

WATERLOO WELLINGTON DIABETES

Diabetes Central Intake/Mentoring/Website

2018-19 Year End Report to WWLHIN

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Contents

Introduction	2
Diabetes Central Intake (DCI).....	2
Diabetes Prevalence.....	5
Our Successes	6
A Closer Look at our Program	7
Triaging.....	12
Monitoring of Data	13
Wait Times	13
Prevention.....	18
Education and Mentoring	19
Website	20
Challenges, Risks and Opportunities.....	20
Summary	21

Introduction

This annual report provides a summary of activities to date for Diabetes Central Intake, Mentoring and the Waterloo Wellington Diabetes website www.waterloowellingtondiabetes.ca. Langs receives base funding from the WWLHIN to offer these regional services to support the coordination of diabetes care for the region of Waterloo Wellington. These services support:

1. residents (patients, families and health care providers) with easy access to diabetes care;
2. the LHIN in system planning for diabetes care by monitoring volume and wait-time reports; and
3. health care providers in the region to enhance their knowledge of diabetes management.

Detailed reports on the volume of referrals and referral sources as well as the types of referrals are submitted quarterly. This end of year report provides a summary of the activities and successes over the past fiscal year of 2018/19.

We have consistently aligned our work with the various strategies of the MOHLTC and the LHIN, including the MOHLTC *Patients First: Action Plan for Health Care Strategy*, and more recently *The People's Health Care Act*.

Our work continues to align with the Ontario Chronic Disease prevention and management framework by focusing on the components of self-management, system design, provider decision support and information systems. It also continues to support the goals of the previous Ontario Diabetes Strategy to promote, prevent and attach.

At all times, our focus continues to be patient focused, and we continue to focus on our tag line of **Improving Access, Improving Knowledge and Improving Health**. We participate regularly with various community partners in the region and exhibit at many community events, promoting our services.

Diabetes Central Intake (DCI)

To streamline access to diabetes care, a successful regional diabetes central intake (DCI) was established in this region in 2011 and continues to be successful. To support patient navigation and processing of referrals, a referral management system (RMS) was developed by our team using Microsoft Access™. This program is a relational database, which allows unlimited capacity with the ability to create many customized queries and reports. It offers secure features such as encryption, user and data limitations and it is stored on a secure private server. It allows multiple people to use the database simultaneously, making it an essential system for managing the high volume of referrals. Standardized letters are built in to provide notification to the referral source on receipt of the referral and the date or outcome of the appointment scheduling. Wait time reports for DEPs are built in, based on urgent, semi-urgent and non-urgent referrals, with the ability to exclude patient related factors or dates affecting consult date.

(DARCs). Robust reporting is available with over 100 customized reports to accommodate monthly, quarterly and ad hoc reports to the LHIN and program managers.

In 2016, we were the first “stream” in the region to go live on the Ocean™ eReferral. Regardless of the method of transmission (fax, mail or eReferral), DCI follows the same process of triaging according to established criteria and standards, entering the referral data in the RMS, sending to the appropriate diabetes program and/or specialist and notifying the referral source of the receipt of referral including where the referral has been sent. The Diabetes Education Programs receive referrals from DCI, book the patients, and communicate the appointment date back to DCI. DCI updates the RMS and communicates back to the referral source the appointment date, location and any dates affecting reason for consultation (DARCs). DCI monitors the data and sends quarterly reports on volume and wait-times to the diabetes programs and to the LHIN. DCI ensures patients are not lost in the system by sending an unbooked appointment list to each program quarterly.

By the end of March 2019, DCI has processed 7,608 referrals for diabetes education (Table 2) from 243 referral sources (Table 5). In addition, 2,569 referrals have been directed to specialists (Table 4), making a total of 10,177 referrals processed.

We continue to promote the use of eReferral to all physicians and the # of ereferrals is gradually increasing with 69 eReferral sources and 243 eReferrals as of March 31st, 2019. There are 7 Diabetes Education Programs and 4 endocrinologists receiving eReferrals now. We are hopeful that additional Diabetes Education Programs and Endocrinologists will sign on to receive eReferrals this year. We continue to promote eReferral through various community events, continuing medical education events as well as sending faxes to referral sources who continue to fax referrals. We also have the link for eReferral on our website.

649 referrals have been received from area hospitals, and 358 self-referrals have been processed. The referral form is uploaded to over 250 eMRs in the region.

Other regions of the province continue to consult with us on the “how to” of developing a central intake program (not only for diabetes but other specialities). Due to the number of inquiries, we developed a guide to support other regions in developing a Central Intake Program, which is available on request from our Resources page on our RCC website (www.wwrcc.ca). (Figure 1)

Figure 1: A Guide for the Development and Implementation of a Regional Central Intake

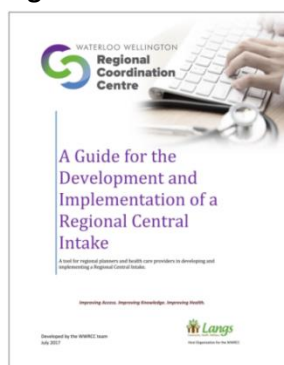


Figure 2: Processing an eReferral with Ocean™ Guide

[illegible]

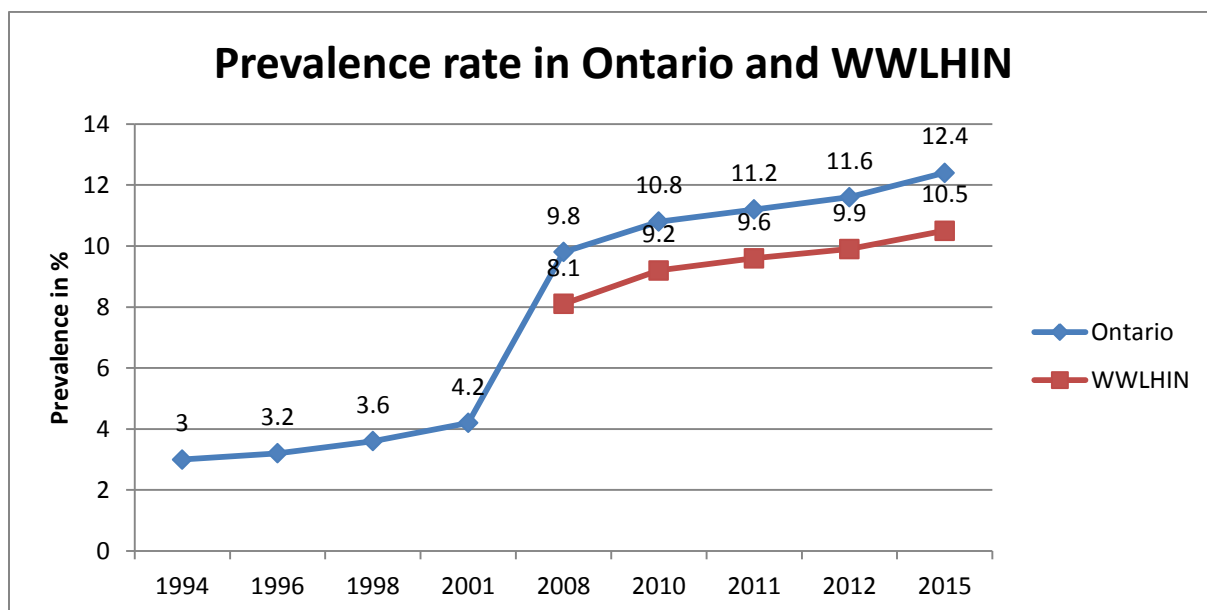
We continue to support SWLHIN with receiving/sending referrals to them, despite no further funding for this. To date, we have processed 1722 referrals to London with 192 referral sources from that region.

