WATERLOO WELLINGTON DIABETES

Diabetes Central Intake/Mentoring/Website

2019-20 Year End Report to WWLHIN

Debbie Hollahan

May 31, 2019

Contents

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 2019/20.

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.

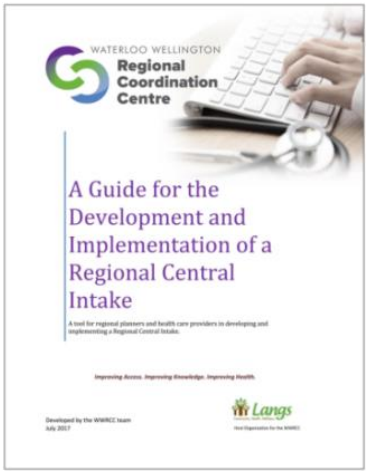
For the year 2019-20, DCI has processed 7,816 referrals for diabetes education (Table 2) from 228 referral sources (Table 5). In addition, 2,189 referrals have been directed to specialists (Table 4), making a total of 10,005 referrals processed.

We continue to promote the use of eReferral to all physicians and the # of ereferrals is gradually increasing with 97 eReferral sources and 1,453 eReferrals this year. There are 7 Diabetes Education Programs and 4 endocrinologists in our region 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.

569 referrals have been received from area hospitals, and 400 self-referrals have been processed.

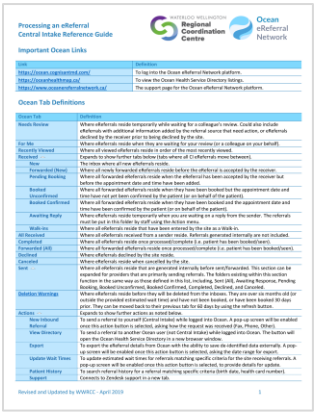
Other regions of the province continue to consult with us on the "how to" of developing a central intake program (not only for diabetes but other specialities). Due to the number of inquiries, last year, we developed a guide to support other regions in developing a Central Intake Program. We continue to share it with other regions. It is also 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



We also previously created a 12 page guide on “Processing an e-Referral”, that we continue to update. We have shared it with other regions, as well as within our own LHIN to help with training on Ocean eReferral. (Figure 2)

Figure 2: Processing an eReferral with Ocean™ Guide


Processing an eReferral
Central Intake Reference Guide

Regional Coordination Centre

Ocean eReferral Network

Important Ocean Links

Link	Definition
https://ocean.cognisantmd.com/	To log into the Ocean eReferral Network platform.
https://oceanhealthmap.ca/	To view the Ocean Health Service Directory listings.
https://www.oceanmedicalnetwork.ca/	The support page for the Ocean eReferral Network platform.

Ocean Tab Definitions

Ocean Tab	Definition
Needs Review	Where eReferrals reside temporarily while waiting for a colleague's review. Could also include eReferrals with additional information added by the referral source that need action, or eReferrals declined by the receiver prior to being declined by the site.
For Me	Where eReferrals reside that are waiting for your review (or a colleague on your behalf).
Recently Viewed	Where all viewed eReferrals reside in order of the most recently viewed.
Received	Expands to show further tabs below (tabs where all CritReferrals move between).
New	The inbox where all new eReferrals reside.
Forwarded (New)	Where all newly forwarded eReferrals reside before the eReferral is accepted by the receiver.
Pending Booking	Where all forwarded eReferrals reside when the eReferral has been accepted by the receiver but before the appointment date and time have been added.
Booked Unconfirmed	Where all forwarded eReferrals reside when they have been booked but the appointment date and time have not yet been confirmed by the patient (or on behalf of the patient).
Booked Confirmed	Where all forwarded eReferrals reside when they have been booked and the appointment date and time have been confirmed by the patient (or on behalf of the patient).
Awaiting Reply	Where eReferrals reside temporarily when you are waiting on a reply from the sender. The referrals must be put in this folder by staff using the action menu.
Walk-ins	Where all eReferrals reside that have been entered by the site as a Walk-in.
All Received	Where all eReferrals received from a sender reside. Referrals generated internally are not included.
Booked (All)	Where all booked eReferrals reside once appointment complete (i.e. patient has been booked/seen).
Forwarded (All)	Where all forwarded eReferrals reside once appointment complete (i.e. patient has been booked/seen).
Declined	Where eReferrals declined by the site reside.
Canceled	Where eReferrals reside when cancelled by the site.
Sent	Where all eReferrals reside that are generated internally before sent/forwarded. This section can be expanded for providers that are primarily sending referrals. The folders existing within this section function in the same way as those defined in this list, including, Sent (All), Awaiting Response, Pending Booking, Booked Unconfirmed, Booked Confirmed, Completed, Declined, and Canceled.
Deletion Warnings	Where eReferrals reside before they will be deleted from the inboxes. They are over six months old (or outside the provided estimated wait times) and have not been booked, or have been booked 30 days prior. They can be moved back to their previous tab for 60 days by using the refresh button.
Actions	Expands to show further actions as noted below.
New Inbound Referral	To send a referral to yourself (Central Intake) while logged into Ocean. A pop-up screen will be enabled once this action button is selected, asking the referral source's contact info (Fax, Phone, Other).
View Directory	To send a referral to another Ocean user (not Central Intake) while logged into Ocean. The button will open the Ocean Health Service Directory in a new browser window.
Export	To export the eReferral details from Ocean with the ability to save de-identified data externally. A pop-up screen will be enabled once this action button is selected, asking the date range for export.
Update Wait Times	To update estimated wait times for referrals matching specific criteria for the site receiving referrals. A pop-up screen will be enabled once this action button is selected, to provide details for update.
Patient History Support	To search referral history for a referral matching specific criteria (birth date, health card number). Connects to Zendesk support in a new tab.

Revised and Updated by WWRCC - April 2019 1

Our positioning alongside of Orthopedic Central Intake (OCI) has offered the opportunity to facilitate access to care for individuals who have diabetes and were referred for orthopedics but were denied surgery due to poor glycemic control or who had ulcers related to poor diabetes control. The OCI team work closely with the DCI team to enable a referral for diabetes care. Similarly, both programs have generated referrals for our regional Self-Management program, which is also co-located.

We continue to support SWLHIN with receiving/sending referrals to them, despite no further funding for this. To date, we have processed 2,146 referrals to London with 218 referral sources from that region.

