Opportunities for Enhancing Diabetes Care For Independent Dialysis Clients:

Utilizing A Chronic Disease Prevention And Management Approach To Improve Healthcare Outcomes.

May, 2013
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Lakeridge Health

Excellence – every moment, every day
Objectives

• Overview: LH and LH Regional Nephrology Program/Diabetes Infrastructure
• Demographics/populations served
• Approaches to diabetes management in CKD population
• Specific Areas/Milestones of Integration
• Lessons Learned
• Concluding Thoughts/Next Steps
Who We Serve (Nephrology)

Kidney Care Clinic

- 600 patients (2,855 visits/year)
  - Multidisciplinary team, including CDE’s and endocrinology
  - manage medical issues of patients living with CKD, reduce morbidity, especially vascular events and diabetes complications
  - delay the progression of kidney disease as long as possible
  - if dialysis is needed, ensure planned approach and modality choice

Home Dialysis Clinics

- Home Hemodialysis (50 patients)
  - Primary care nursing model and multidisciplinary team, including CDE’s and endocrinology
- Peritoneal Dialysis (95 patients)
  - Primary care nursing model and multidisciplinary team including CDE and endocrinology

Hemo-dialysis

- Hemodialysis 235 patients @ LHW-12 Stns + LHO-31
  - Multidisciplinary team
LH Diabetes Services

Durham Region Diabetes Network (DRDN)

- Is a regional Network of DEP’s and other diabetes service providers in Durham Region
- Coordinating office located at LHW.
- LH is transfer payment agency for 4 Durham DEP’s
- Supports those with living with diabetes to self-manage via outreach based community programing and system coordination (DEP’s FHT, CHC, etc.)
- Focused on diabetes knowledge transfer to care providers via outreach

LH Diabetes Education Program

- Ministry funded formal Diabetes Education Program
- Offers diabetes education at 4 sites: Port Perry, Courtice Community Health Centre, Lakeridge Health Whitby and Mississauga First Nations.

CCDC

- Ministry funded initiative
- LH is one of 3 care delivery sites for the Central East Centre for Complex Diabetes Care
- Services provided in partnership with CE CCAC, TSH and PRHC.
Goals And Objectives

Ontario Renal Plan

- Strengthen accountability to Patients
- Reduce Impact of CKD: Improve early detection, prevent progression
- Improve peritoneal & vascular access
- Improve uptake of ID

Ontario Diabetes Strategy

- Patient diabetes education
- Outreach, advanced client education and high risk program
- Diabetes management
- Monitor patient behavior/outcome
- Networking and sharing best practices

Regional Nephrology Program

- Continued integration of Nephrology/Diabetes infrastructure
- Further embrace, sustain and live the principles of CDPM
- Enhance the patient experience
- Excellence - every moment, every day for all CKD patients

DRDN/Diabetes Education

- Increase diabetes education
- Support patients managing their disease
- Increase adoption of approved practice guidelines
- Identify gaps in health care and improve local health coordination
Demographics/Population

Proportion of prevalent dialysis patients by treatment type

**Ontario FY2010/11**
- Home hemodialysis: 77%
- Peritoneal dialysis: 18%
- Hemodialysis: 5%

**Lakeridge Health**
- Home hemodialysis: 62%
- Peritoneal dialysis: 27%
- Hemodialysis: 11%
Diabetes

Proportion of Incident Dialysis Patients With One or More Identified Comorbid Conditions, FY2010/11

Comorbid Conditions

- Angina
- Myocardial Infarction
- Coronary by pass
- Pulmonary edema
- Cerebrovascular Disease
- Peripheral Vascular Disease
- Diabetes type 1
- Diabetes type 2
- Malignancy
- Chronic Obstructive Pulmonary Disease
- Hypertension
- Smoker

Percentage of Patients (%)

Source: ORRS 2011
Note: A patient can have more than one reported co-morbid condition.
Renal CDPM Project
Diabetes Vision

CANNT, 2006.
Diabetes Vision: Facilitating Change

- **Improved patient care**
  - Patient Care Committee to develop a chronic disease strategy
  - CDE staff
  - Improved diabetes education for dialysis nurses

- **Partnerships**
  - Nephrologists and primary care providers
  - Diabetes Education Centres

- **Eye care**
  - Integrated into routine care. Clients reminded each October to have yearly eye exam.

