Waterloo Wellington Diabetes Central Intake

Enhancing Access to Diabetes Care

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September 2014

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DIABETES

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Introduction

Diabetes Central Intake (CI) was established in the Waterloo Wellington LHIN (WWLHIN) region in November 2011 through funding from the Ontario Diabetes Strategy. It was the first CI in the province, and continues to be the lead in terms of the number of clients served, successful processes, data collection and wait-time monitoring. This document describes the development of CI, the success to date, and the planned next steps.

Background

Based on feedback from residents and health service providers, a centralized intake (CI) for diabetes education referrals was developed for the Waterloo Wellington (WW) LHIN region and launched November 2011. Feedback included surveys, stakeholder meetings and patient focus groups indicating there was a difficult referral process, with multiple referral forms, and physicians and patients not knowing where to go for care or education. There was competition for referrals amongst programs, long wait times for some education programs, and under-utilization of other programs.

The planning, development and implementation of the process involved extensive collaboration among individuals and families with diabetes, diabetes educators, community and hospital programs, family physicians, nurse practitioners, endocrinologists and other specialists. The development of CI followed the Health Quality Ontario (HQO) Quality Improvement (QI) Framework of defining the problem (gap analyses, patient focus groups, stakeholder inventories and meetings); understanding the system (analyzing the data and developing a clear vision); designing and testing the process (pilot process); and implementing and sustaining change (demonstrating success and through regular communication and training).

One referral form and self-referral form were created. Standard wait times were developed along with mapping of programs, a database, triage criteria and communication plan. The process was piloted, and included an evaluation from referral sources and recipients. The feedback noted a marked improvement in the referral process, wait-times, and access to care, resulting in a roll-out region-wide. CI was expanded to include referrals to endocrinologists/specialists, ophthalmologists and nephrologists/hypertension specialists which improved access to care.

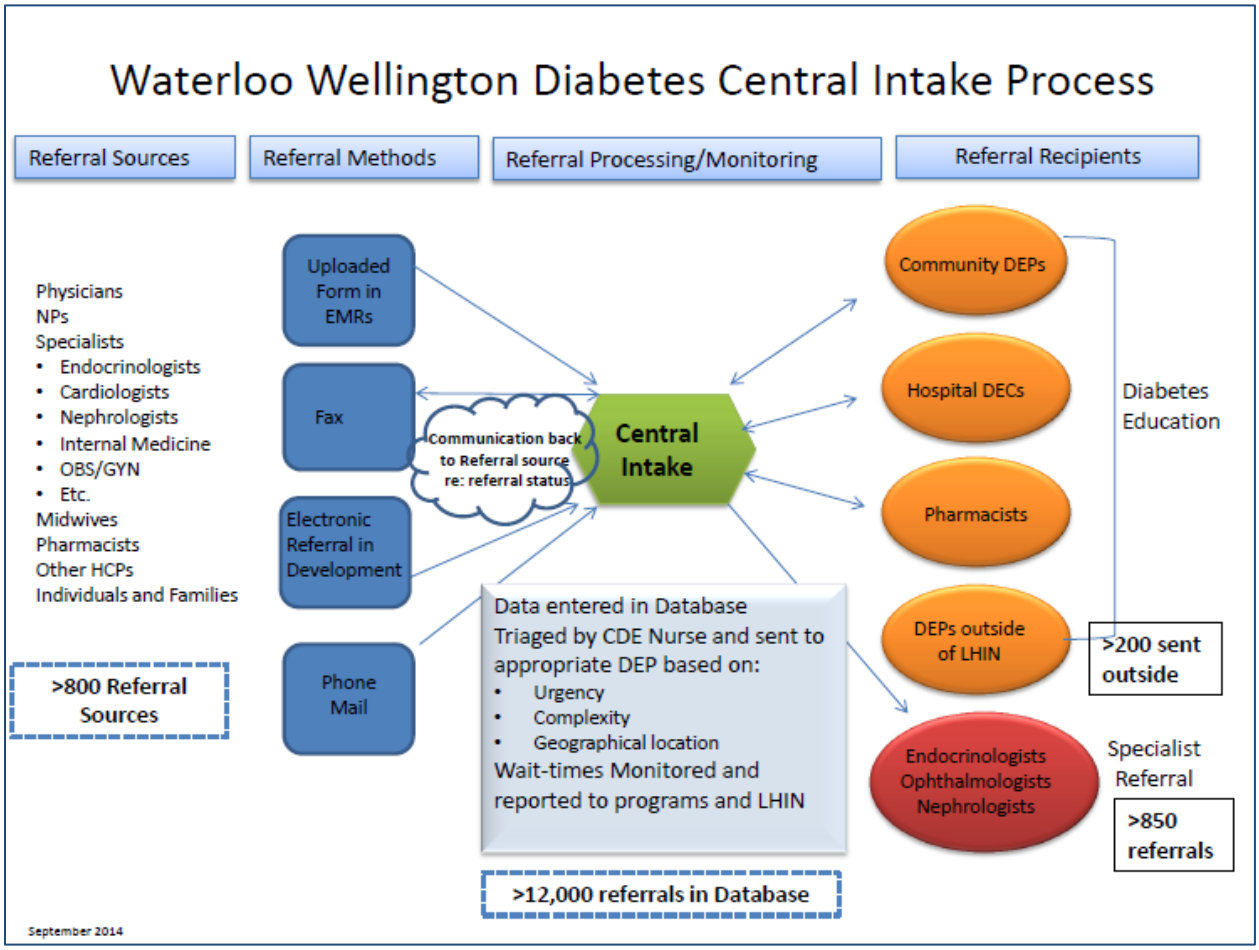
Guiding Principles

- Effective service coordination depends upon ongoing communication, collaboration and professional respect.
- Thoughtful planning and sensitivity to historical and current relationships leads to successful change management
- Effective outcomes evolve when the strengths of individuals and programs are combined together

Process

The Centralized Intake Process is defined as beginning when a provider (physician) faxes the referrals to the central intake line. The referral is triaged based on their age, diagnosis, complexity of care and reason for referral, and is faxed to the appropriate diabetes education program and/or specialist for service. The process ends when the outcome of the initial appointment is known.

