives

• Developing learning content appropriate for an interprofessional cohort of learners
• Linking the program content to existing profession-specific learning and providing academic credit for participation
• Ensuring the right balance in the focus of the learning content between diabetes facts and understanding the nature of interprofessional care
• Confirming real learning as a result of this program
Results – Learners’ Perspectives

“Inclusive, created an environment where everyone could participate, engaging interprofessionally”.
“Last exercise was a profound experience to be able to wear a different hat and see how others view my field”.
“I found there were a lot of redundancies in material and activities. I understand trying to illustrate a point however I found that myself and my peers became uninterested in doing the same activities over and over”.
“I feel so rejuvenated after today’s lesson; it made me reflect on why I chose my field and how important all the work that all the fields participate in”.
“(need) more specific information about specific interventions from certain professions (e.g. nutrition, nursing)”.
“Great experience! Food was great too! The leaders did really well in facilitating discussions”.
“Hoping for more ‘teaching’ – I didn’t really learn anything about diabetes that I didn’t already know; hope future sessions will be more in-depth with less focus on group activities”.

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Results – Learners’ Perspectives

The key themes emerging from the combined qualitative:

• Overall program was an excellent learning experience and fun
• Variety of interactive activities and small-group discussion made learning interesting and informative
• Case studies, group discussions, role playing, team assignments and collaborative care planning were effective for learning
• Very informative to work with and learn about students of other professions and about their perspectives and insights
• A great way to network with other professions

Continued…
Results – Learners’ Perspectives

• Preference by some students for more traditional ‘lecture-style’ or didactic learning rather than small group interactive learning
• Some duplication/redundancy of content or learning activities across the three sessions
• Program possibly too lengthy, key activities might have been completed in two sessions rather than three
• Activities too focused on the ‘interprofessional’ and ‘teamwork’ themes and not enough diabetes content
• Too many nurses, not enough diversity of professions and no representation from certain other professions and their perspectives
Discussion: What We Learned

1. **There are significant ‘presage’ challenges to developing and delivering an interprofessional learning program, without the formal involvement of the core academic programs. The impact is demonstrated in all aspects of the program: the development of content, linking content to program curriculum, scheduling, and recognizing student participation.**
Discussion: What We Learned

2. *When offered the opportunity to participate in an interprofessional educational experience, students will volunteer their time, even after hours, if they believe that the experience will contribute to their overall learning.*
Discussion: What We Learned

3.  

*Students do value and enjoy the opportunity to learn about, with and from their peers representing other academic programs, particularly when the core topic is one in which each profession has a distinct role.*
What We Learned

5. **There are significant challenges in demonstrating and confirming learning in an interprofessional educational experience, particularly outside the core curriculum.**
RecommendaTions

I. **Repeat this program next year:**
   - Increase awareness of this program within the division
   - Focus on involving certain key programs
   - Increase internal and external stakeholder involvement:
     - Scan and align with learning objectives related to diabetes within key programs
     - Formalize the partnership role of CDA
     - Involve other faculty in content revision and delivery
   - Increase the number of participants and strive for greater balance among the professions
   - Make changes to delivery model to reflect the learnings from the pilot
   - Obtain funding for operating costs
   - Provide faculty development in interprofessional small-group facilitation
   - Refine the evaluation tools to demonstrate learning
Recommendations

2. **Future considerations:**
   - Establish a standing program planning committee
   - Enhance educational offerings related to diabetes (e.g. enhanced experiential learning, key speakers or related didactic sessions)
   - Incorporate the program within the curriculum of key programs:
     - Determine which year of each key program should participate
     - Protect a block of time within each program’s time-table to enable full participation
     - Assume mandatory participation by all students in the appropriate year of these programs
     - Determine how student participation will be credited within programs
   - Secure operational funding and space
   - Increase the number of trained small-group facilitators
References


Questions