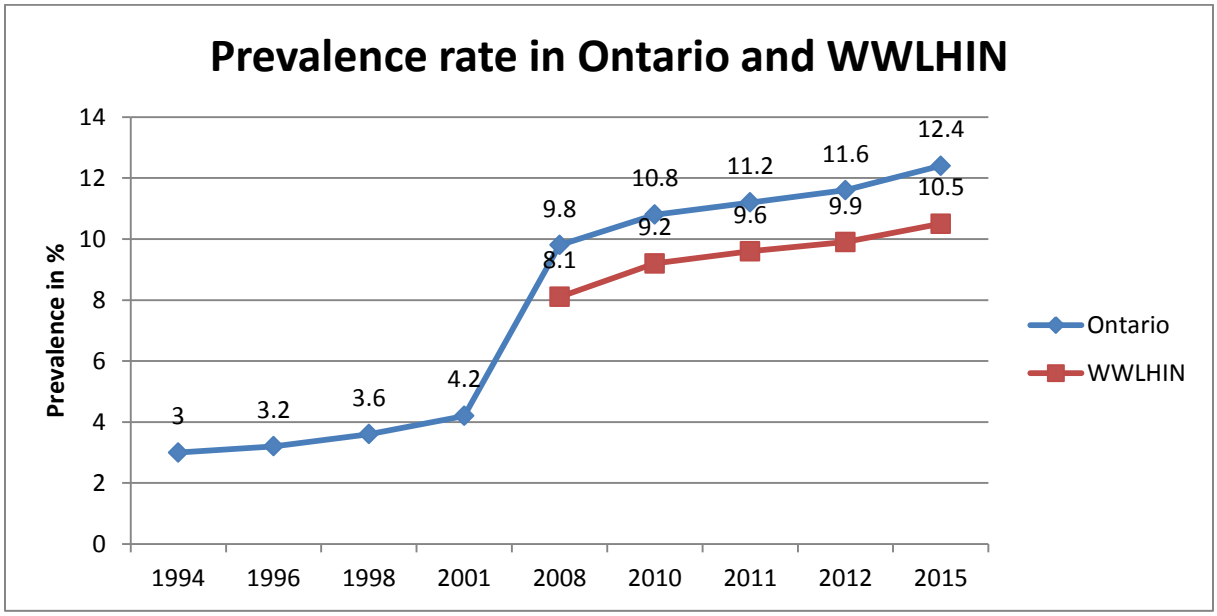
Diabetes Prevalence

According to Diabetes Canada and the International Diabetes Federation, the prevalence of diabetes continues to increase. We no longer receive statistics from the MOH, 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) In 2019, Diabetes Canada released a report indicating a prevalence rate of prediabetes and diabetes at 30% for the province,[1] but there is no data available for Waterloo Wellington.

The goal of the previous Ontario Diabetes Strategy was to have 40% of individuals with diabetes referred to a diabetes education program. We currently have 43% of our WW population captured in our WWD database, based on 2015 prevalence rates, despite not including referrals from Guelph, North or East Wellington or the local Family Health Teams (FHTS) (CFFM, New Vision, Two Rivers, Grandview).

[1] Diabetes Canada, News Release February 12, 2019, published on Diabetes Canada website https://www.diabetes.ca/media-room/press-releases/new-data-shows-diabetes-rates-and-economic-burden-on-families-continue-to-rise-in-ontario-- accessed May 2020.

Table 1: Prevalence rate in Ontario and WWLHIN



[2]

Based on 10.5% prevalence and a WW population of 775,000

WW Diabetes population = 81,375 people

34,802 people captured in WWD database = 43% of WW diabetes population

[2] Waterloo Wellington LHIN website, http://www.waterloowellingtonlhin.on.ca/aboutus.aspx,accessed May 2020.

Our Successes

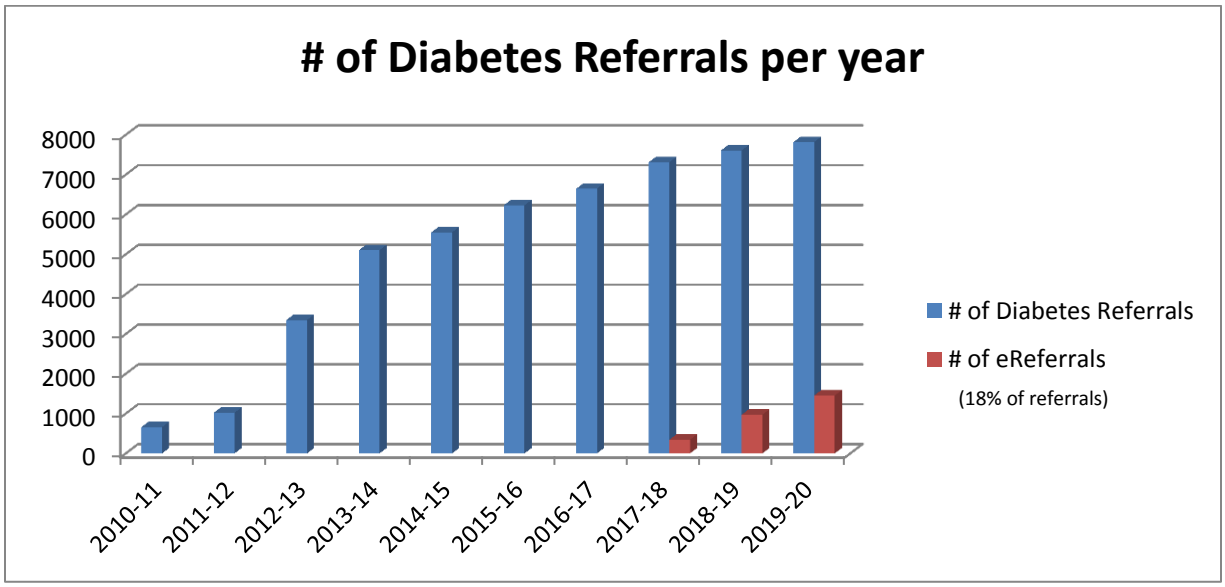
Despite the increasing prevalence of diabetes, we have demonstrated the following successes in our region:

- 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
- Have sent and received referrals from other provinces and countries
- 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

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, although it is plateauing this past year with **7,816** referrals this year to Diabetes Education. (Table 2) In addition, there have been **2,189** referrals to specialists, bringing the total of referrals to **10,005** this year. eReferral is gradually increasing with approximately 18% of referrals coming in electronically. 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 is an increase in self-referrals this year, which is encouraging, as it had dropped the past several years. The availability of self-referral in our region ensures easy access to everyone with diabetes. (Table 3) We continue to promote self-referral at many community events where we exhibit. We also utilize the self-referral if individuals phone our office to inquire about accessing services. 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.