The following figure describes the process for CI.



Standards for Wait-Times

Standards for wait-times were developed according to the *CDA Standards for Diabetes Education Programs.* The Canadian standards were not inclusive of all types of diabetes, so advice was sought from experts in the field and the final document was approved by the Diabetes Regional Coordination Centre (RCC) steering committee. The standards provide a benchmark to measure wait-times for the region (see below).

Role of Triage Nurse

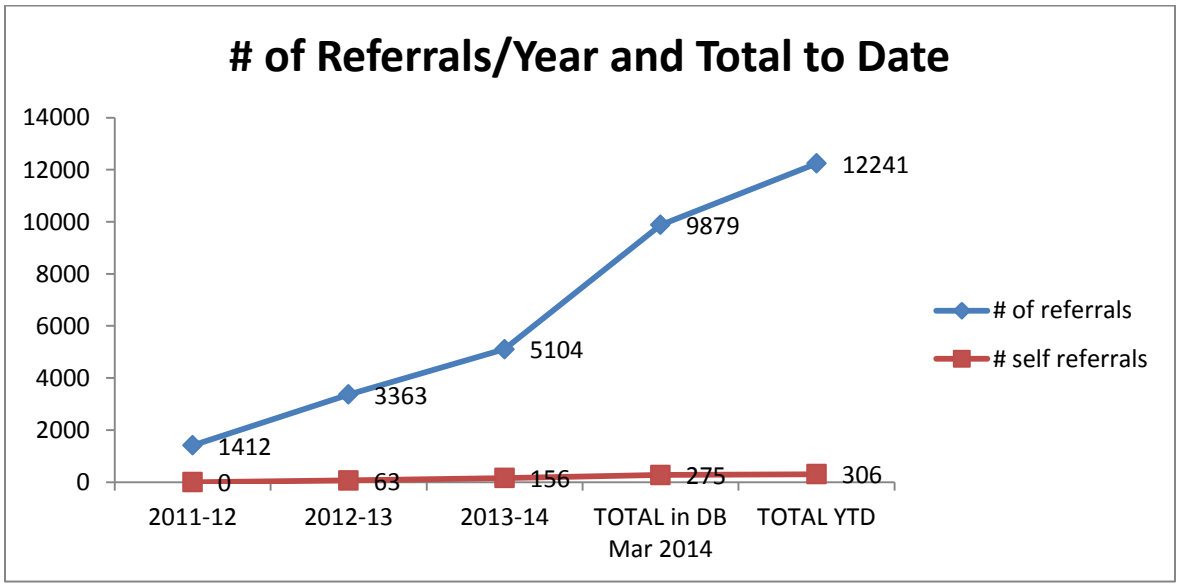
1. Referral is reviewed by a Patient Navigator/Triage Nurse who is a Certified Diabetes Educator, which is required for expert clinical judgment.
2. Referral is triaged to appropriate location within region depending on patient's home address, complexity of care required, and urgency of referral
3. The Triage Nurse contacts the referral source for referrals having missing information, requiring clarification, or in cases where the patient may have been misdiagnosed or on wrong medication.

Data Collection

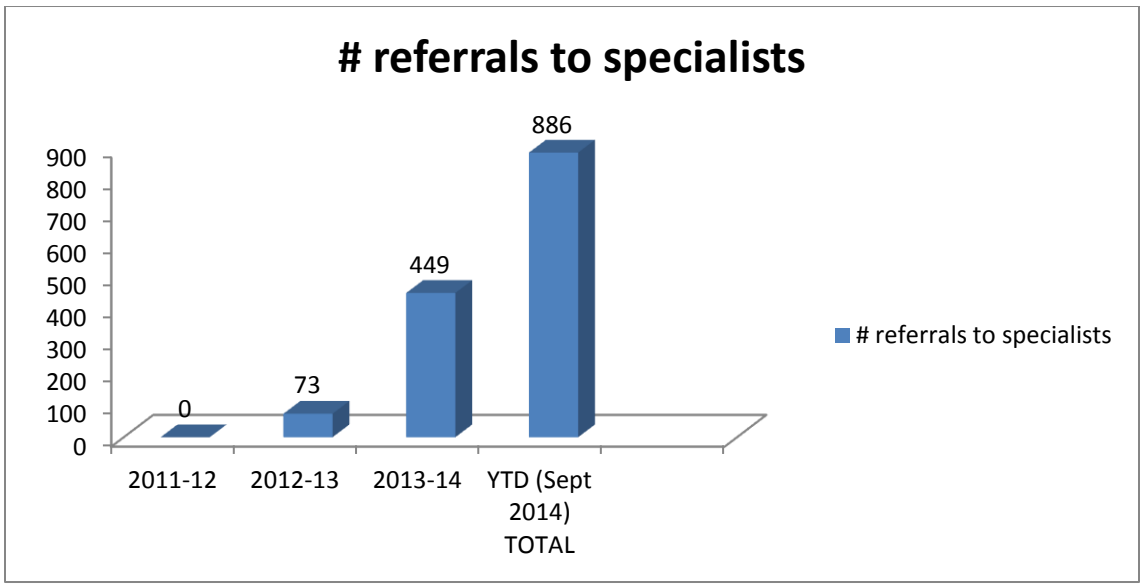
CI has 92 customized reports built in to the database, with the option of creating additional queries. The following data is a snapshot of activity to date.

