

Improving Team-based Diabetes Care through Physician Engagement

Recommendations from the Diabetes Physician Engagement Working Group

BRIDGEPOINT
ACTIVE HEALTHCARE

Family Health Team



Bridgepoint
Sinai Health System



LAMP
Community Health Centre



**PARKDALE
QUEEN WEST**
Community
Health Centre

Unison
Health & Community Services

 **Sunnybrook**
ACADEMIC FAMILY HEALTH TEAM



ST. JOSEPH'S • ST. MICHAEL'S • PROVIDENCE
UNITY HEALTH
TORONTO

 **Vibrant**
HEALTHCARE
ALLIANCE

Prepared by: Lori Sutton
March 2020

Hosted by



South Riverdale
**COMMUNITY
HEALTH CENTRE**

Funded by



Ontario
Toronto Central Local Health
Integration Network

Introduction

This report from the Diabetes Physician Engagement Working Group contains a series of recommendations aimed to inform the development of a collaborative regional physician engagement strategy focused on supporting the delivery of integrated team-based diabetes care. The adoption of these recommendations will improve access to team-based care and ultimately improve health outcomes for people at risk of or already living with diabetes or other chronic conditions.

This project team (Appendix A), consisting of representatives from a number of interested programs/organizations, was formed in the fall of 2018 to explore the current state of physician engagement and to provide recommendations to inform the future development of a collaborative regional physician engagement strategy. Over the last year, this project team connected with a number of sub-regional primary care groups, patient advisory groups, diabetes program leads and other key stakeholder groups within the Toronto region (Appendix B) to better understand what is working well, what is challenging and what changes are needed to better engage physicians around interdisciplinary team-based diabetes care.

In Canada, one-third of the population, approximately 11 million people, are currently living with diabetes or prediabetes and this number is expected to rise to over 14 million within the next 10 years.¹ Diabetes can have a huge impact on people lives and on the health care system through its increased risk of heart attack, stroke, kidney failure, amputation, and blindness and through its impact on productivity and employment.¹

People with diabetes are often in the top 5% of health system users contributing to extensive health system costs.² The International Diabetes Federation reported that the direct health care cost of diabetes in Canada was \$27 billion in 2018 and is expected to rise to \$39 billion by 2028.¹ In reality, the actual system costs related to diabetes may be even greater if, as Diabetes Canada suggests, there has been an underestimation of the indirect costs of lower productivity, unemployment and pre-mature death.³ To make matters worse, diabetes is also now commonly affecting young Canadians. Someone who is 20 years old today now has a 50% chance of developing diabetes in their lifetime; increasing to 80% if they are from an Indigenous population.¹

According to Diabetes Canada¹, health system cost saving can be realized through connections to comprehensive team-based care that will result in:

- 110,000 fewer cases of new diabetes each year through the implementation of proven diabetes prevention programs, resulting in a health system savings of \$322 million.
- 35, 000 fewer hospitalizations each year through effective diabetes management support.
- 85% reduction in diabetes-related amputations each year.
- 95% risk reduction for diabetes-related blindness through early detection and treatment.

Similar health system savings from team-based diabetes care have also been demonstrated internationally.^{4,5,6,7,8} According to the American Diabetes Association, the American Association of Diabetes Educators, and the Academy of Nutrition and Dietetics, this cost-effectiveness is achieved through the reduction in hospital admissions/readmissions and the lower incidence of diabetes complications.⁹

Unfortunately, a Diabetes Canada survey of people with diabetes found that only 22% of those surveyed reported being referred to a diabetes education program when they were diagnosed and only 26% reported ever having received diabetes education.¹ These patterns of low service utilization have also been reported within TC LHIN boundaries where only 15% of residents with diabetes were accessing community-based diabetes education programs in 2014,¹⁰ and within West Toronto Health Link boundaries in 2015.²

In an attempt to improve access to high-quality team-based diabetes care, key stakeholders within the Toronto region used a quality improvement lens to identify potential contributing factors affecting access to well-coordinated, interdisciplinary diabetes care. Informed by the resulting root cause analysis, stakeholders identified and prioritized the following four areas that require deeper exploration:

1. Physician engagement strengthening to support connection to inter-disciplinary team-based diabetes care
2. Connection system redesign to support the effective, simple connection of people at risk of or already living with diabetes to the support they need
3. Models of care/care pathway development to ensure client/caregiver needs are met
4. Communication pathway/tool development to support effective team-based care

The focus of this report is on the first of these priority areas: physician engagement strengthening. A 2015 report from the West Toronto Health Link suggested a need for diabetes programs to engage further with both primary care providers and clients to help improve access to team-based diabetes care.² Within the Toronto region, there are more than 20 different programs supporting people at risk of or already living with diabetes. Over the years, many of these programs have independently attempted to engage with primary care physicians and specialists. Since 2016, sub-regional primary care teams have also been engaging primary care physicians around a number of issues; however, diabetes programs were not well connected to these sub-regional teams.

Although current strategies of engagement do have a number of strengths, the project team members agree that a number of improvements are required in order to support the following key strategies outlined by the Ontario Ministry of Health¹¹:

1. Access to a full and coordinated continuum of care.
2. Improved outcomes associated with the Quadruple Aim: better patient and population health outcomes, better patient family and caregiver experience, better provider experience, and better value.
3. Use of a digital first approach.
4. Use of a standardized performance framework aligned to the Quadruple Aim.

This report contains a summary of the project team’s learnings and a series of recommendations to aid in the development of a collaborative regional physician engagement strategy aimed to improve access to team-based diabetes care and ultimately to improve health outcomes for those with or at risk of diabetes.