Diabetes Prevalence

According to Diabetes Canada and the International Diabetes Federation, the prevalence of diabetes is increasing at alarming rates. We no longer receive statistics from the MOHLTC, but based on the last data from 2015, the Waterloo Wellington regional prevalence has been consistently 2% less than the provincial rate, but increasing at the same rate of approximately 0.3%/year. (Table 1)

The goal of the Ontario Diabetes Strategy was to have 40% of individuals with diabetes referred to a diabetes education program. We currently have 37% of our WW population captured in our WWD database, despite not including referrals from Guelph, North or East Wellington or the local Family Health Teams (FHTS) (CFFM, New Vision, Two Rivers, Grandview).

Table 1: Prevalence rate in Ontario and WWLHIN



Based on 10.5% prevalence and a WW population of 778,766

WW Diabetes population = 81,761 people

30,550 people captured in WWD database = 37% of WW diabetes population

Our Successes

Despite the increasing prevalence of diabetes, we have demonstrated the following successes in our region:

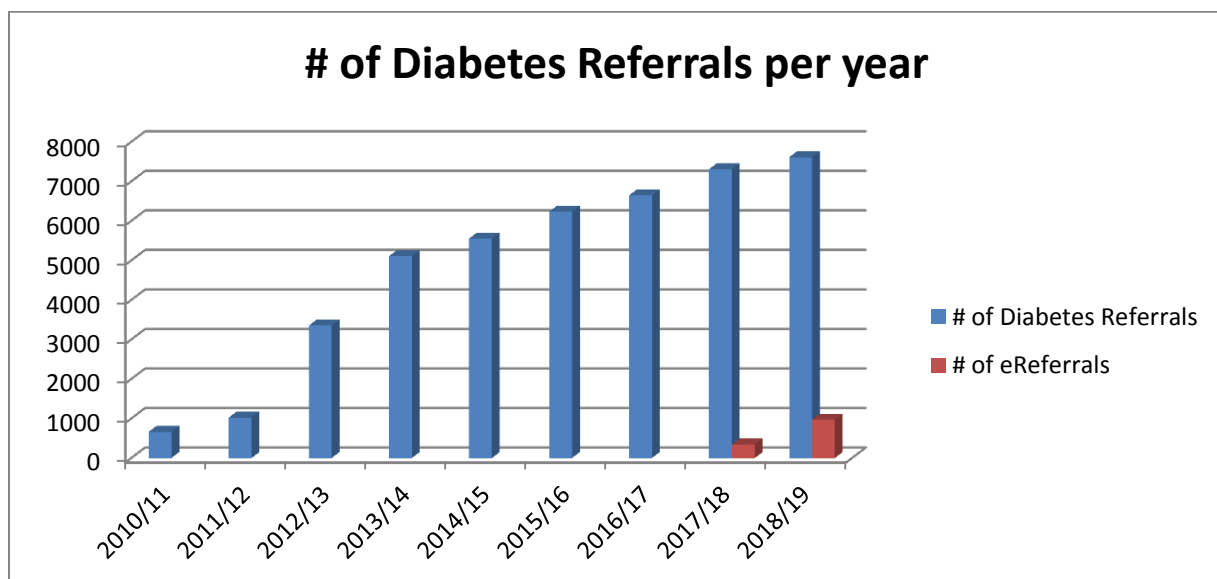
- No-one is “lost in the system”
- Increased number of people referred and followed for education with same resources
- People accessing care close to home
- People are able to send self-referrals
- Standardized regional wait-times established for benchmarking
- Wait-times for diabetes education programs within target
- Increased utilization of community programs
- Identified pharmacies with Certified Diabetes Educators (CDEs) to offer after-hours education
- Streamlined access to diabetes specialists
- Increased prevention
- Increased retinopathy screening
- **Identified and facilitated access to individuals referred through Orthopedic Central Intake who required improved glycemic care for surgery or healing of ulcer**

There is a 127% increase in people being referred since 2013.

A Closer Look at our Program

The following data offers a detailed look at our work to date. There continues to be a steady increase yearly in referrals for diabetes care with **7,608** referrals to Diabetes Education. (Table 2) In addition, there have been **2,569** referrals to specialists, bringing the total of referrals to **10,177** this year. As mentioned in the introduction, eReferral was launched in August 2017 and is integrated with Practice Solutions Software (PSS), which is the most common electronic medical record (EMR) in this region. There has been a gradual uptake with it, but we are hopeful this will continue to increase as more primary care physicians sign on with Ocean.

Table 2: # of Diabetes Referrals to Diabetes Central Intake



There continues to be a slight drop in self-referrals this year, although still a sizeable number, ensuring easy access to everyone with diabetes. (Table 3) The self-referral form is available on-line from our WWD website <https://www.waterloowellingtondiabetes.ca/Public-Referrals.htm> , and allows the individual to submit electronically into the Ocean eReferral (Figure 3). The referral then follows the same process of being triaged and sent electronically to the appropriate program. The individual is provided notifications as the appointments are booked.

Figure 3: Screenshots of website page and self-referral form



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Home / Calendar of Events / Resource Library / Self-Management Support / FAQs / Access to Diabetes Core / Contact Us

Print Self-Referral Form **Complete Online Self-Referral Form**

NOTE: The information you provide in this form contains personal health information that is subject to the provisions of the Personal Health Information Protection Act, 2004. This form and its contents should be printed and mailed to the number or address on the form and should not sent by email.

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To attend diabetes education programs in Waterloo-Wellington you must:

- Have a confirmed diagnosis of Type 1, Type 2 Diabetes, Prediabetes or at High Risk for Diabetes
- Reside in the Waterloo-Wellington region

*First name:

*Last name:

*Phone number (day):

Phone number (evening):

Email:

Sex: ☐ Male ☐ Female ☐ Prefer Not to Say

*Street address:

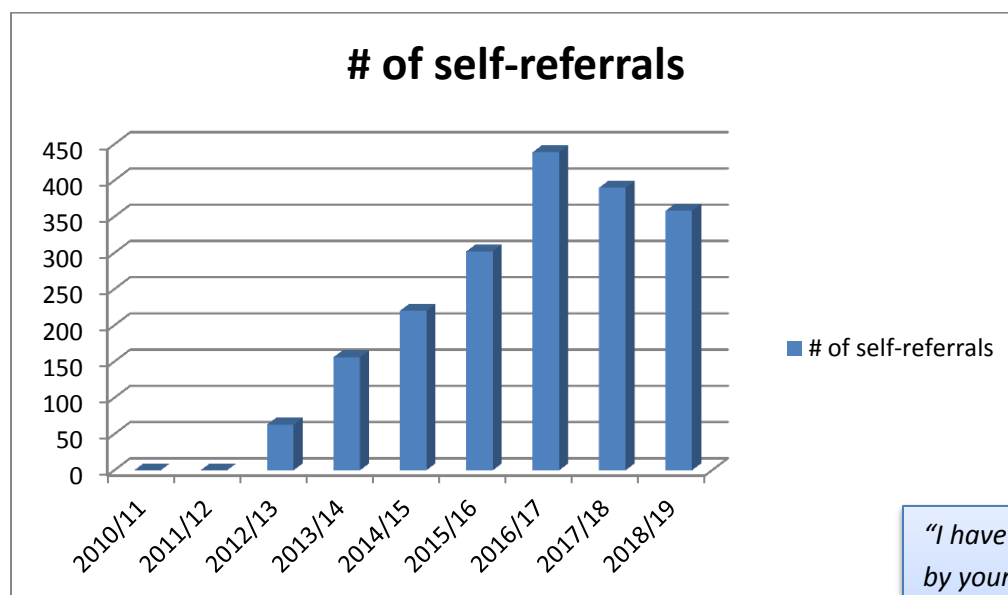
*City:

*Postal code:

*Date of birth (YYYY-MM-DD):

Health card number (numbers only, ignore last two letters if present):

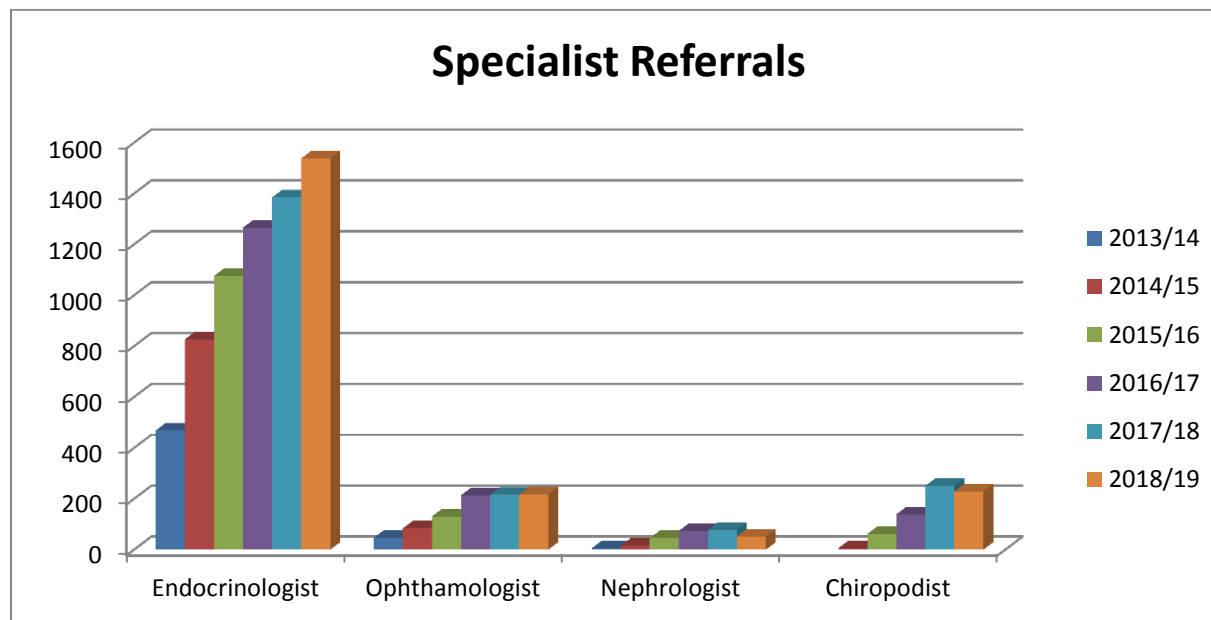
Table 3: # of Self-Referrals



"I have to tell you that I am stunned by your center. I am stunned by the service that you have given me. It gives me hope" Patient from Ingersoll Jan10/19

DCI has streamlined coordination and access to specialized diabetes care by providing specialist consults on the same referral form (paper or electronic) for endocrinologist, ophthalmologist, nephrologist, and chiroprapist. (Table 4) We have facilitated referrals to the LHIN Home and Community Care Wound Care Clinic, although the number is down slightly since the total contact cast program is no longer available at Langs. We also have agreements with a select number of chiroprapists in our region who will receive referrals from us for chiroprapody services, although this service is fee for service and is dependent on the person's ability to pay.

Table 4: # of Referrals Sent to Specialists



We continue to see an increase in our referral sources from within our region and outside our region. As of year-end, we have a total of 1945 referral sources with 58% of referrals from primary care (Family Physicians and Nurse Practitioners) and 19% from endocrinologists. Table 5 represents the total number of unique referral sources and Table 6 identifies the referral sources by specialty.

Table 5: # of referral sources per year

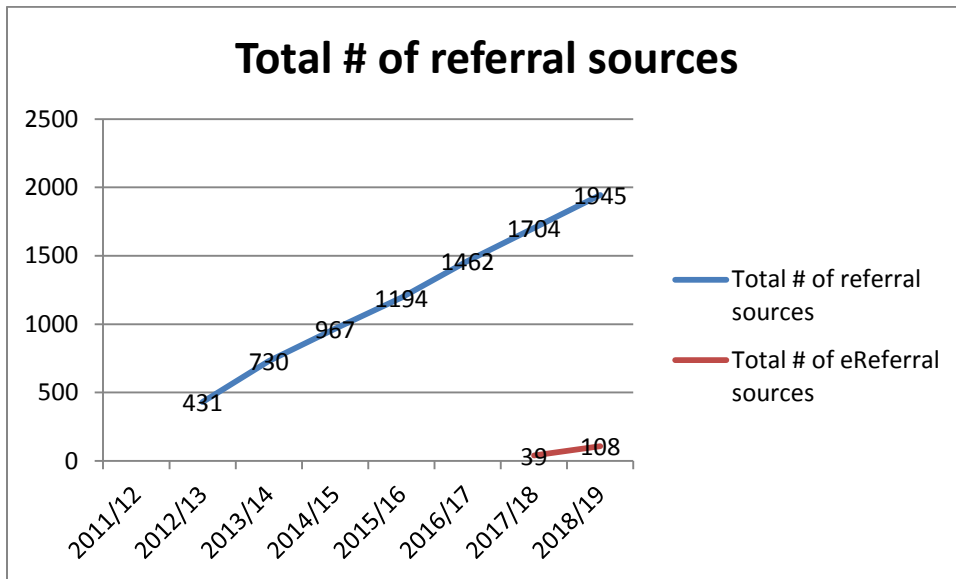
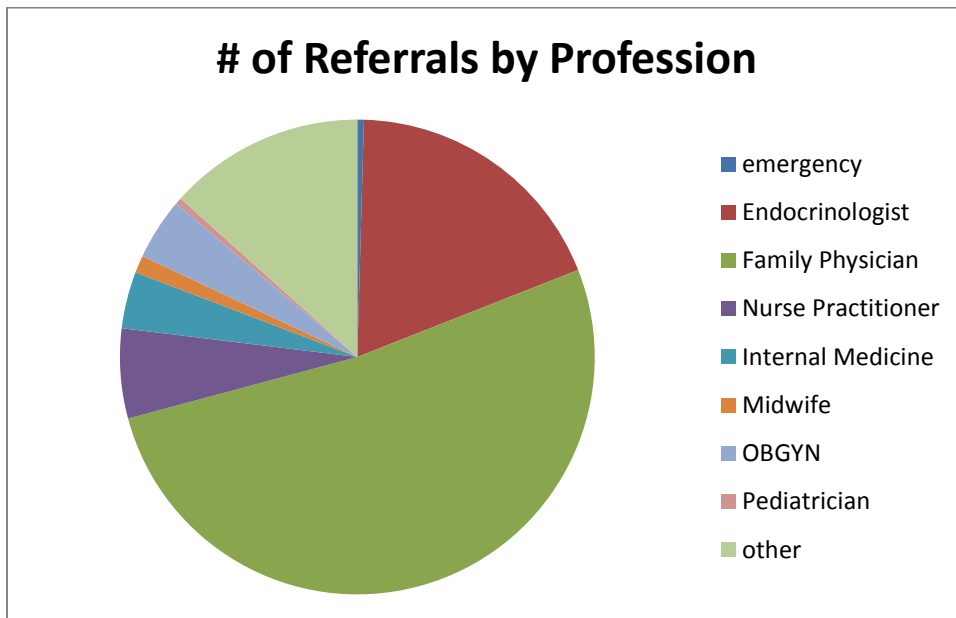


Table 6: # of Referrals by Referral Source/Profession



“You have no idea how impressed I am that you called to follow up on this referral....” – Physician, Kitchener

“This new referral system is fantastic. I actually get a response back that my referral has been received. I would never hear anything back before.” –Physician, Waterloo

We continue to see an increase in referrals from hospitals, except for Guelph General Hospital where their diabetes educators facilitate transition of residents from hospital directly to their Diabetes Education Program. This year, we received 11 referrals from hospitals outside our region. The following table (Table 7) illustrates the number of referrals from hospitals each year.