Access to Care

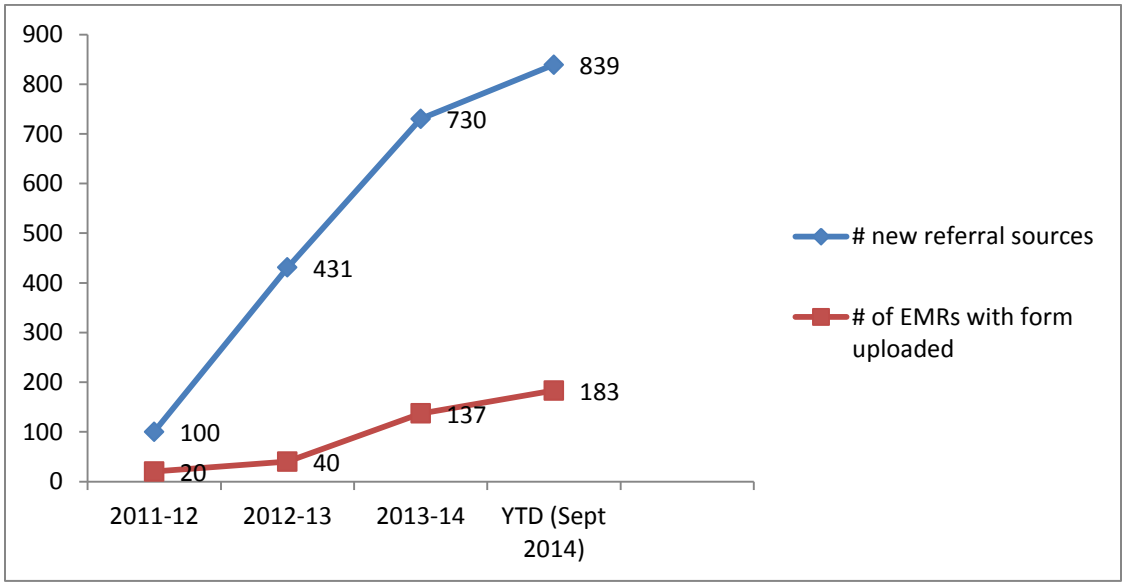
The number of referrals has risen steadily. Self-referrals are also increasing.



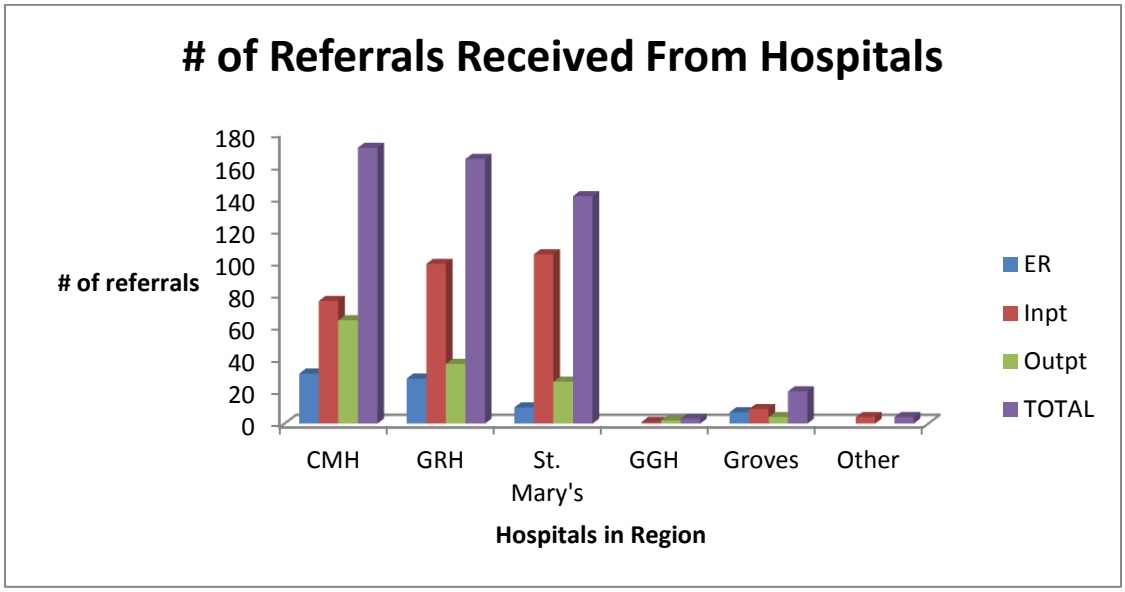
In November 2012, CI added the option of referral to Endocrinologist on the referral form. The following year, referral to Ophthalmologist and Nephrologist was also added.