- **Foot care**
  - Development of a foot care champion program
  - Feet checked yearly

- **CDE**
  - Staff supported in their pursuit of becoming certified

- **Consolidated programs**
  - Diabetes and nephrology programs consolidated under one directorship and management portfolio

- **Unified CKD clinics**
  - Endocrinology presence in Kidney Care Clinic, Home Peritoneal Dialysis and Home Hemo Clinics

- **Cross appointed staff**
  - Nurses and dietitians cross appointed to Kidney Care Clinic and Diabetes Education Program

- **Common education materials**
  - Dietitians of Kidney Care Clinic and Diabetes Education Program created kidney friendly diabetes education materials.
What Would Grissom Do Next?

- Investigation (Research) by:

Christina Vaillancourt (wannabe CSI)
CSI: At It’s Best!

The Crime

- 50% of Peritoneal Dialysis (PD) Patients have an A1C that is greater than 7%

The Accused

- Membrane type
- Solution type – too much glucose
- PD regime
- Patients with no physician
- Patients not attending diabetic clinic

The Investigation/Plan

- All accused were found innocent
- Back to medical management

- Investigate new potential models for clinics, for example, nephrology clinics, (explore other options like William Osler and submit proposal to ORN)
FORMAL RESEARCH
Walking The CDPM Talk: Dietitians’ perspectives of diabetes education in adult PD programs in Ontario.

**Research Questions**

1. What are the demographic characteristics of PD programs?
2. What are the demographic characteristics of dietitians with dietetic practices in PD programs?
3. How do PD teams manage diabetes?
4. What are the key facilitators and barriers that dietitians experience related to diabetes management?

**Themes**

1. “Walking the Talk”: Client-focused care.
Demographic Characteristics

Size of PD programs in Ontario

- Small: less than 50 clients
  - Teaching hospitals: 14.00%
  - Community hospitals: 33.33%

- Medium: 51-99 clients
  - Teaching hospitals: 72%
  - Community hospitals: 33.33%

- Large: 100 or more clients
  - Teaching hospitals: 14.00%
  - Community hospitals: 33.33%
Who Are The Dietitians Working In PD Programs In Ontario?

- 47% of dietitians have 5 or more years experience as a dietitian.
- 53% have 5 or more years of PD experience.
- 64% are sole practitioners.
- 75% work in Teaching Hospitals.
- 60% work in Community Hospitals.
- 5.25% of CDEs are in Teaching Hospitals.
- 5.25% are in Community Hospitals.
“Walking the Talk”: Client-Focused Care

What needs to be in place for “client-centered care?

• Access to services close to home
• Access to supports (social, financial and cultural)
• ODSP- special diet funding was highlighted as an essential support
• Services need to support self-management

Dietitians must possess knowledge

• Management of CKD, PD, and diabetes
• Community supports
• CDPM and Self-management theory
• Adult learning
• Cultural competency
Dietitians are aware of CDPM

- Barriers to integration of CDPM-based dialysis-specific diabetes education included:
  - Primary nursing model of care
  - Lack of access to professional development
  - Team/program consensus regarding roles and responsibilities related to diabetes management
“The Missing CDPM Puzzle Pieces”: The CDPM Approach To Care Delivery

**Issues**
- “...we have found that a client seeing a dietitian in PD and a dietitian in the diabetes program is too confusing, so the PD dietitian covers both (diabetes and PD).”
- “…the diabetes centre will see our PD clients however many of our clients do not want to go to the centre because it is another appointment.”