Table 3: # of Self-Referrals

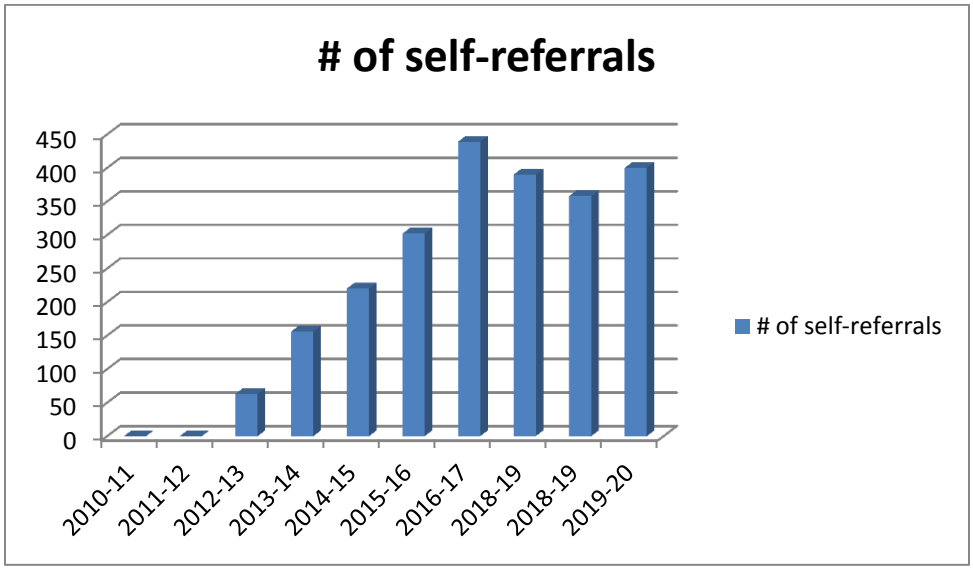
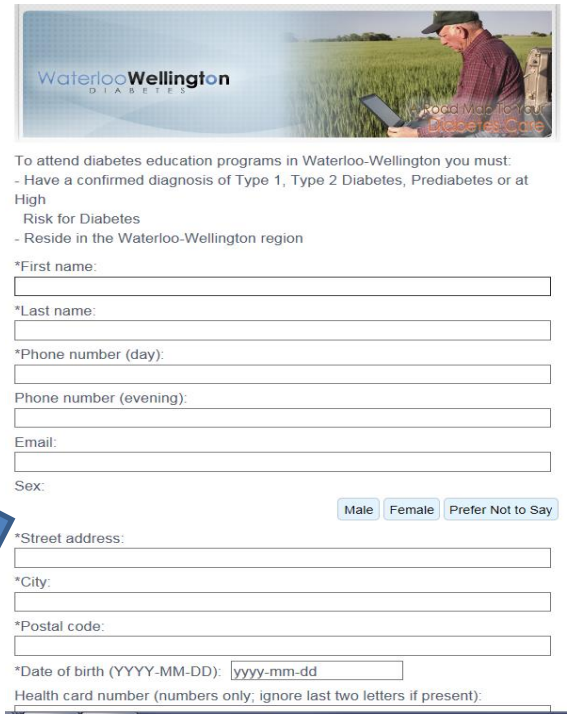


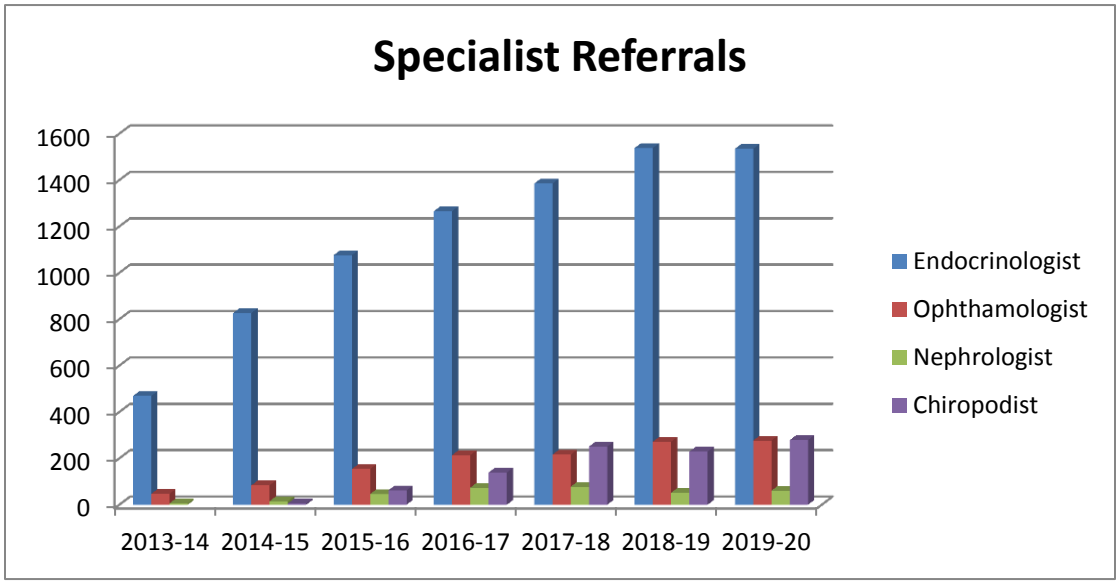
Figure 3: Screenshots of website page and self-referral form



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 chiropodist. (Table 4) We facilitate referrals to the LHIN Home and Community Care Wound Care Clinic.