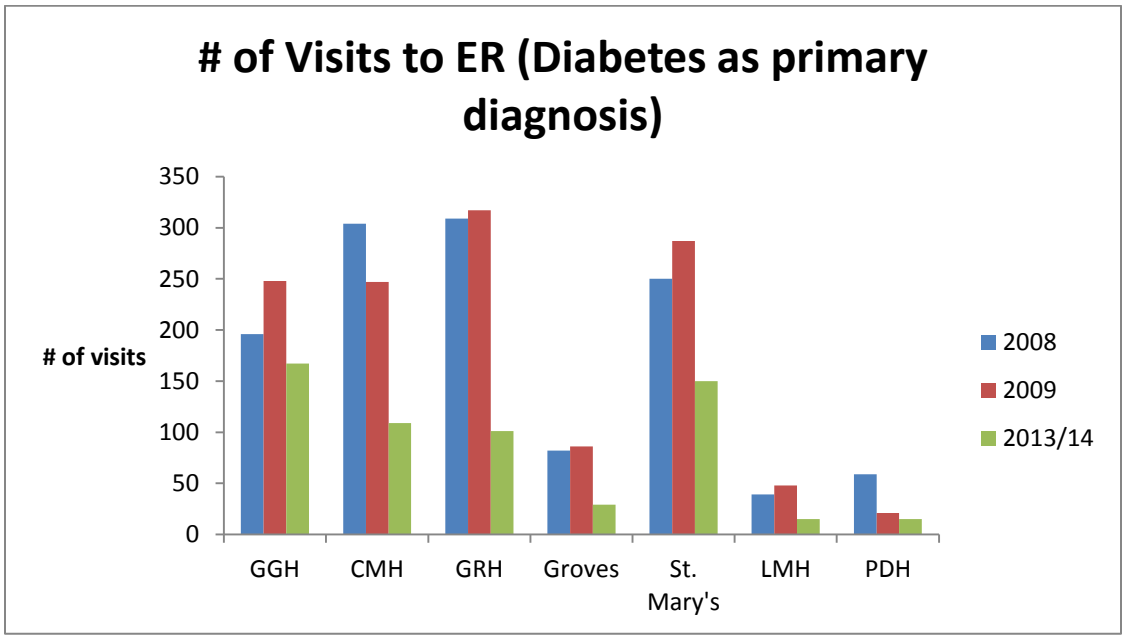
CI tracks the # and type of referral sources and provides an uploadable form for practices using Practice Solution Software as their EMR.



CI facilitates transition of patients from hospital to home or community.



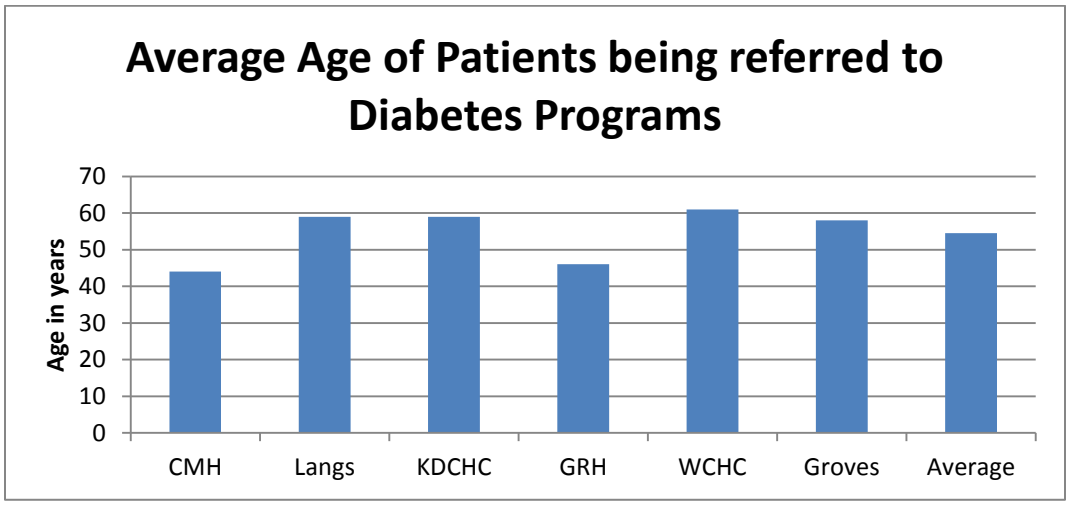
The following table describes the reduction in the # of visits to ER with the primary diagnosis of diabetes. This is despite an increase of 2% prevalence (~15,000 additional people) in the region.



Average Age of Patients/Clients

CI allows us to look at the average age of clients per program, which helps determine types of programs and available times for programs. The average age for hospital programs is 45 years of age, which reflects the Type 1 population. The average age for community programs is 59 years of age.

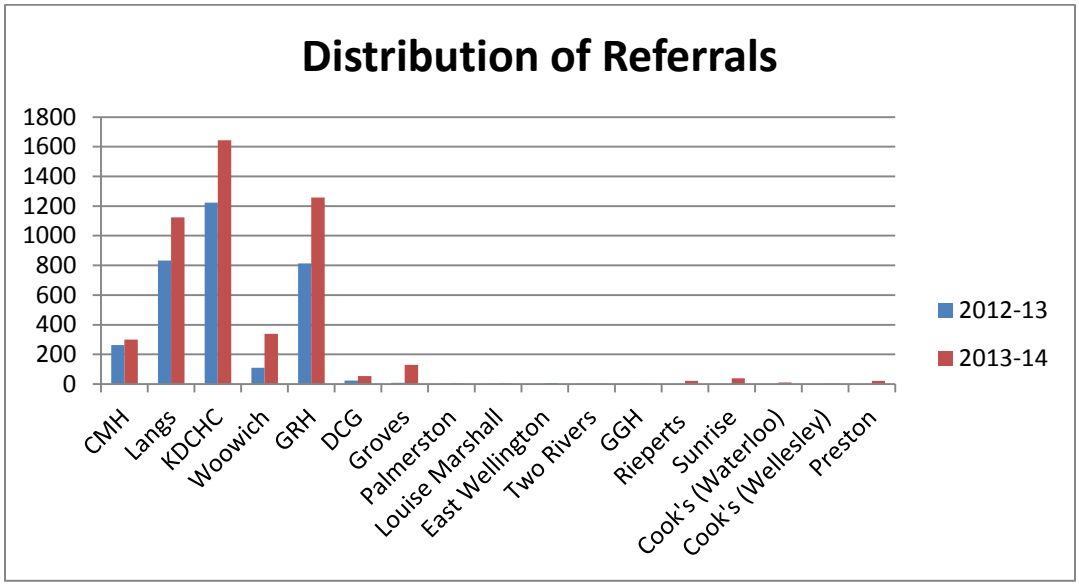
The following chart shows the average age of clients per program:



Capacity Planning/Distribution of Referrals

CI triages the incoming referrals and directs them to the appropriate Diabetes Centre. This has eliminated competition for referrals and has distributed referrals effectively, resulting in increased capacity for patients accessing programs, and reduced wait-times.

The following graph shows distribution of referrals. Note that Centre Wellington started actively referring November 2013, and North Wellington and Guelph are not actively using CI yet.



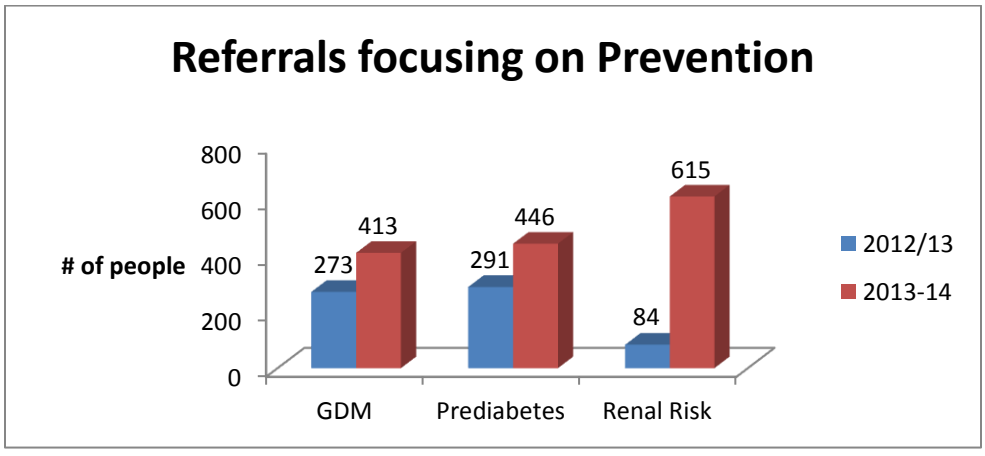
The CI team has also facilitated referrals to other parts of the province and country for those patients living or moving outside of our LHIN region.

Waterloo Wellington Diabetes Central Intake Data as of March 31, 2014			
Ontario		# referrals sent to	# referral sources from
LHIN #	**LHIN name**		
1	Erie St. Clair	6	1
2	South West	107	15
3	Waterloo Wellington	9559	729
4	Hamilton Haldimand Niagara Brant	45	7
5	Central West	7	4
6	Mississauga Halton	7	6
7	Toronto Central	7	4
8	Central	3	4
9	Central East	1	2
10	South East	0	0
11	Champlain	0	1
12	North Simcoe Muskoka	5	1
13	North East	0	0
14	North West	1	0
Alberta		2	
Nova Scotia		1	
		9751	774

Prevention

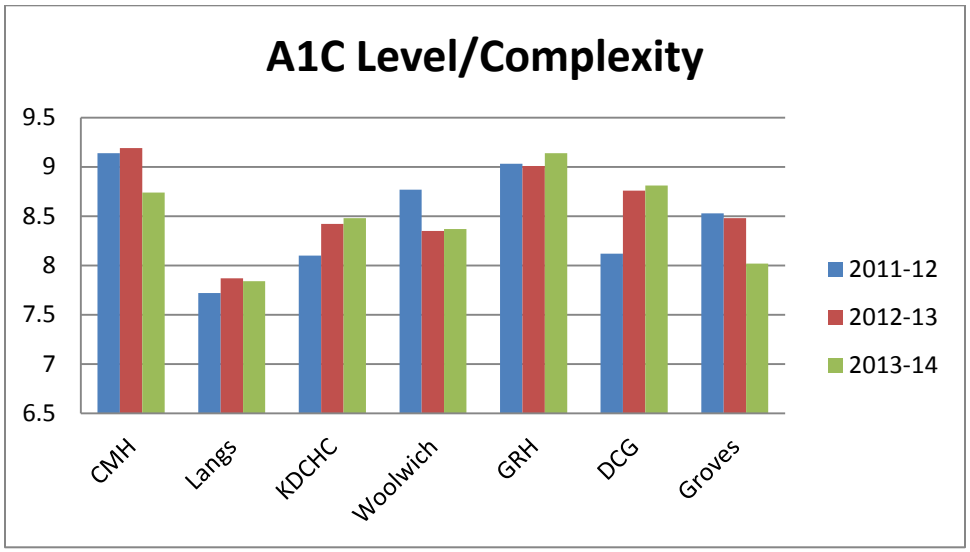
Prevention strategies have been facilitated by CI by identifying and monitoring referrals for prediabetes, gestational diabetes and people at risk for renal disease. Monitoring of the volume of GDM and prediabetes referrals ensures capacity for education programs and services to reduce the onset of Type 2 diabetes.

CI in partnership with the regional renal program identified renal criteria that would identify those at risk for renal disease. These patients would otherwise not have been identified, yet are at high risk for renal disease. Referrals currently are being identified with the plan to develop an education program or nephrology referral for them.