Table 7: # of Referrals From Hospitals per Year

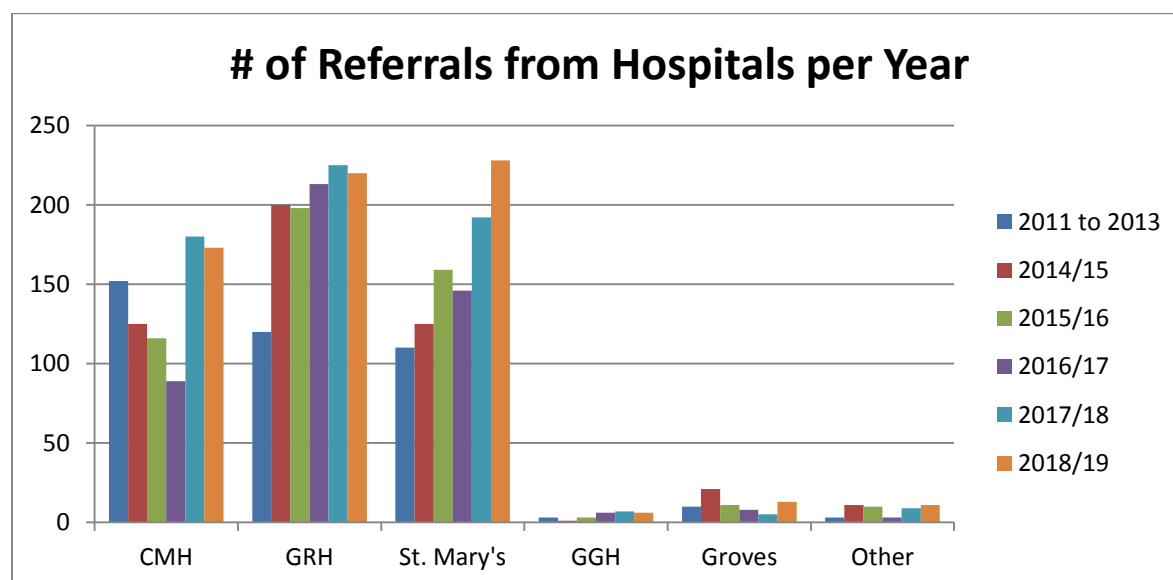
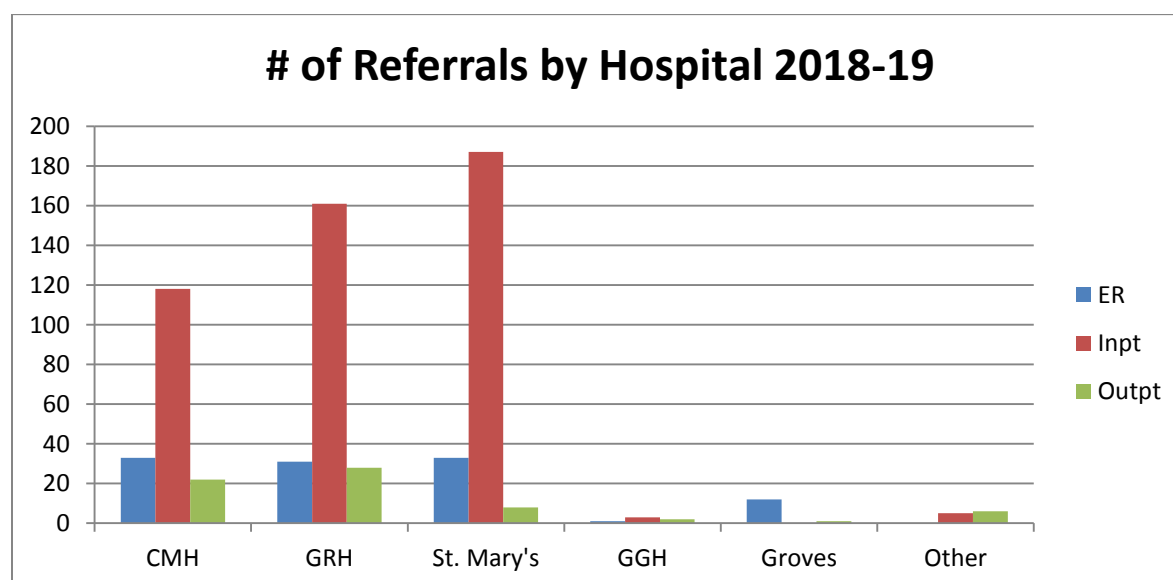


Table 8 illustrates the breakdown of Emergency Room (ER), In-patient (Inpt) and Out-patient (Outpt) referrals from each of the hospitals this past year.

Table 8: # of Referrals from Hospital by department



DCI also continues to direct and receive referrals outside of the WWLHIN. We continue to be consulted by other regions and provinces with inquiries on how to implement diabetes central intake. The following data provides the breakdown of referrals sent to and received from other LHINs and outside of our province. (Table 9)

Table 9: # of Referrals Sent To and Received from Inside and outside of WWLHIN as of March 31st, 2019

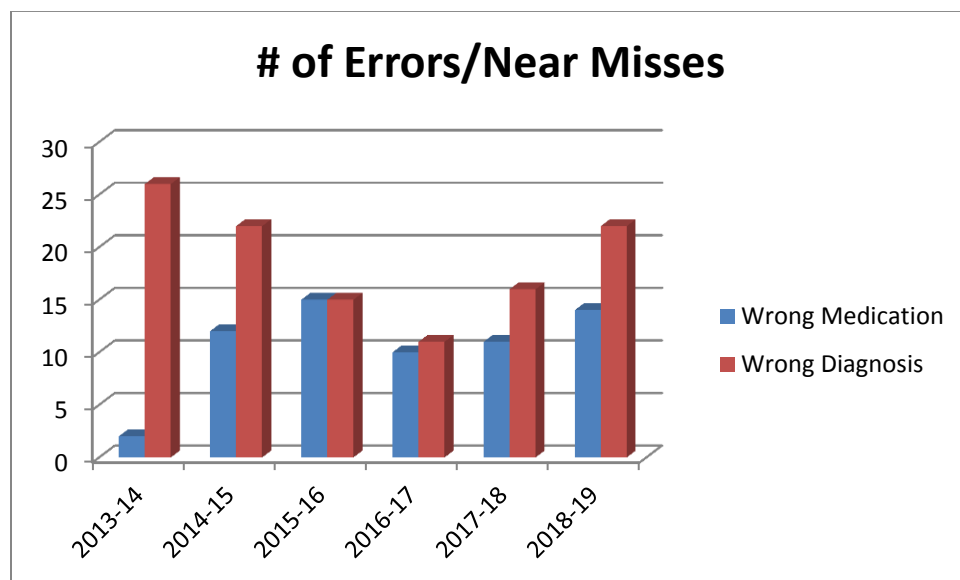
Waterloo Wellington Diabetes Central Intake Data as of March 31, 2019			
Ontario LHIN #	LHIN name	# of referrals sent to	# referral sources from
1	Erie St. Clair	20	2
2	South West	1722	192
3	Waterloo Wellington	41,144	1329
4	Hamilton Haldimand Niagara Brant	216	100
5	Central West	22	56
6	Mississauga Halton	27	147
7	Toronto Central	17	54
8	Central	13	23
9	Central East	13	15
10	South East	3	0
11	Champlain	5	1
12	North Simcoe Muskoka	15	12
13	North East	5	3
14	North West	2	1
	unknown		1
Other Province		7	4
		43231	1940

Triaging

The role of the clinical triage nurse/patient navigator is essential in making Diabetes Central Intake a success. The triage nurse is an experienced Certified Diabetes Nurse Educator (CDE), who reviews every referral and determines the urgency of the referral and where to send the referral to. She is in regular contact with Primary care physicians, Endocrinologists and Diabetes Educators in the DEPs to ensure excellent patient navigation and coordination. She connects with hospital units to determine when patients are being discharged from hospital to facilitate appropriate follow-up with Diabetes Education Programs. She uses *Clinical Connect* when necessary to obtain additional data to support triaging.