We also have agreements with a select number of chiropodists in our region who will receive referrals from us for chiropody 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 2,173 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

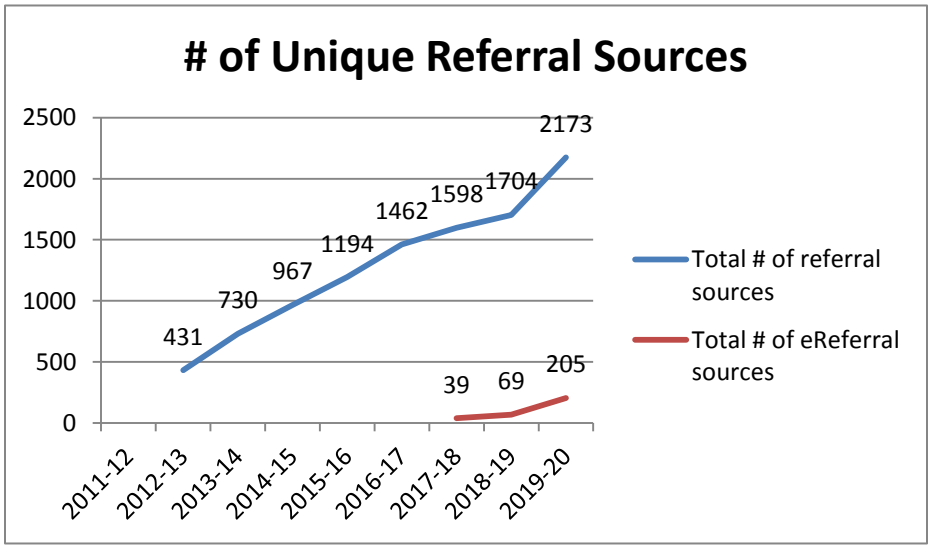
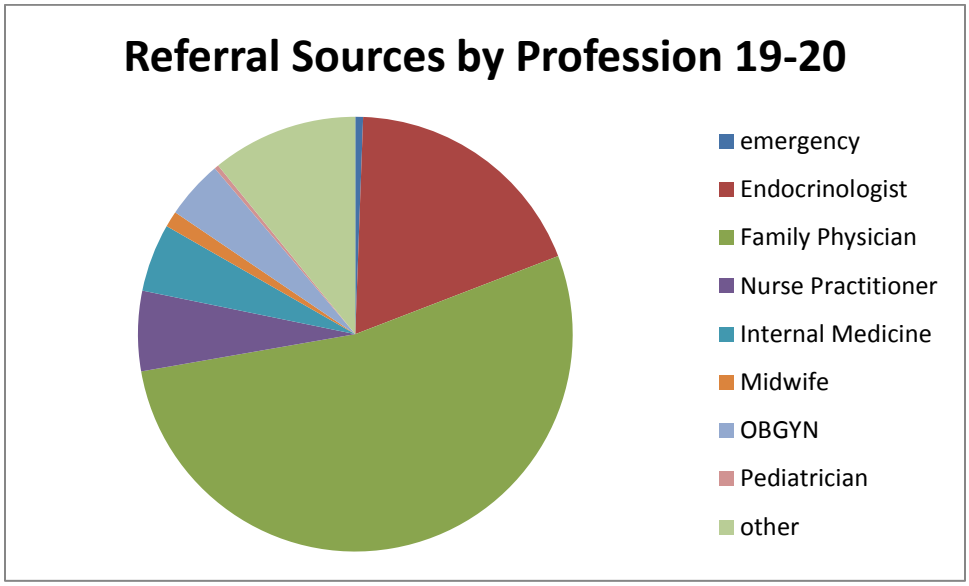


Table 6: # of Referrals by Referral Source/Profession



We continue to see an increase in referrals from hospitals, particularly ER departments 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 tables (Table 7, 8) illustrate the number of referrals from hospitals and the # of referrals by department each year.

Table 7: # of Hospital Referrals by Year

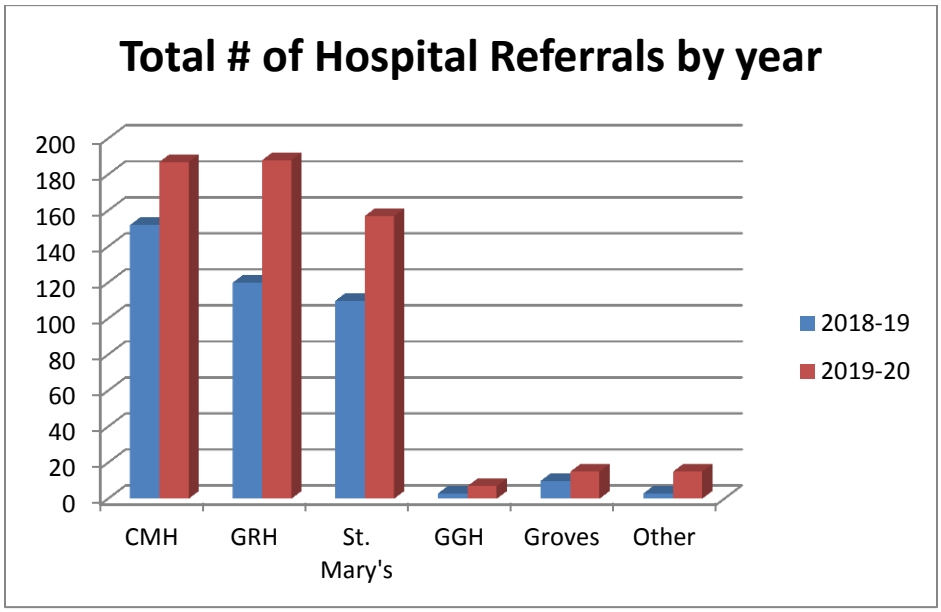
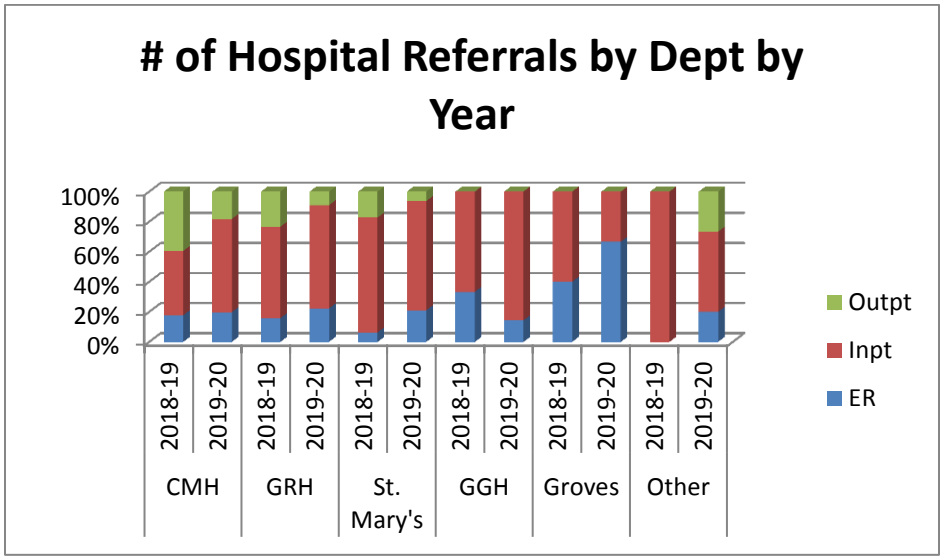