Clinical Indicators

Clinical indicators are tracked in our database including A1C, FBG, 1 hr BG, 2hr BG, ACR, Chol, TG, HDL, LDL, eGFR and Creatinine. The following chart shows the average A1C level per program at the time of referral. This demonstrates that the hospital programs continue to handle the more complex cases of diabetes, with increasing complexity at KDCHC. It also shows the average A1C that patients are being referred over the past 3 years is 8.5%



NB. Groves and DCG had very small numbers so this chart may not accurately reflect their average A1Cs.

Wait times

CI monitors wait-times to ensure programs are delivering timely education within the established standards. Reports are sent to each program manager on a quarterly basis, as well as the regional reports are shared with the LHIN and posted on our web-site.

Wait-times are measured from the date the referral is received at CI to the first available appointment offered to the individual. They are measured against standards which were established to provide a benchmark to measure wait-times. They are reported as median and 90th percentile, which is consistent with the Ontario Wait Time strategy. WWD CI is the only region in the province currently calculating wait-times based on data.

Urgent (within 48 hours)	Semi-Urgent (7 to 14 days)	Non-Urgent (14 to 28 days)
Uncontrolled diabetes	Gestational Diabetes	Pre-diabetes
Newly diagnosed Type 1 diabetes	Inpatient discharge follow-up	Type 2 Diabetes
Pregnancy with pre-existing diabetes	Steroid Induced Diabetes	Established Diagnosis Type 1 Diabetes
Recent treatment for DKA	Hypoglycemia	Insulin pump therapy
Crisis that drastically affects individuals' ability to manage their diabetes		Type 2 insulin initiation
ER discharge follow-up		

The following is an example of the reports shared with the LHIN and programs:

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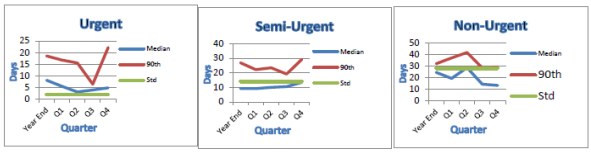
Central Intake Success Status

DEP: WWLHIN Wait Time Report Q4 Date: Apr. 7, 2014
Quarter :



	Standard Wait Time		Quarter 1	Quarter 2	Quarter 3	Quarter 4
Total Number of Referrals			1196	1157	1282	1248
Wait Times	Urgent (2 Days)	Average	6.6	4.4	3	7.4
		Median	5.6	3.2	4	4.9
		90th	16.8	15.6	6.5	22.2
	Semi-Urgent (7-14 Days)	Average	10.4	11.6	10.2	8.2
		Median	9.2	10	10.5	7.4
		90th	22.2	23.4	19.1	17.7
	Non-Urgent (14-28 days)	Average	22.8	32.6	16.4	16.1
		Median	19.4	28.6	14.5	13.4
		90th	37	41.6	28.4	29.2
Total Number of Unbooked Appointments	Urgent					
	Semi-Urgent					
	Non-Urgent					
	Transfer of Care					
	Transition					

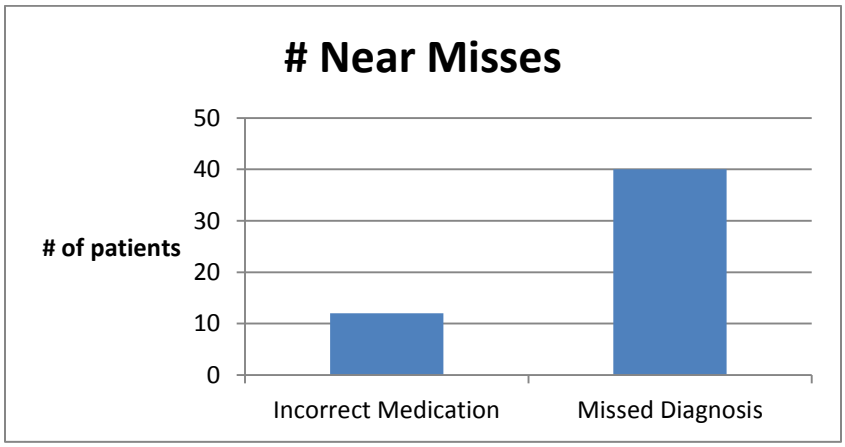
Definitions

Average Wait Time is the average amount of time, in days, that it takes from DEP receipt of referral to a booked appointment.
Median Wait Time is the amount of time in days that it takes for 50% of all referrals to be booked.
90th Percentile Wait Time is the amount of time, in days, that it takes for 90% of all referrals to be booked.
Standard Wait Time (Std) is the recommended wait time as per the "WWD Standards for Access to Diabetes Education".

Education Needs/ "Near Misses"

With our experienced Triage Nurse, our CI program monitors the number of referrals that could potentially have resulted in adverse outcomes, such as the wrong diagnosis (dx. as Type 2 yet the person had Type 1 and required urgent intervention); wrong medication etc.

This monitoring of "education needs" identifies opportunities for our mentor/best practice facilitator to offer additional education or support.



Expanded System

In November 2013, Langs received one time funding from the WWHLIN to further expand the CI process to an electronic format. The process and expansion was designed to utilize technology to enable an already successful streamlined process, and to recognize change management principles by reflecting current and future states. Many HCPs still use paper/fax methods therefore an optical recognition system was piloted to support those HCPs still using paper based faxes while simultaneously moving to an electronic entry system.