The expertise of the triage nurse has provided identification of cases that were misdiagnosed, for example when they were identified as type 2 diabetes when they had type 1 diabetes. This has prevented many patients from progressing to diabetic ketoacidosis, which is a serious life-threatening condition. The triage nurse has also identified cases where the person was prescribed the wrong medication and/or the wrong dosage. This clinical expertise and intervention has provided safe, effective and efficient service, preventing individuals from ending up in Emergency or hospital admission. The following table demonstrates the # of missed diagnoses/incorrect medication identified by the triage nurse. (Table 10)

Table 10: # of Missed Diagnoses and Incorrect Medication/Dosages

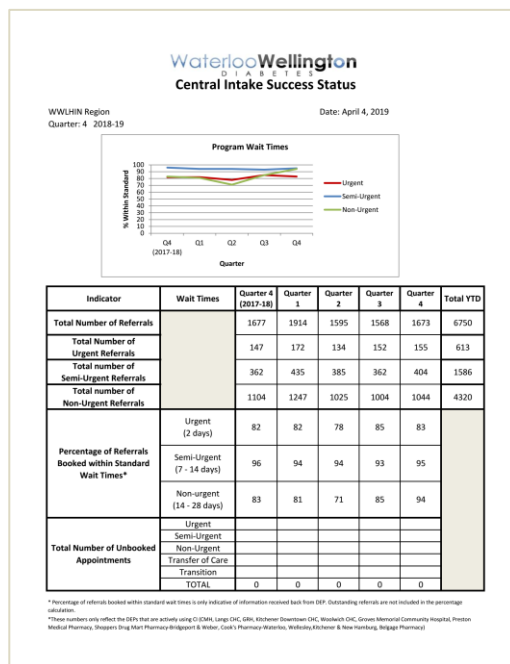


Monitoring of Data

Wait Times

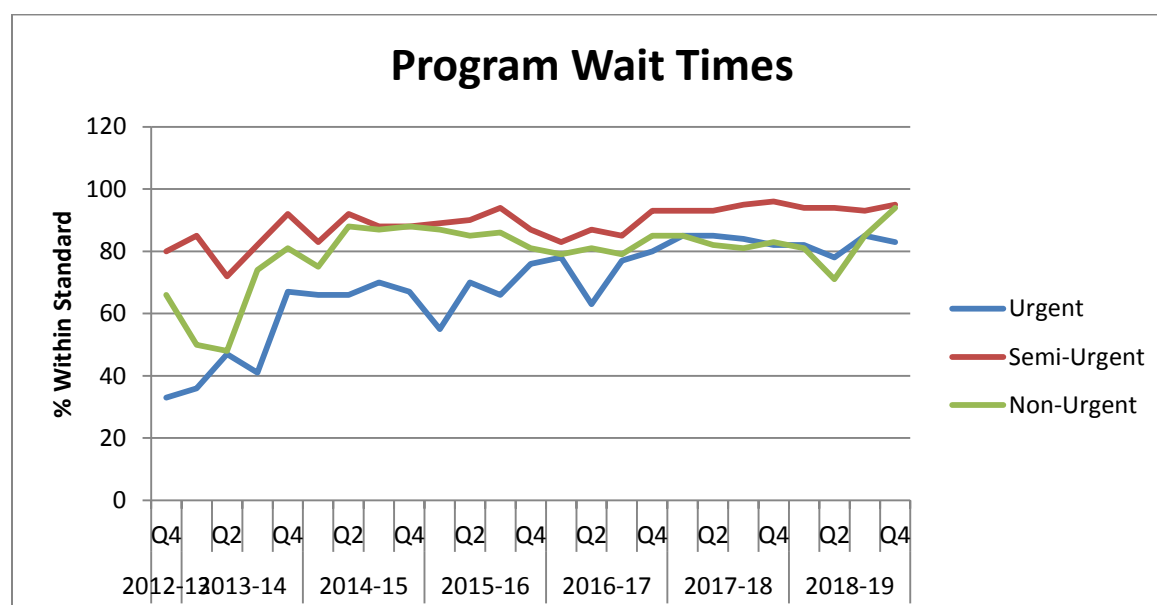
DCI monitors wait times for diabetes education programs and reports to the DEP program managers and the WWLHIN quarterly. (Figure 4) This monitoring is not intended to be punitive, but to provide support to managers to review and revise their programming accordingly. With the increasing prevalence of diabetes, and the need for on-going follow-up to support effective self-management of diabetes, programs need to be constantly identifying more effective and efficient methods of program delivery. This service of monitoring and reporting supports programs in offering effective programs.

Figure 4: Copy of Success Status Report for WWLHIN



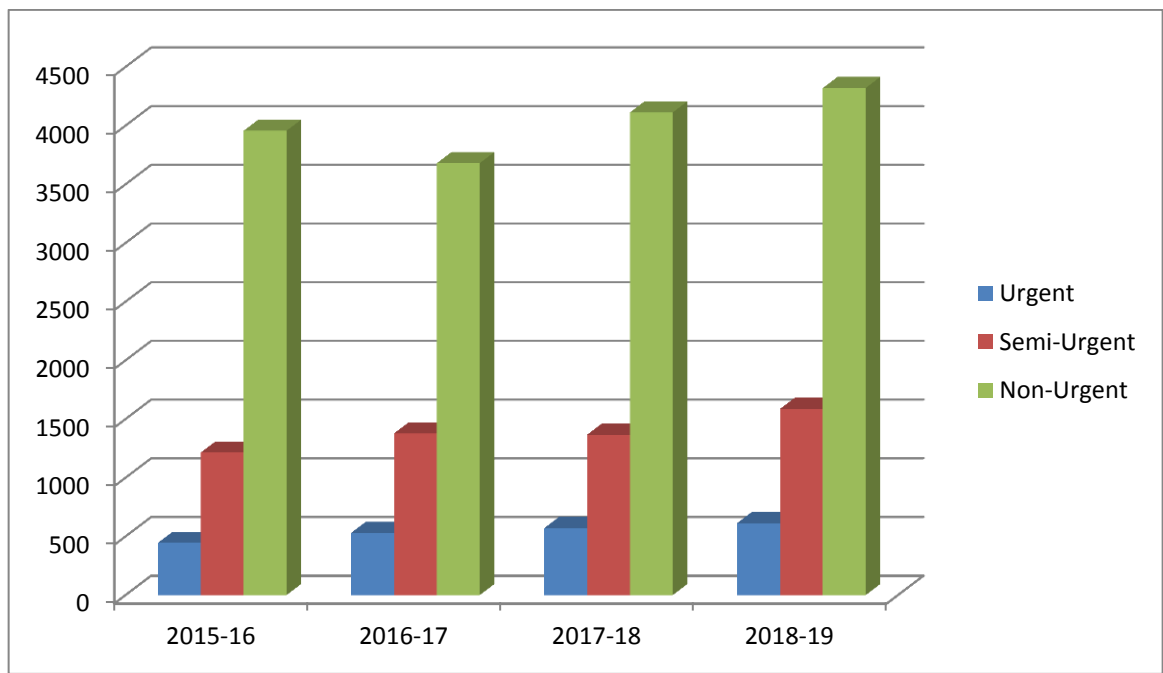
Wait times continue to be within 80% of the benchmark wait times for urgent, semi-urgent and non-urgent referrals, despite the increasing referral volume. (Table 11) Attention must be taken by programs to continue to see individuals for follow-up care and not to eliminate this essential part of diabetes care in order to meet the wait times for incoming referrals. DCI is noticing that we are receiving an increasing number of repeat referrals on the same person as they haven't been followed by the diabetes education program.