Table 8: # of Hospital Referrals by Department by Hospital by Year



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 from inside and outside of WWLHIN for 2019-20

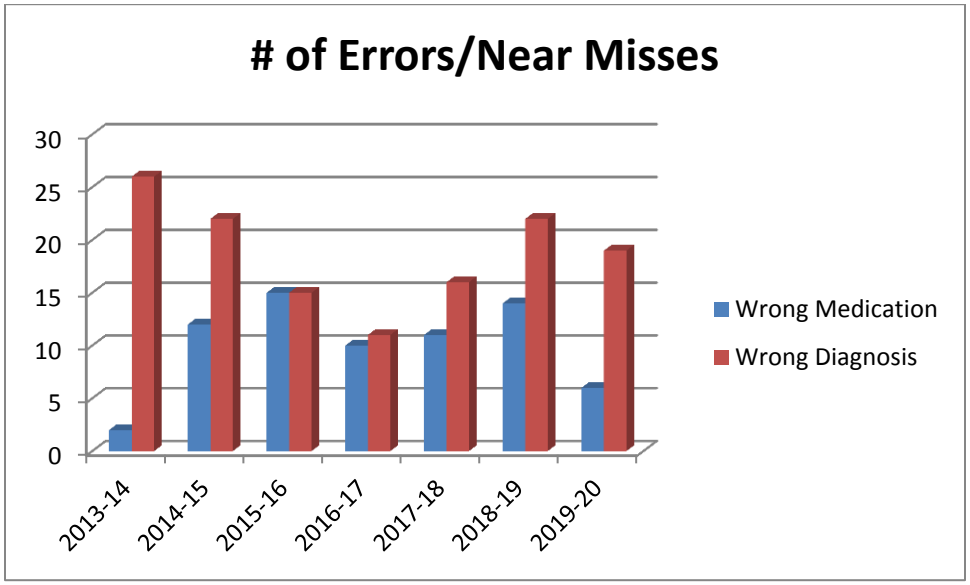
Ontario LHIN #	LHIN name	# of referrals sent to	# of referral sources from
1	Erie St. Clair	20	1
2	South West	1,722	49
3	Waterloo Wellington	5,729	779
4	Hamilton Haldimand Niagara Brant	216	25
5	Central West	22	10
6	Mississauga Halton	27	44
7	Toronto Central	17	23
8	Central	13	0
9	Central East	13	3
10	South East	3	1
11	Champlain	5	1
12	North Simcoe Muskoka	15	1
13	North East	5	3
14	North West	2	0
Other Province		6	0
TOTAL		**7,816**	**942**

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 *ClinicalConnect* 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

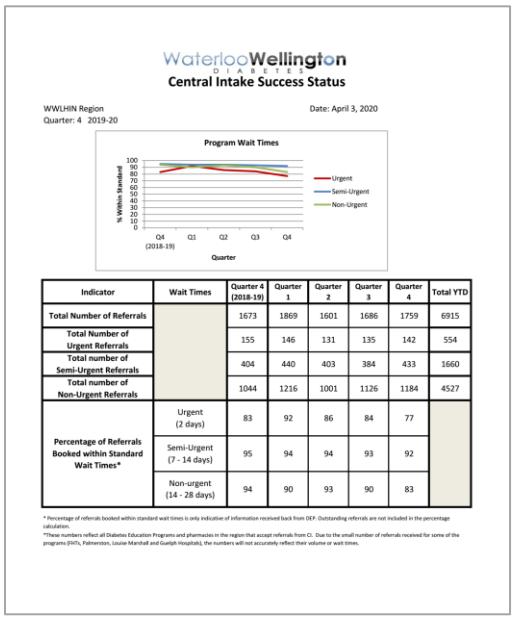


Monitoring of Data

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



WaterlooWellington DIABETES

Central Intake Success Status

WWLHIN Region
Quarter: 4 2019-20

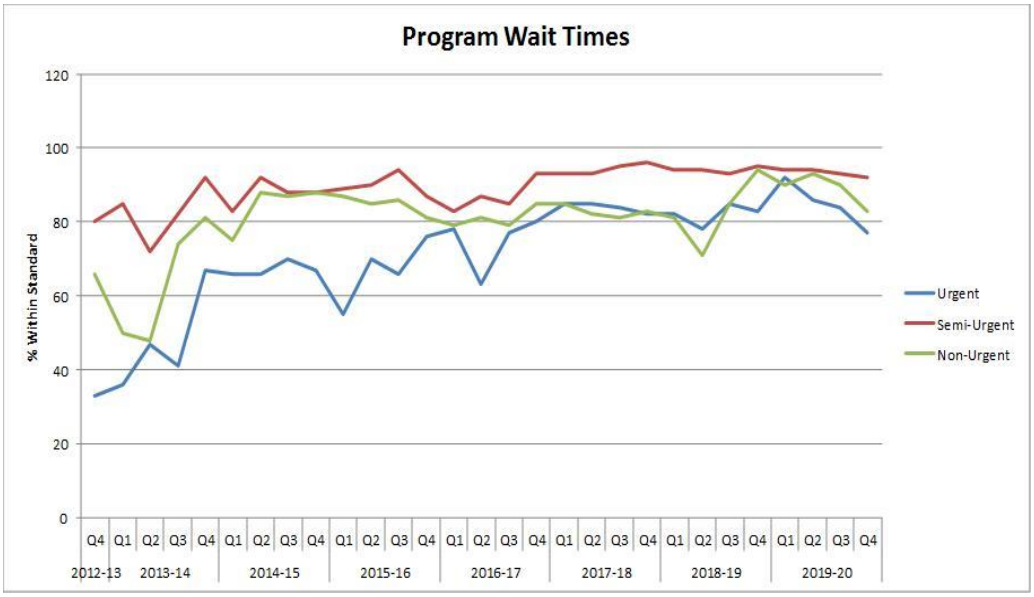
Date: April 3, 2020

Indicator	Wait Times	Quarter 4 (2018-19)	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total YTD
Total Number of Referrals		1673	1869	1601	1686	1759	6915
Total Number of Urgent Referrals		155	146	131	135	142	554
Total number of Semi-Urgent Referrals		404	440	403	384	433	1660
Total number of Non-Urgent Referrals		1044	1216	1001	1126	1184	4527
Percentage of Referrals Booked within Standard Wait Times*	Urgent (2 days)	83	92	86	84	77	
	Semi-Urgent (7 - 14 days)	95	94	94	93	92	
	Non-urgent (14 - 28 days)	94	90	93	90	83	