**System Design**
- Organized similar to acute care services
  - Focused on symptoms
  - Diabetes/PD teams working in isolation/silos
    - Lack of interprofessional collaboration
    - Care is disjointed
- Clients must navigate system and coordinate care on their own
- Clients have limited access to expert diabetes care
Research Conclusions

• Dietitians recognized the need for dialysis specific diabetes care
• Barriers exist to the formal integration of CDPM-based care into dietetic practices in PD programs
  • Dietitians’ experience
  • Lack of access to professional development
  • Lack of support from PD teams/programs
  • System does not support interprofessional collaboration
Recommendations

• PD and diabetes communities advocate for healthy public policy
  • E.g. revision of the Ontario Disability Special Diet funding formula to ensure adequate funding is provided to clients with diabetes receiving PD

• PD programs provide the time and resources to facilitate improved access to professional development for dietitians
  • E.g. Certified Diabetes Educator

• All stakeholders continue to work for the establishment of methods/process that would allow multiple clinicians from multiple services points the ability to collaborate across the health care system
  • E.g. electronic health records
DIABETES INTERGRATION
Specific Areas/Milestones

Kidney Care Clinic
- Started in 2009
- 2 days per month
- 100 patients at any one time

Peritoneal Dialysis
- Joint clinic started in July 2012
- 1 clinic per month

Home HemoDialysis
- Joint clinic started in August of 2012
- 1 clinic per month
Specific Areas/Milestones (continued)

**Program Leadership**
- Nephrology & Diabetes under one Directorship April 2010
- Manager and Patient Care Specialist oversee Nephrology Clinics and Diabetes

**Program Infrastructure**
- Physical Space
- Educational sessions: Nephrology/Diabetes Awareness Days
- Diabetes Educators Days
- Finance/Data Analysis and Reporting: consistent staff
Summary: Our Journey To Integration

Areas

2009

2010

2011

2012

KCC

2 clinic days per month

Formal Program Infrastructure:
One Directorship, Shared Management Staff, Physical Space

PD

Home Hemo

Staffing/Education

ICHD

July 2012, 1 Monthly clinic

August 2012, 1 Monthly clinic

Cross appointed/shared education

Winter 2012/13
IMPACTS OF INTEGRATION
EXPERIENCED BASED DESIGN IN THE KIDNEY CARE CLINIC (2013/2014)
Experienced Based Design in the Kidney Care Clinic

Gordon White¹, Christina Vaillancourt MHSc, RD, CDE², Reshma Dole BScPhm³, Ann Robinson RN²

¹. University of Ontario’s Institute of Technology, 2. Lakeridge Health

Introduction

Diabetes in Ontario
- Prevalence estimated 1 million individuals with an annual cost of $4.9 billion. Prevalence of diabetes set to have a 63% increase to approximately 2 million people by the year 2020 costing $7.0 billion annually.
- Diabetes is leading cause of Chronic Kidney Disease

Kidney Care Clinic (KCC)
- Opened in 1998, KCC is a pre-dialysis clinic composed of various healthcare professionals many of which are Certified Diabetes Educators.
- Serves approximately 600 clients of which 50% also have a diagnosis of diabetes.
- By providing education, assessment, and intervention with follow-up care, KCC’s mission is to work with clients in managing their kidney disease with a goal of delaying need for dialysis.
- Recently, an endocrinologist joined the team with the purpose of providing integrated nephrology and diabetes care.

The goal of the integrated model is to provide nephrology-specific diabetes care. The theory is that this model will support KCC clients in becoming self-managers in their care by engaging them in care planning, through reducing conflicting messages, coordinating education, blood work and appointments.

Experience Based Design (EBD)
- Experience Based Design utilizes a variety of tools to improve quality of health care.
- This approach seeks to bring clinicians and clients together to improve techniques and processes by focusing on emotions (the patient experience) instead of the traditional performance indicators.

Objective
- Using an EBD approach, capture the emotions and experiences of KCC clients with diabetes to evaluate the integrated care model.

Methods

- Survey contained 6 distinct columns:
  - Each column had 5 positive and 7 negative emotions the patient could circle to indicate their feelings. Additional space left for comments.
  - Surveys handed out (Jan/Feb, 2013) by receptionists as clients arrived.
  - If needed, clients sought help from research student

  How do you feel about...