A request for proposals (RFP) was issued in November 2013 with 4 respondents. Requirements included vendors meeting the following elements:

- meet the Ontario MD compliance specifications
- adhere to PIPA and PHIPA standards
- provide an electronic interface between the EMR version of our referral form to feed directly in to our database
- merge our currently closed database into an on-line database/cloud solution with full back-up capability and technical support
- develop an 'uploadable' referral form directly from our regional web-site that is compliant with privacy and log-in security as an option for self-referral or HCPs
- able to provide wait-time calculations and reporting mechanisms, using structured query language (SQL)
- capable of performing optical recognition for faxed referrals
- develop the infrastructure for an electronic scheduling/booking system, starting with urgent patient appointment slots, shared between CI, diabetes programs and specialists with opportunity for expansion to a patient portal.

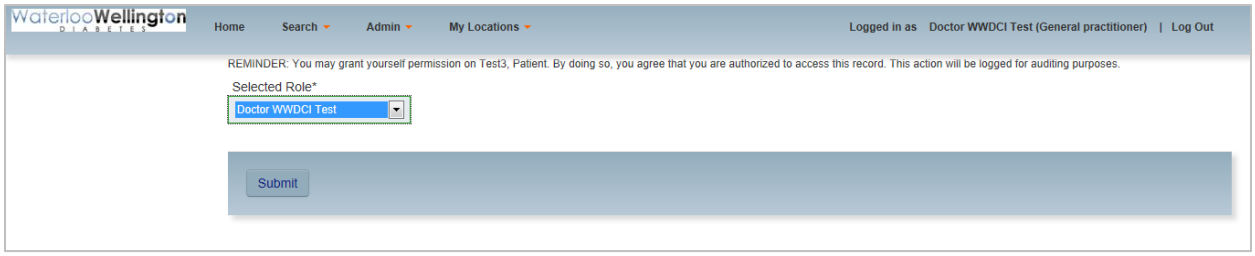
The respondents were short-listed to 2 vendors, who presented to a selection committee. The vendor, Healthepartner, a local company, was selected. The following describes the work to date. The system is built, but not in production yet, pending further funding from the WWLHIN.

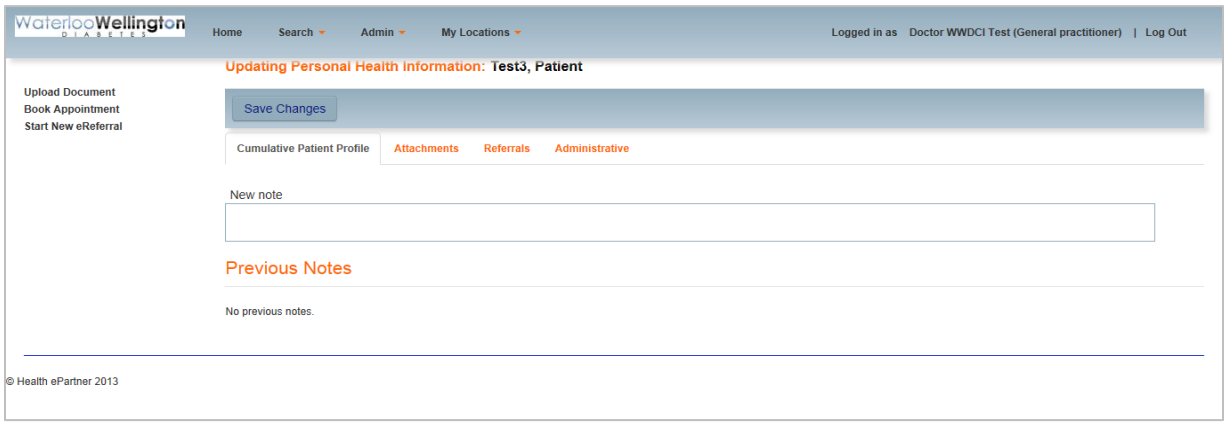
Referral Method

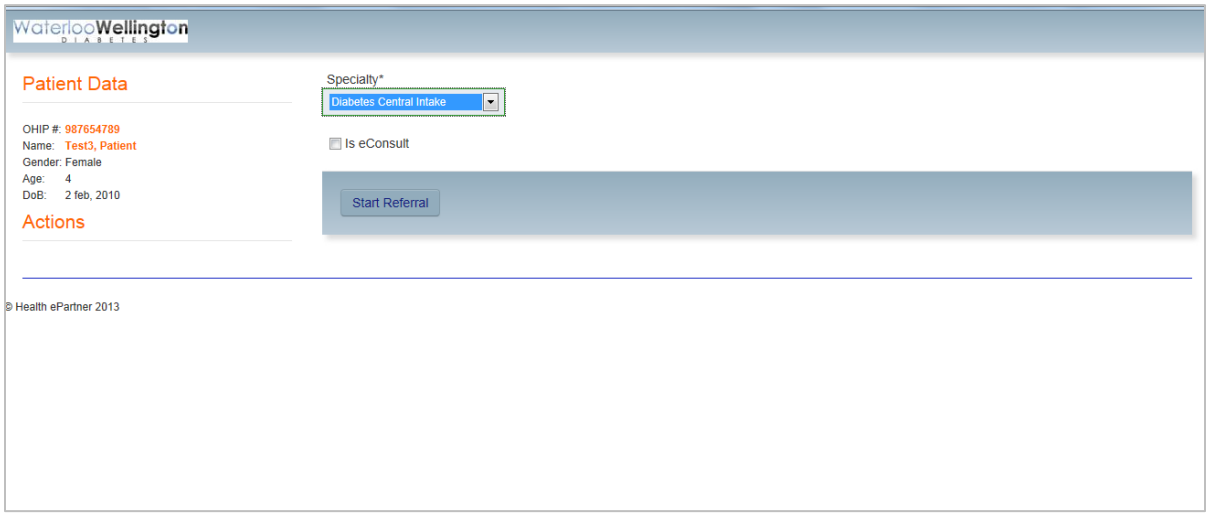
Optical recognition system was piloted to recognize fax information and upload automatically into database but to date has not been accurate enough to utilize.