* Percentage of referrals booked within standard wait times is only indicative of information received back from DEP. Outstanding referrals are not included in the percentage calculation.
**These numbers reflect all Diabetes Education Programs and pharmacies in the region that accept referrals from CI. Due to the small number of referrals received for some of the programs (FHTs, Palmerston, Louise Marshall and Guelph Hospitals), the numbers will not accurately reflect their volume or wait times.

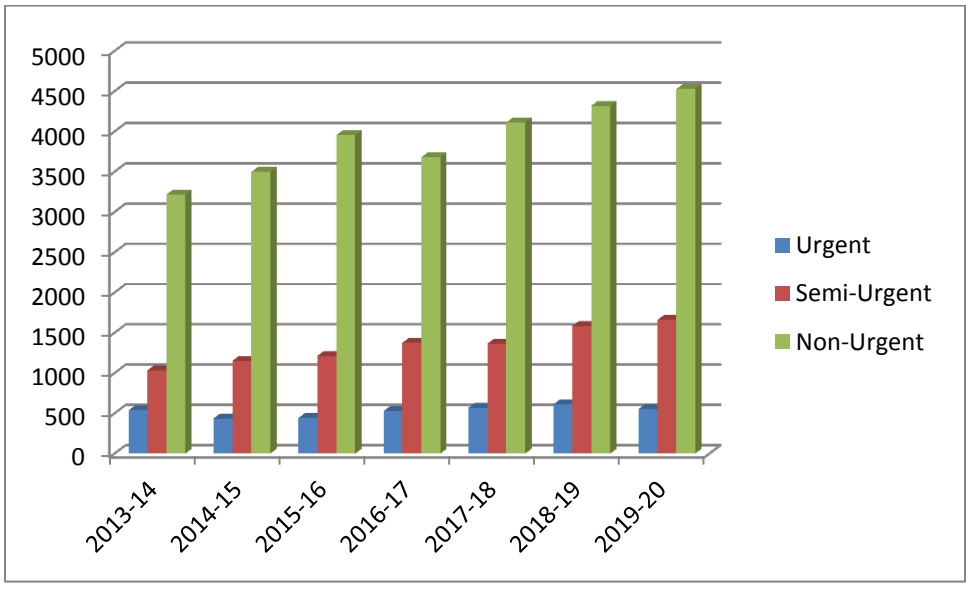
Wait times continue to be within 80% of the benchmark wait times for urgent, semi-urgent and non-urgent referrals, despite the increasing referral volume. (Table 11) Attention must be taken by programs to continue to see individuals for follow-up care and not to eliminate this essential part of diabetes 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



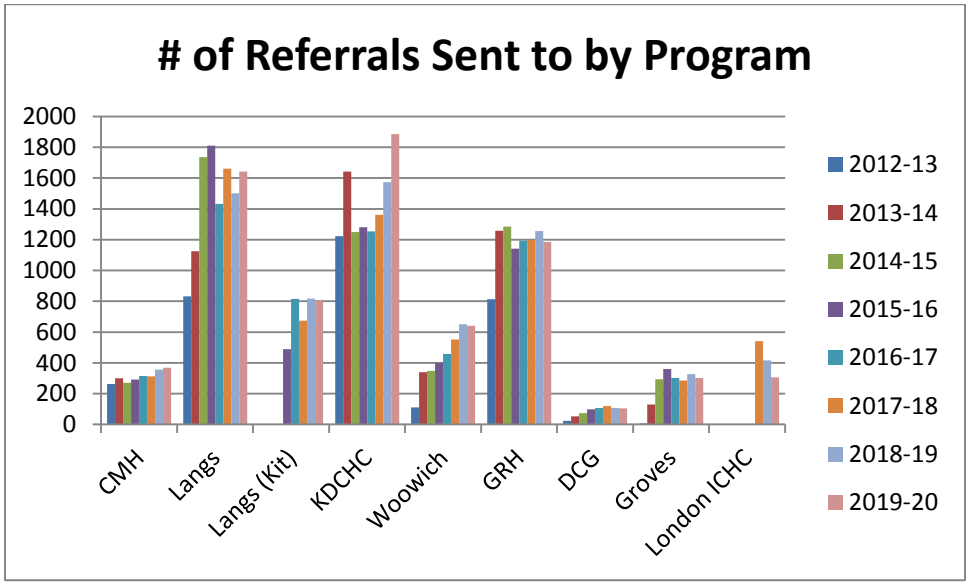
The urgency of the referrals is consistently rising with the volume. The following table (Table 12) demonstrates the breakdown of urgent/semi-urgent/non-urgent for the region.