Table 11: Program Wait times for WWLHIN Over Time



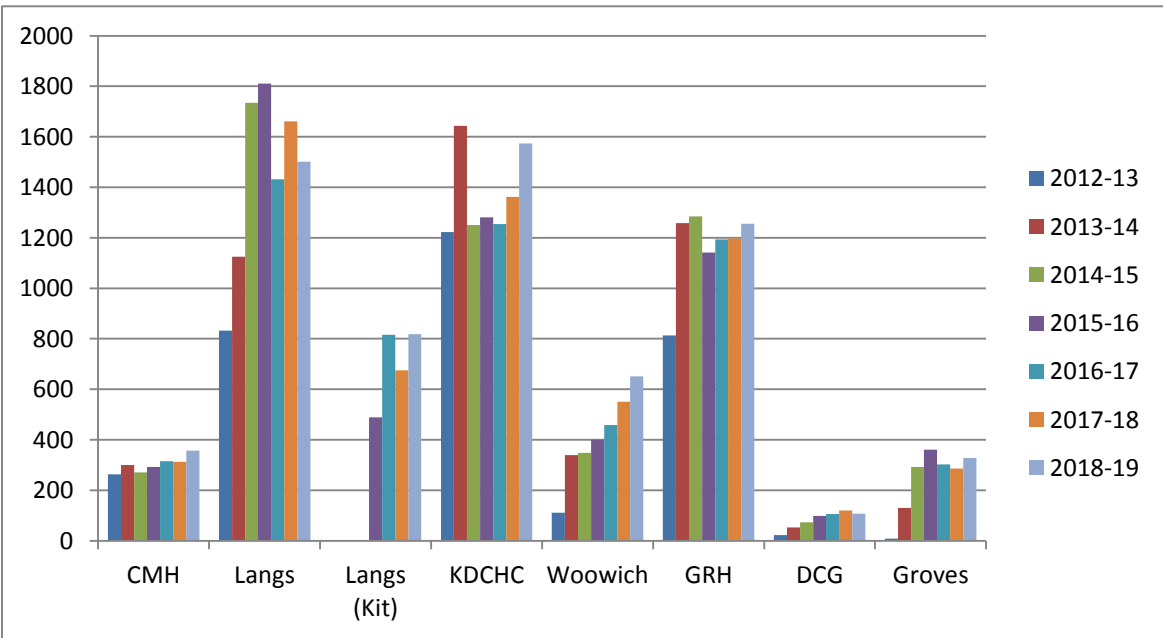
The urgency of the referrals is consistently rising with the volume. The following table (Table 12) demonstrates the breakdown of urgent/semi-urgent/non-urgent for the region.

Table 12: Volume of Referrals by Urgency



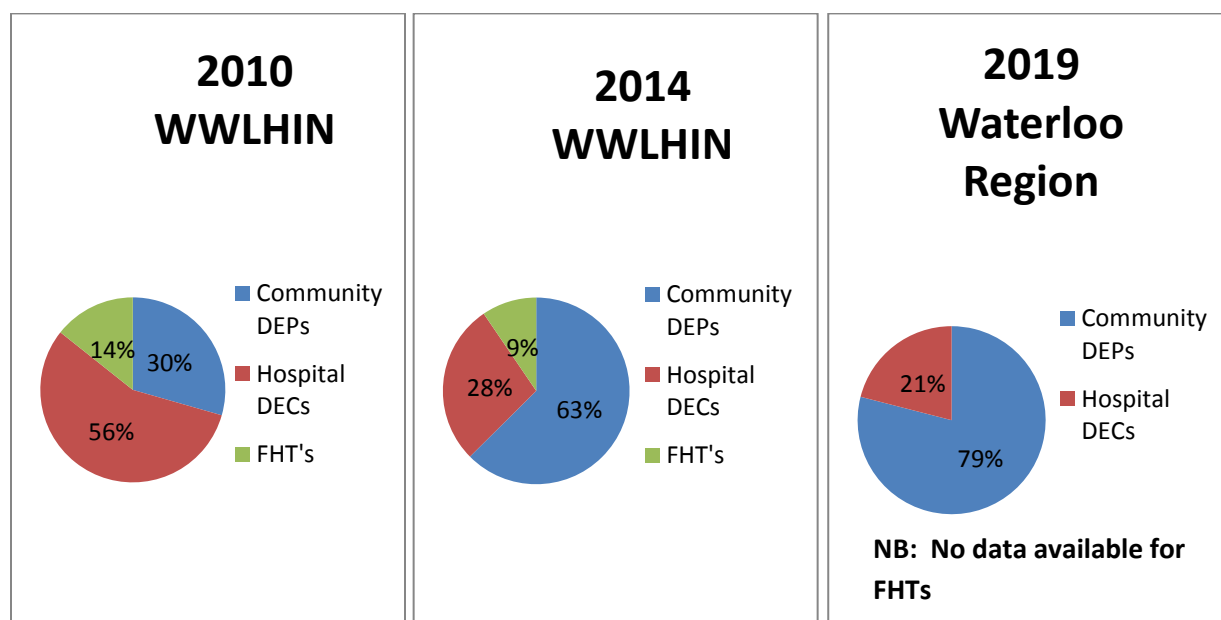
The volume of referrals continues to rise for the Kitchener area. (Table 13) Since 2015-16, Langs have been supporting the Doon area of Kitchener with a satellite program. They also used to manage the Kitchener pre-diabetes referrals. In 2017-18, the prediabetes referrals for Kitchener moved to KDCHC.