  - Number of surveys collected: 38
  - Phone calls for additional information: 6

- Analysis:
  - Finding common responses by tallying amount each emotion was circled by the clients
  - Comments were grouped and reviewed for similarities

Results

- Figure 1: Top 6 responses per question
- Figure 2: Overall proportions of top 6 responses

Words in “Other” category include worried (2), frustrated (1), powerless (1), lonely (1), intimidated (1), not respected (1), 122 emotions in total.

Table 1: Most common emotions stated by respondents

<table>
<thead>
<tr>
<th>Emotions</th>
<th>Number of Times Selected</th>
<th>Emotions</th>
<th>Number of Times Selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supported</td>
<td>125</td>
<td>Hopeful</td>
<td>29</td>
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<tr>
<td>Respected</td>
<td>66</td>
<td>Overwhelmed</td>
<td>13</td>
</tr>
<tr>
<td>Optimistic</td>
<td>63</td>
<td>Other</td>
<td>9</td>
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<tr>
<td>Empowered</td>
<td>31</td>
<td><em>(12 emotions in total)</em></td>
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</table>

Discussion/Implications

- Experienced Based Design survey was successful in capturing the emotions and experiences of the clients of the KCC
- The results indicate that although wait times are longer, the integrated model positively influences health of the clients by maintaining supportive and respectful environments
- While some clients feel overwhelmed, overall, the integrated clinic has a greater proportion of optimistic, empowered, and hopeful clients
- Next steps might be determining if clients correlate experiences with positive health outcomes

References and Acknowledgments
Objective

• Using Experienced Based Design to capture the emotions and experiences of KCC clients with diabetes and staff to evaluate the integrated model

• EBD tool kit located:
Methods For Client Survey

• Survey consisted of 6 questions
  • Arrive/Checking in
  • During Clinic Visit
  • Leaving Clinic Visit
  • Between Clinic visits
  • Diabetes care and kidney care within the same appointment
  • How the combined visit of kidney care and diabetes care has impacted their health

• Each of these columns had the same 5 positive and 7 negative emotions patients could select. Additional space left for comments.
Methods (continued)

- Surveys were made available to clients in January and February of 2013
- In total, 39 surveys were offered to clients
- To gain more information regarding the last two questions, phone calls were placed to 13 of these clients
- Upon collection of information from surveys and phone calls, analysis involved using a thematic process to find common client responses
# Client EBD Survey

**How do you feel about...**

<table>
<thead>
<tr>
<th>Arriving/Checking In</th>
<th>During Clinic Visit</th>
<th>Leaving Clinic Visit</th>
<th>Between Clinic Visits</th>
<th>diabetes care and kidney care within the same appointment</th>
<th>how the combined visit of kidney care and diabetes care has impacted your own health</th>
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</tbody>
</table>

Circle the words that best describe your feelings at each stage, or write your own at the bottom:

Write your own words, comments or suggestions here:
Results of Client Survey

- Response rate 97%
- Most frequently chosen emotions
  - Supported (125)
  - Respected (66)
  - Optimistic (63)
  - Empowered (31)
  - Hopeful (29)
  - Overwhelmed (13)
Results (continued)

Top 6 emotions selected per survey question

Number of responses

Supported
Respected
Optimistic
Empowered
Hopeful
Overwhelmed

Q1  Q2  Q3  Q4  Q5  Q6
Additional Comments Made By Clients

• Clients appreciate having combined kidney and diabetes care as it reduces the number of appointments needed and saves time

• Clients think very highly of all of the staff at the Kidney Care Clinic. The support given by this staff has greatly benefitted clients’ overall health

• Lastly, some clients mentioned long wait times but also noted that they understand and see the benefit of integration
Discussion

• Experienced Based Design survey was successful in capturing the emotions and experiences of the clients of the KCC

• The results indicate that although wait times are longer, the integrated model positively influences health of the clients by maintaining supportive and respective environments