Table 12: Volume of Referrals by Urgency



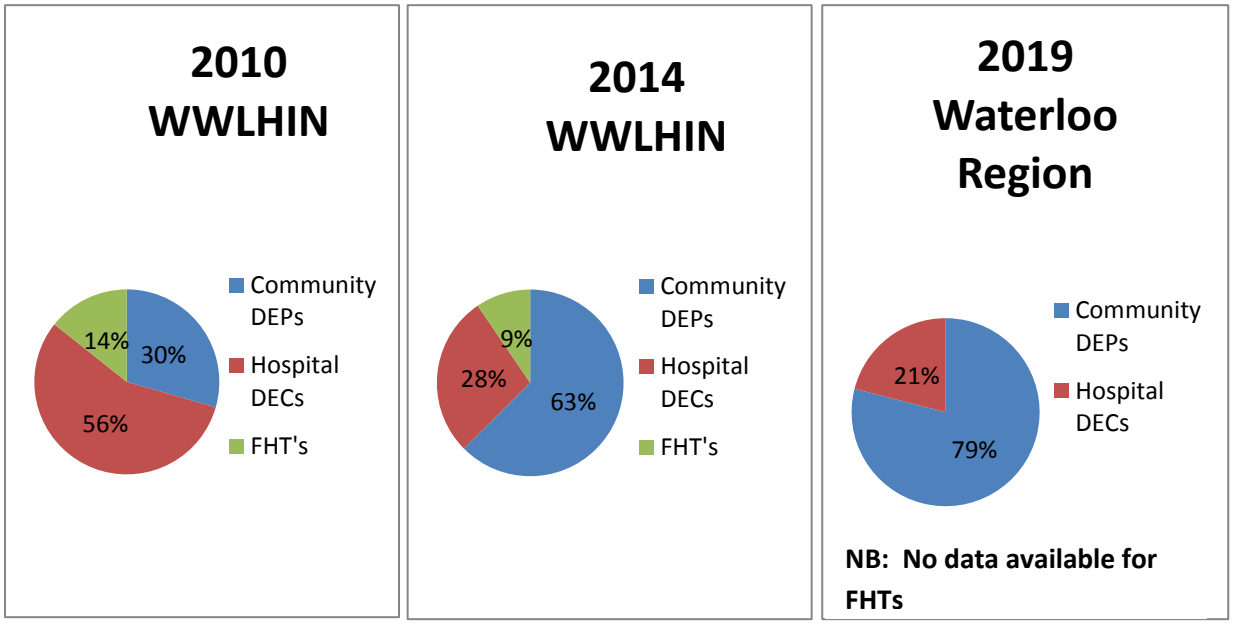
The volume of referrals continues to rise for the Kitchener area. (Table 13) Since 2015-16, Langs have been supporting the Doon area of Kitchener with a satellite program. Langs also have a satellite site in Ayr, where they have received 124 referrals this year. This number is combined for the volume of referrals to Langs in the graph below.

Table 13: Volume of Referrals by Program



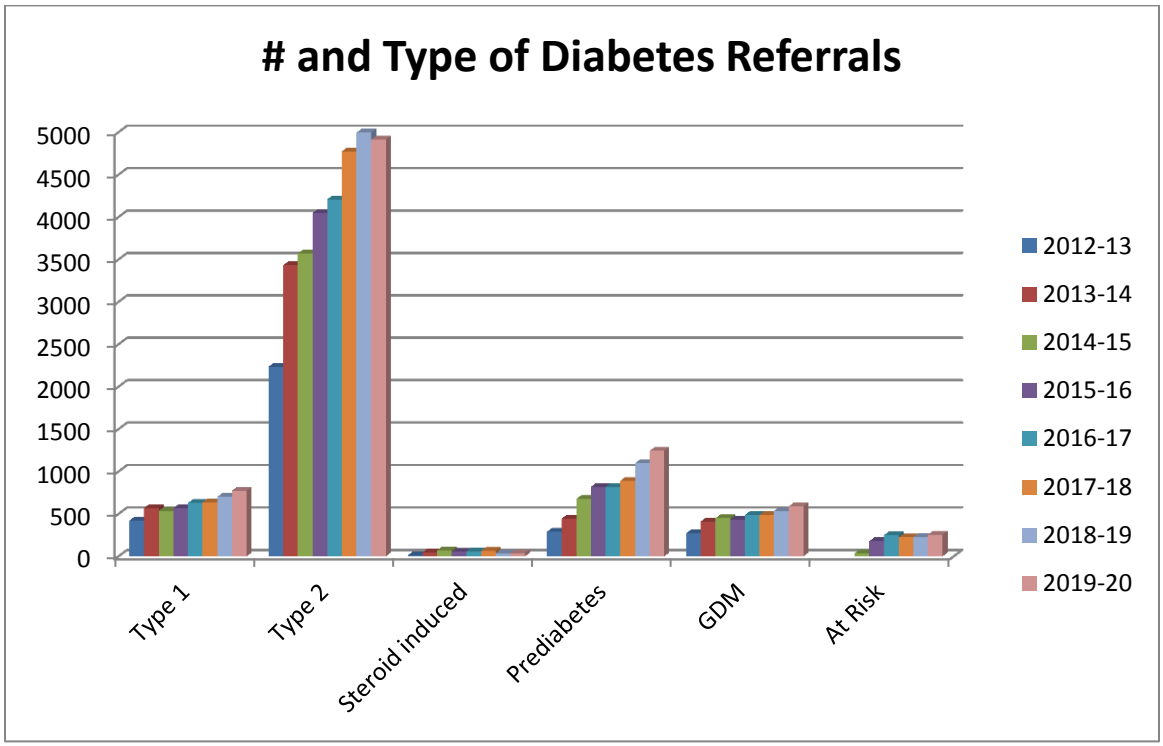
There has been great effort by DCI to move the volume of referrals from the hospitals to the community programs. The hospital programs now only receive referrals for complex diabetes cases, such as Type 1 diabetes, diabetes in pregnancy, insulin pumps, steroid induced diabetes and complex Type 2 diabetes (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



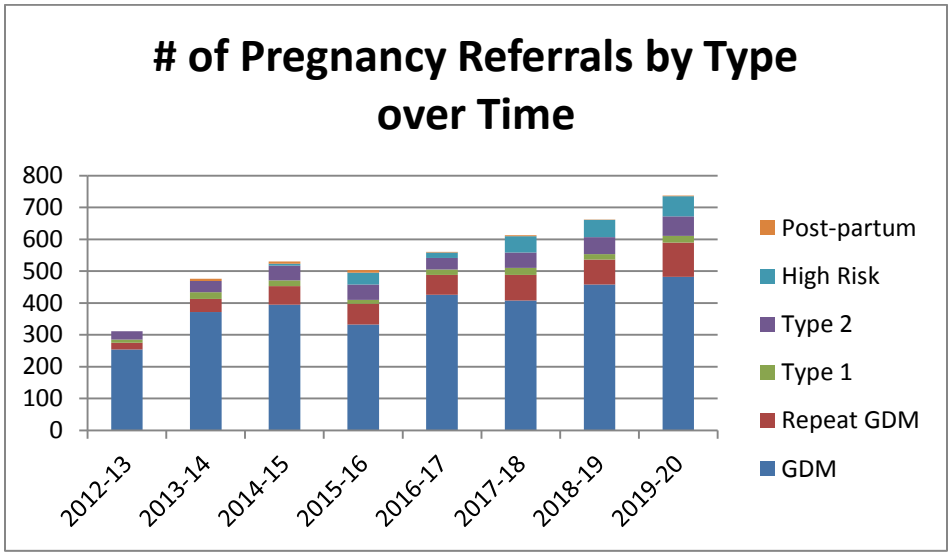
DCI is able to capture the various types of diabetes being referred (Table 15) for Diabetes Education. This is data that is not available in any other region of the province. This also allows for effective program planning. There is a steady increase of both Type 1 and GDM, which may be a reflection of the younger demographic in this region. There is also a steady increase in the number of prediabetes, which may reflect earlier diagnosis or earlier referral which is positive.