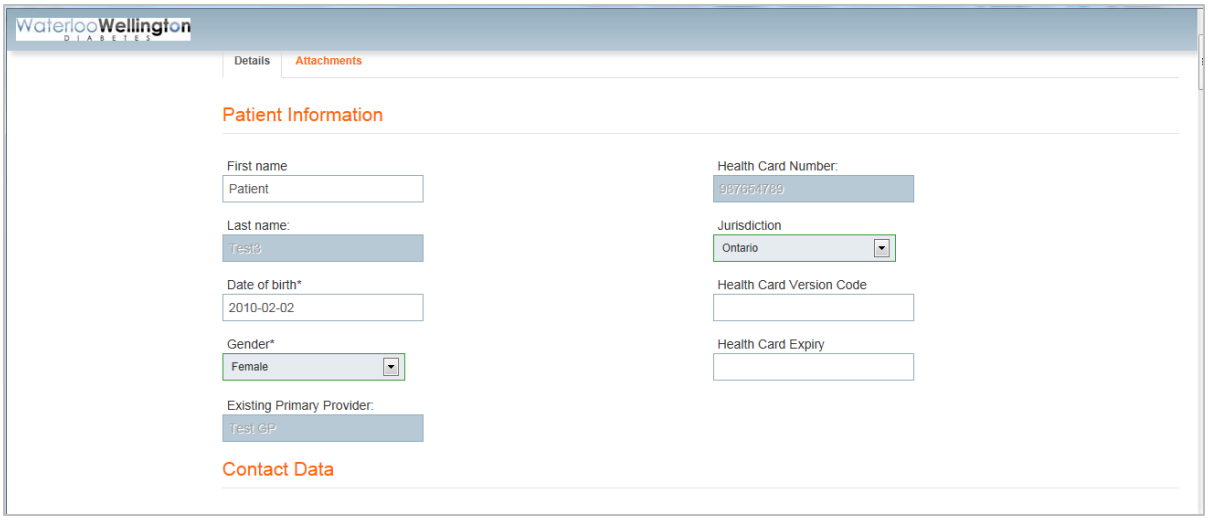
- Electronic referral system will be available to access from our web-site
    - Physician/HCP referral
        - create a user account
        - search for existing patient by OHIP number
        - search by current patients
    - Self-referral
        - Create an account for later access to appointment information/or submit a referral without creating an account

The following screen shots show the physician/HCP process for entering a referral:





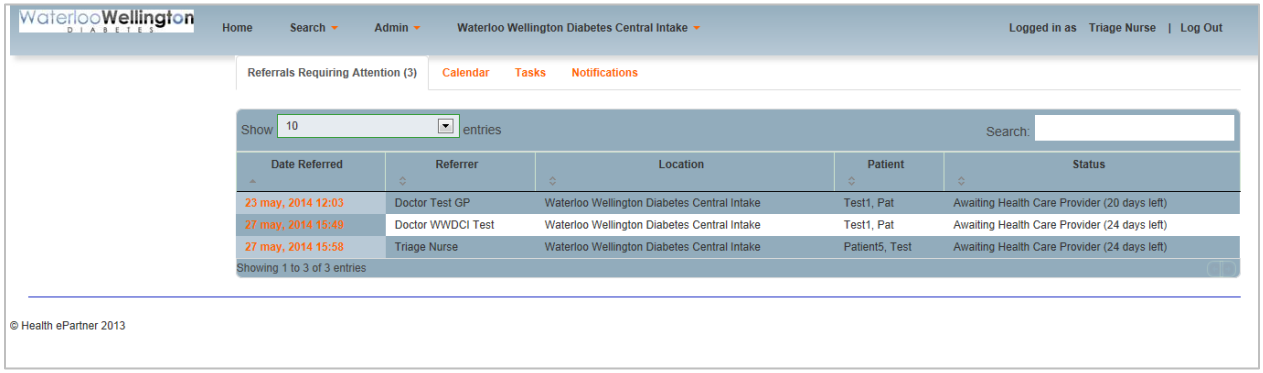




The referral source can access their account at any time to determine the status of the referral.

Referral Process and Monitoring

The Triage Nurse/Patient Navigator will see all incoming referrals on the following screen and will triage and direct them to the appropriate location based on urgency, complexity and geographical location. This is based on the same Waterloo Wellington Diabetes "Standards for Access to Diabetes Education" as well as clinical judgment. The referrals for specialists will also be sent through this system. Reports are sent back to the referral source keeping them informed of the referral status at the receipt of referral, and at the time of booking the appointment.



The reporting system is still in the development process, but will enhance our current reporting system (Access database) which has 92 customized reports. A scheduling system is also being built, which will be implemented in a gradual planned process, starting with gestational diabetes classes at GRH and the prediabetes classes in the community programs. This will require considerable training and change management strategies, so will be at a later date.

Expansion to other chronic diseases

The successful design of the Diabetes Central Intake provides a framework for expanding to other chronic diseases. The electronic platform that is being built is being designed as a CDPM platform, with the capability to expand to other clinical chronic disease programs throughout the region.

Summary

Waterloo Wellington Diabetes, hosted by Langs, continues to be successful, providing a tremendous service to those individuals, families and health care providers living or working with diabetes. We continue to be consulted by other regions of the province on how to design and deliver our centralized intake.