Table 13: Volume of Referrals by Program



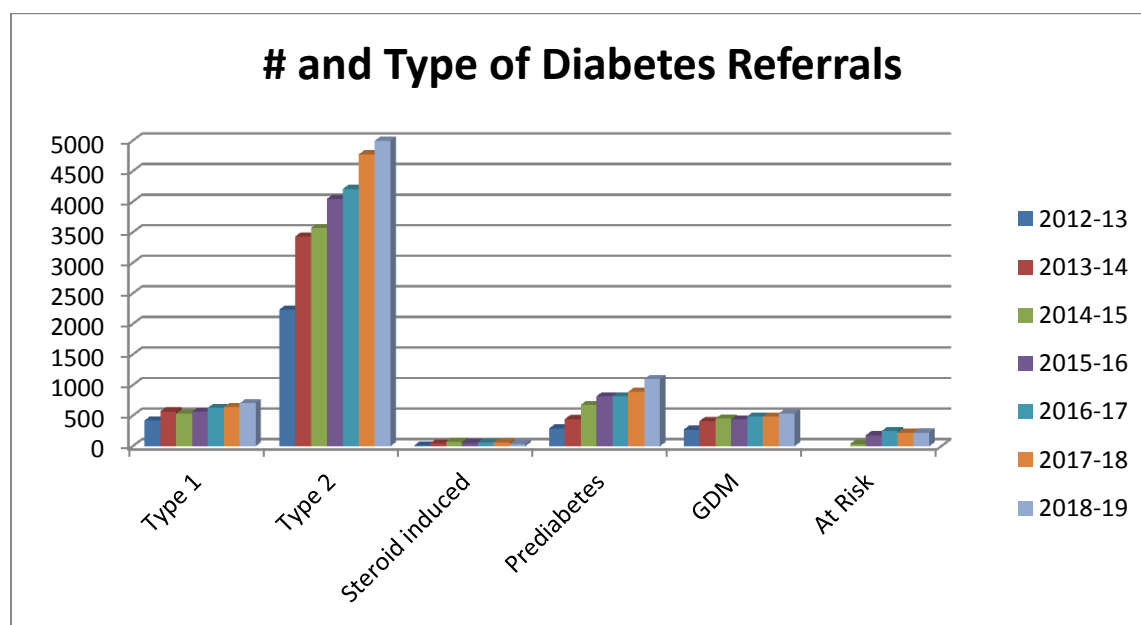
There has been great effort by DCI to move the volume of referrals from the hospitals to the community programs. The hospital programs now only receive referrals for complex diabetes cases, such as Type 1 diabetes, diabetes in pregnancy, insulin pumps, steroid induced diabetes and complex Type 2 diabetes (eg. those on complex insulin regimes or on dialysis). The following graphs (Table 14) demonstrate the percentage of referrals seen in hospital programs in 2010 and the shift over time into the community. Note, the data for FHTs is currently not available to DCI.

Table 14: Volume of Referrals sent to Hospitals versus community programs over time



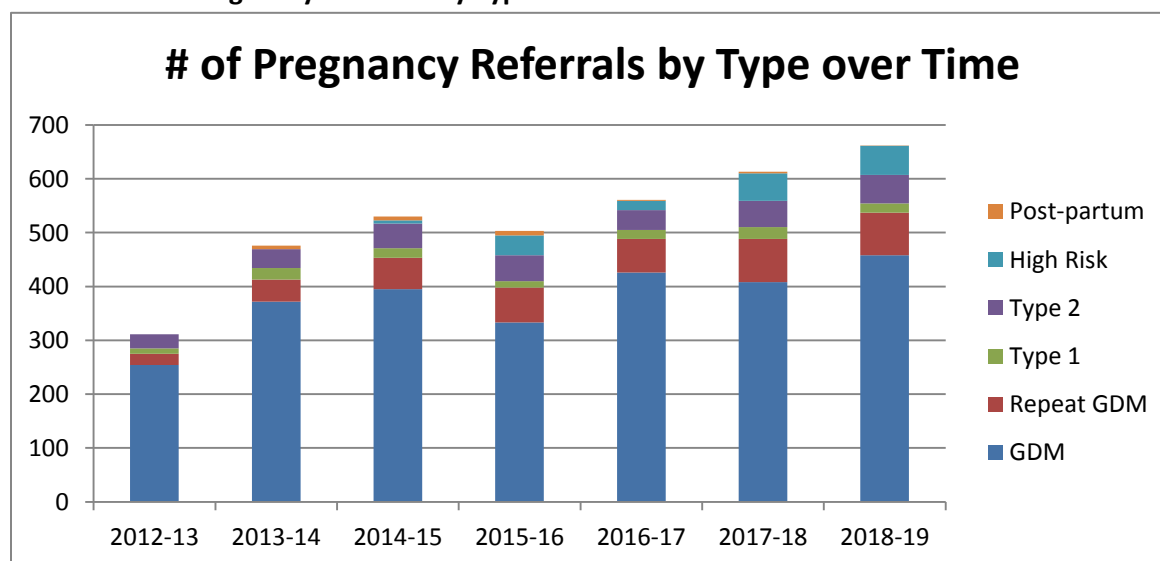
DCI is able to capture the various types of diabetes being referred (Table 15) for Diabetes Education. This is data that is not available in any other region of the province. This also allows for effective program planning. Note that programs only started receiving referrals for At Risk for diabetes in 2015/16.

Table 15: # and Type of Diabetes Referrals



DCI is also able to capture the number of pregnancy referrals broken down by type. (Table 16) This data excludes Guelph and North Wellington, but is useful for the hospital programs who manage diabetes and pregnancy. By monitoring the # of women with gestational diabetes, it provides opportunity for intervention with this group post-partum to prevent them from progressing to Type 2 diabetes.

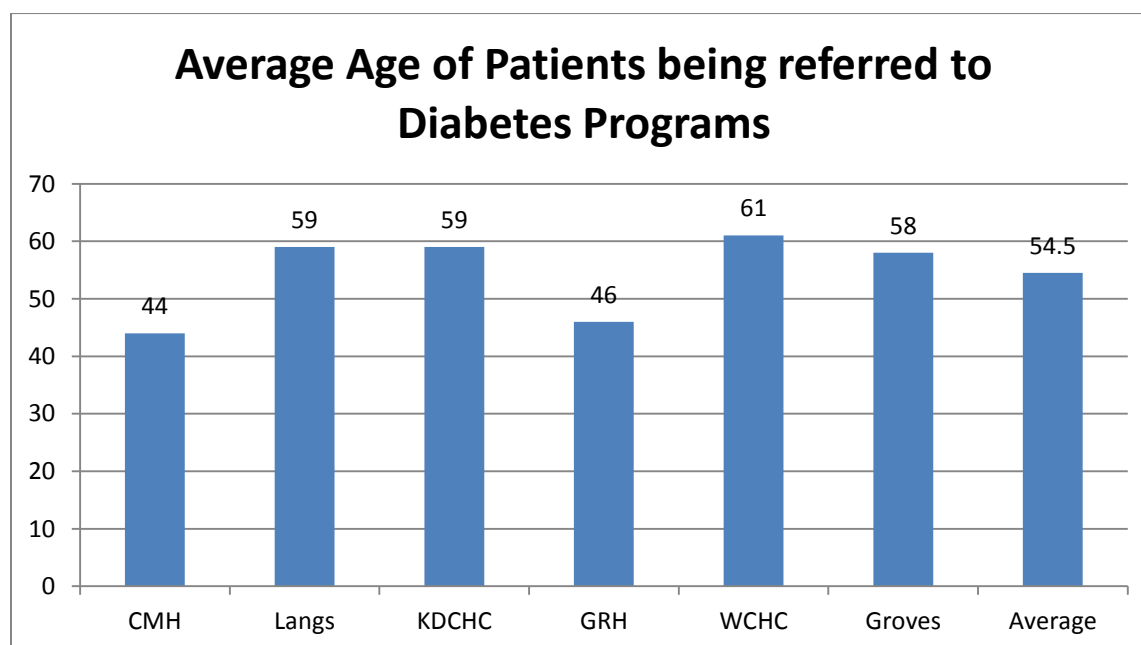
Table 16: # of Pregnancy Referrals by Type Over Time



In addition to volume and wait time trends, DCI is able to capture a number of trends that help with overall system and program planning.

The following table (Table 17) shows the average age of patients at the time of referral, being sent to Diabetes Education Programs. The hospital programs are averaging lower, due to the volume of younger people with Type 1 diabetes as well as pregnancy.