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.

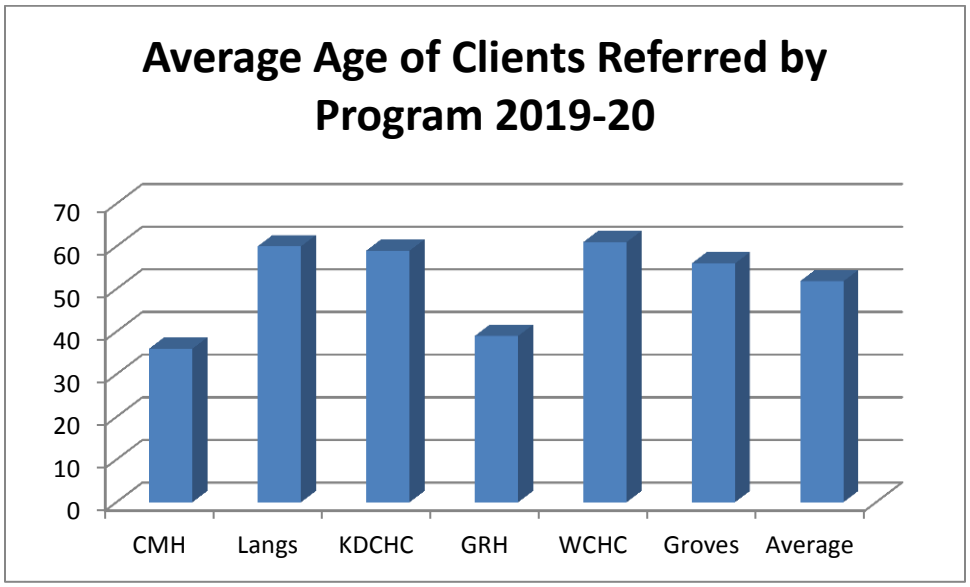
Table 16: # of Pregnancy Referrals by Type Over Time



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 typically average 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



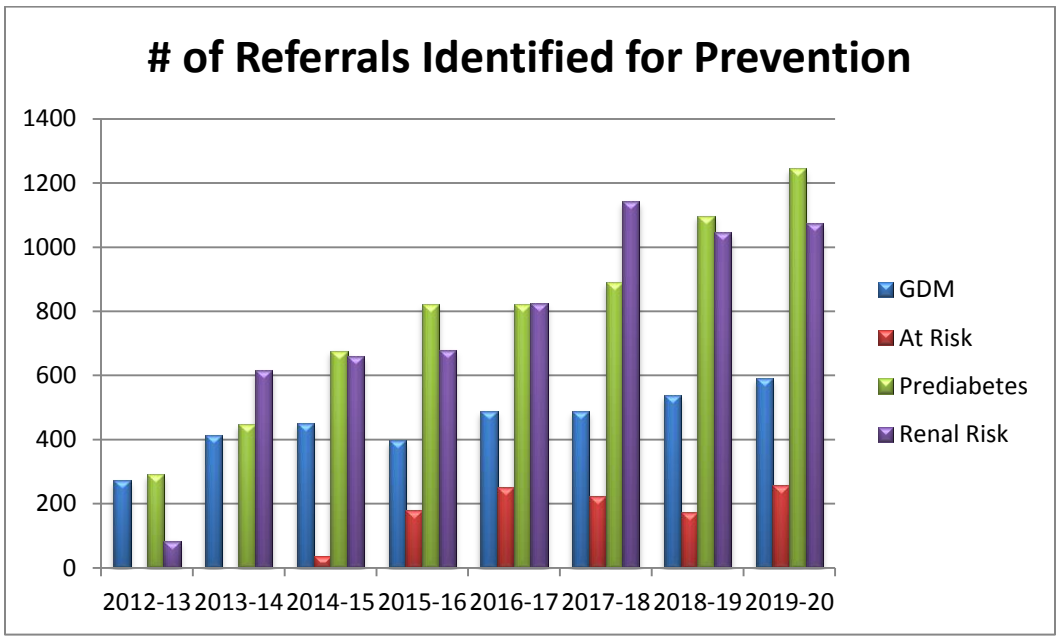
Prevention

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).

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, was restructured this year to support the growing needs of the program. It was originally developed to support the community diabetes educators in managing the increased volume and complexity of patients being moved from the hospital to the community programs. That transition has been achieved, so the position was changed to a resource clinician to continue to support diabetes educators but also work with the regional Self-Management program in supporting health care provider training. This position started just prior to COVID-19, so much focus and work has been on supporting educators and leaders to move to virtual workshops. This has involved revising content, training people, and exploring virtual care options. She was also selected to offer a Diabetes 101 webinar provincially by the provincial on-line program. Simultaneously, the resource clinician has been finalizing the work on the ketogenic diet resources that this region have been working on for some time.

Website

Our regional website continues to be well received. Although the visits are a bit lower this year, there was an increase towards the end of March with COVID-19. Our website 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
2019-20	6,109	19,798	14	75

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 the larger region or expand to offer a provincial service. We continue to be consulted by programs throughout the province on how to set up a central intake service. Many programs question if we can expand our service to support the province versus each of them trying to replicate what we have built. We believe this is a very efficient and effective win for the province, and look forward to the opportunity to further expand our central intake service.

"Why can't we have a central intake like that?" **Toronto Endocrinologist**

"Why can't you spread your service to rest of the province?" **London Endocrinologist**

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 *People's Health Care Act.* It aligns with the WWLHIN annual business plan and it also aligns with the previous 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**