• While some clients feel overwhelmed, overall, the integrated clinic has a greater proportion of optimistic, empowered, and hopeful clients
EBD-STAFF EVALUATIONS
Methods For Staff Survey

• Survey consisted of 4 questions
  • During Clinic Visit
  • Between Clinic visits
  • Diabetes care and kidney care within the same appointment
  • How combined visit had impacted their your practice

• Each of these columns had the same emotions as the client survey and additional space left for comments.
# Staff EBD Survey

![Lakeridge Health Logo]

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**How do you feel about...**

<table>
<thead>
<tr>
<th>During Clinic Visit</th>
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<th>How the combined visit of kidney care and diabetes care has impacted your practice</th>
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<td>Worried</td>
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<td>Frustrated</td>
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<tr>
<td>Lonely</td>
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</tbody>
</table>

Write your own words, comments or suggestions here:

Write your own words, comments or suggestions here:

Write your own words, comments or suggestions here:

Write your own words, comments or suggestions here:
Results Of Staff Survey

• Response rate 41%
• Most frequently chosen emotions
  • Supported (25)
  • Respected (15)
  • Optimistic (14)
  • Hopeful (14)
  • Empowered (12)
  • Overwhelmed (6)
Results (continued)

Top 6 emotions selected per survey question

- Supported
- Empowered (in control)
- Optimistic
- Hopeful

Question

- Q1
- Q2
- Q3
- Q4
Additional Comments Made By Staff

• Client flow can be challenging, clinicians can feel overwhelmed and become frustrated

• Clinic requires interprofessional collaboration - creates a supporting and dynamic work environment

• Offered an opportunity for improving diabetes knowledge

• Visits are longer but feel clients are benefiting from integration
What Have the Clients Told the Clinicians?

• Makes sense to have visits together

• Appreciate not having to go somewhere else

• Clients feel they can handle both conditions with more confidence, more control and its not as overwhelming

• Longer clinic but its worth it
Clinician Recommendations Moving Forward

- Staff education
- Role clarification (when to refer to community diabetes services)
- Endocrinologist join rounds
- Review clinic set-up:
  - Team teaching
  - Space
  - Staffing
  - # of clients seen
  - Length of appointments
- Investigate diabetes case-management
Impacts Of Integration on Clinical Outcomes
Consider A1C 7.1-8.5% if ...

- Limited life expectancy
- High level of functional dependency
- Extensive coronary artery disease at high risk of ischemic events
- Multiple co-morbidities
- History of recurrent severe hypoglycemia
- Hypoglycemia unawareness
- Longstanding diabetes for whom it is difficult to achieve an A1C ≤ 7%, despite effective doses of multiple antihyperglycemic agents, including intensified basal-bolus insulin therapy
A New Way to Look at A1C

<table>
<thead>
<tr>
<th></th>
<th>KCC</th>
<th>ICHD</th>
<th>HHD</th>
<th>PD</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1C &lt;0.085</td>
<td>89%</td>
<td>63%</td>
<td>82%</td>
<td>73%</td>
</tr>
<tr>
<td>General Public</td>
<td>50%</td>
<td>50%</td>
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Guideline Targets Achieved

Lessons Learned

• Make sure the vision is clear and repeat it over and over and over
• Revisit the vision
• Engage the front line staff early and often
• Resource appropriately
• Have champions at every level
Concluding Thoughts/Next Steps

CONCLUDING THOUGHTS
- Integration of Nephrology/Diabetes is patient-centred
- Teams/patients appear to be “embracing” this model and informal feedback is very positive
- Opportunities for further integration are numerous

NEXT STEPS
- More formally evaluate the patient and staff/physician satisfaction
- Continue to expand the areas for integration e.g. incentre HD
- Utilize feedback from the new Nurse Practitioner (and other key leaders and staff/physicians), to identify opportunities to improve outcomes
“So never lose an opportunity of urging a practical beginning, however small, for it is wonderful how often in such matters the mustard seed germinates and roots itself.”

*Florence Nightingale*
Thank you!

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