Table 17: Average Age of Patients at Time of Referral for Diabetes Education



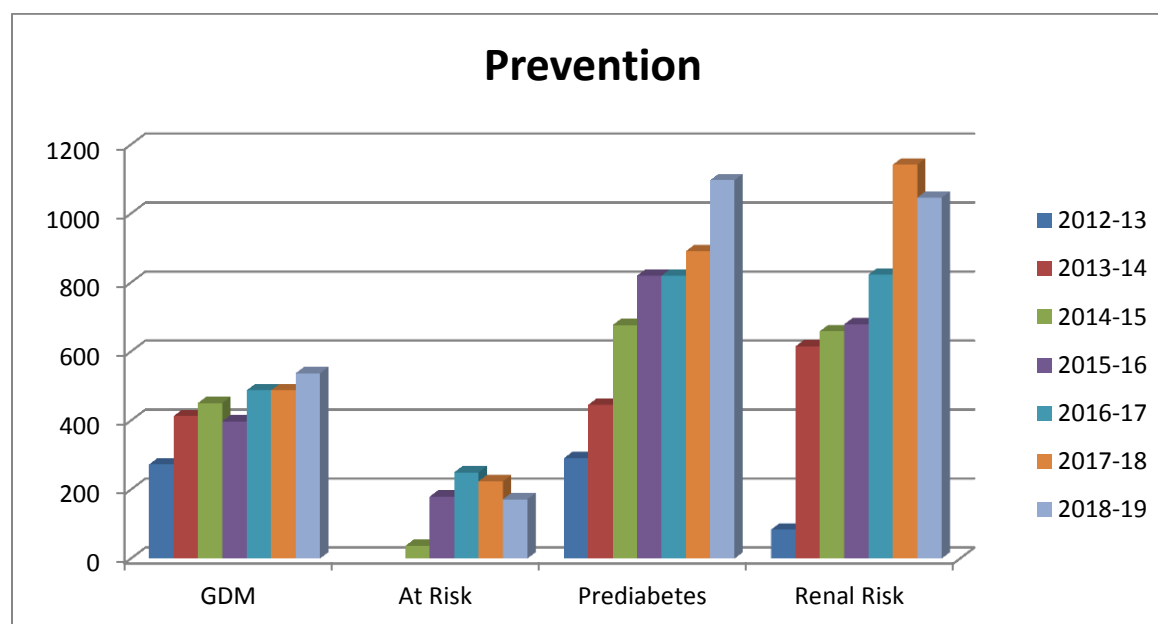
Prevention

DCI continues to focus on prevention efforts. As mentioned above, the diagnosis of gestational diabetes provides an opportunity to intervene to prevent the onset of type 2 diabetes in both the mother and the baby. Identifying women with gestational diabetes and early referral indicates improved screening and intervention.

Diabetes Programs now accept referrals for “at risk” for diabetes and prediabetes. Intervention at the prediabetes stage can prevent the progression to diabetes by up to 58% (DPP study). This past year, DCI and the Self-Management Program supported primary care in this region to roll-out the Group Lifestyle Balance Program which is modelled after the Diabetes Prevention Program (DPP) from University of Pittsburgh. We supported the training for health care providers in June 2018 and trained 22 health care professionals to deliver this program.

DCI continues to monitor the number of referrals with criteria indicating higher risk for renal disease to identify further opportunities for earlier intervention. (Table 18)

Table 18: # of Referrals Focusing on Prevention



Education and Mentoring

The mentoring program, which is unique to this region, continues to offer support to health care providers throughout the region. This program offers an experienced Certified Diabetes Educator (CDE) who travels to the various workplaces, enhancing clinicians' knowledge, confidence and skill-set in managing diabetes. This year, she also supported the Rapid Response Nurses in enhancing their knowledge. Our mentor also provides review sessions for those educators writing their CDE exam as well as lunch and learns on various topics. This year, she offered many of the sessions by webinars allowing 23 educators, as of March 31st to access the service, some from as far away as Alberta. Educators wrote their exam in May, so the results are not known yet, but 100% of the educators who participated last year in the mentoring, passed their CDE. There are now a total of 144 CDEs in the region.

This year, our mentor is leading 2 working groups :

1. A regional approach to counselling patients on the ketogenic diet
2. Insulin certification exam for Diabetes Educators to maintain their expertise.

Your presentation had to be one of the best I have seen for the CDE exam prep.
...**Diabetes Educator, 2019**

Website

Our regional website continues to be well received. It offers education, information on upcoming events and local resources. It also offers easy access to referral for diabetes care. The following table describes the volume and reach of our website. (Table 19)

Table 19: Waterloo Wellington Diabetes Website Data

	# of visitors	# of page views	# of regions in province	# of countries
2013-14	3,609	22,391	4	10
2014-15	5,495	18,766	14	81
2015-16	9,901	26,661	14	120
2016-17	7,797	21,543	14	93
2017-18	7,201	25,923	14	77
2018-19	7,192	22,597	14	102

Challenges, Risks and Opportunities

The biggest challenge for DCI, continues to be the limited resources of **1 FTE** Triage Nurse and **1 FTE** Admin Support. This is the same allocation of staffing resources since the MOHLTC funded DCI in 2012, yet the volume has increased **8-fold**. Also, there is no budget for vacation or sick time coverage for these 2 staff members. This poses a risk to the efficiency and effectiveness of DCI and impacts patient care if referrals are not able to be processed in time. The eReferral solution offers some efficiency with respect to the ease of transmission and notifications being sent, but DCI still requires staffing to process and follow-up regarding the referrals. It is important to note that eReferral is a method of transmission and replaces fax transmission, but the triaging, processing and follow-up are the components of central intake that require time and resources to support the ongoing success of this service.

Another challenge from a system planning perspective is that Two Rivers FHT, North and East Wellington and Guelph are not currently using Diabetes Central Intake, so the data provided is not reflecting the entire WWLHIN region. Hopefully as the electronic system is adopted, they will see the benefit of utilizing a region-wide approach to referring for diabetes care.

An opportunity, as the Ontario health system transforms, is that our program is well positioned to support the Ontario Health Teams as they are being identified and established, as well as to grow to support a larger region or expand to offer a provincial service.

Summary

Waterloo Wellington Diabetes, hosted by Langs, continues to be successful, providing an excellent service to residents living or working with diabetes. It aligns with the previous Patient First Strategy, focusing on system access and patient navigation and continues to align with the new *People's Health Care Act*. It aligns with the WWLHIN annual business plan and it also aligns with the Ontario Chronic Disease Prevention and Management (CDPM) framework, focusing on all the components of the framework.

Our streamlined process and robust referral management system ensure that no-one is lost in the system and that there is communication to the referral sources throughout the patient journey. Our available data provides valuable information for system and program planning. We continue to be consulted by other regions of the province and country on how to design and deliver centralized intake for diabetes services. Many diabetes programs and specialists throughout the province question why they can't have a similar system in their region or if we can offer a provincial program. Our mentoring program has helped increase capacity of experienced educators in the region. Our web-site provides education and support to people not only within but also outside our region.

Much work has been done to move to the Ocean™ electronic system. We have worked very closely with the vendors, and the SCA program to build an eReferral solution to support eReferrals to DCI. We continue to promote and encourage eReferral to referral sources and to referral targets. As mentioned, eReferral offers an effective and efficient transmission solution, but the role of central intake is essential in processing referrals. The biggest **risk** for DCI is the limited staffing resources available.

Our co-location and management of Waterloo Wellington Diabetes along with the Regional Self-Management Program and the Regional Orthopedic Central Intake, offers great opportunities to expand our services in offering patient centred care, and streamlined coordination, especially in the current changing health care system.

"We are so glad that you are there. We really appreciate the updates and communications you give us" – Kitchener Family Physician June 28