The Current Situation within the Toronto Region

Project team members gained a better understanding of what is working well and what is challenging with current physician engagement through in-person engagement of multiple stakeholder groups (Appendix B), survey of diabetes program leaders, and review of relevant documents. These learnings have been grouped into system-level, program/organization-level, and individual-level categories to support further exploration and planning.

What Stakeholder Groups Report as Working Well		
System Level	Program/Service Level	Individual Level
1. Pilots of large scale regional public engagement combined with population specific targeted outreach.	1. Programs/organizations with dedicated staff to engage physicians, healthcare providers, & community members.	1. Physician champions engaging other physicians.

2. Integration of diabetes services within the primary care setting.	2. Diabetes engagement at existing physician meetings/groups and/or in collaboration with the engagement efforts of others.	2. Use of client and provider stories to demonstrate value of connection to team-based diabetes care.
3. Shared access to digital records within the circle of care to help monitor and plan care in a timely manner (e.g. connected electronic health records, Connect Ontario, etc.).	3. Time for diabetes providers and primary care providers to interact together with/about their clients through co-location models or other models of service delivery (e.g. Diabetes clinic/joint appointments).	3. Communication between diabetes team members and physicians through secure email and/or messaging within a shared/connected electronic health record.
4. Regional website that supports awareness of and connection to programs.	4. Accessible care is provided by many programs (e.g. multiple languages, transportation support).	4. Diabetes-related CME provision as a means of engaging.

What Stakeholder Groups Report as Challenging		
System Level	Program/Service Level	Individual Level
1. Communication across organizations is not easy and tools and processes vary across programs/providers.	1. Current physician engagement strategy planning/development may not involve physicians.	1. Lack of awareness of what services are available, what they offer, how to connect to them, and why connection is valuable.
2. Trust and relationship development within the circle of care is challenging without face-to-face interactions (e.g. solo physicians cannot easily consult diabetes educator nurse or dietitian).	2. Broader regional engagement may dilute the ability for diabetes programs to form strong relationships with primary care providers working within the local neighbourhoods they serve.	2. Lack of time and competing priorities for programs/providers and people at risk of or already living with diabetes to address chronic conditions proactively, to engage others, or to be engaged.
3. Roles and responsibilities within circle of care are not always clear (e.g. physicians are not all aware that diabetes educators can support clients with insulin use, titration and adjustment over the phone).	3. The physician engagement efforts of one program/group may overlap or compete with the efforts of another program/group.	3. Many current relationships among circle of care members are weak or non-existent.
4. Current mandatory performance measures for some programs may discourage collaborative engagement (e.g. program specific client volumes).	4. Current messaging may be confusing (e.g. Diabetes Education Program” does not speak fully to the comprehensive diabetes prevention & management support provided).	4. Trust in others within the circle of care may not have been established or may have been broken.
5. Tracking level and impact of engagement is not always done and varies across programs.	5. Programs have limited time and resources to engage with others within the circle of care.	6. Beliefs and/or behaviours can be difficult to change.

The positive impact of team-based diabetes care is clearly demonstrated in the following client story:

Mr. R was referred by their primary care provider to the West Toronto Diabetes Education Program with an A1C of 14.5% which put Mr. R at high risk of developing diabetes-related complications. The diabetes educator team worked in collaboration with Mr. R, his spouse and his primary care provider to help Mr. R see the impact that lifestyle modification and diabetes medication can have on his diabetes. He began regularly walking 4-5 km daily; he made significant changes to his diet; and he developed an understanding of the role of medication which resulted in him taking his medications as prescribed and adding bedtime insulin to his management plan when recommended. All of these changes resulted in Mr. R's A1C decreasing to 5.8% within 6 months, which significantly reduced his risk of developing diabetes-related complications.

Recommendations for Change

Through consultation with a number of key stakeholders, the project team used a quality improvement framework to develop a number of recommendations to inform the future development, implementation and evaluation a collaborative regional physician engagement strategy.

Recommendations for Ontario Health Teams

1. Expand access to a full and coordinated continuum of care by:

- a. Developing and implementing a collaborative regional engagement strategy aimed at improving access to interdisciplinary team-based diabetes care.
 - i. Build upon existing strategies including those targeting underserved populations and upstream risk identification and reduction.
 - ii. Identify primary care providers (physicians/nurse practitioners) and clients/caregivers benefiting from effective interdisciplinary team-based diabetes care to:
 - o Understand their experiences and motivators to inform planning; and
 - o Leverage them as change agents who can share their experiences to engage others.
 - iii. Develop collaborative strategies involving cross-sector partnerships including those with:
 - o Non-profit and for-profit organizations (e.g. diabetes-related programs, City of Toronto, schools, grocery stores, pharmaceutical companies, primary care groups/associations etc.); and
 - o Medical education providers/groups (e.g. conference organizers, journal clubs, etc.).
 - iv. Position diabetes outreach and service delivery within the context of other supports used by people at risk of or already living with diabetes (e.g. mental health support, foot care, etc.).
 - v. Expand outreach and service delivery models that support ongoing engagement through the delivery of team-based care (e.g. community hubs, mobile/bus clinics, e-consults, case-conferences, joint medical visits, diabetes clinic days).
 - vi. Consider the impact of the primary care models being used within the defined region (e.g. Family Health Group [FHG], Family Health Organization [FHO] etc.).

- b. Developing standardized regional communication tools* and processes that focus on building trust, clarifying roles, supporting engagement; and improving ongoing care and ultimately health outcomes.
 - i. Leverage what is working well and align with other communication tools and processes (e.g. include messaging on existing physician communications, at other engagement events, on Toronto Diabetes Care Connect website etc.).
 - ii. Ensure messaging demonstrates the value of connecting to team-based care and builds trust among circle of care members by:
 - Using client, caregiver and provider stories in messaging to celebrate successes and to demonstrate the value and impact of connecting to team-based diabetes care; and
 - Incorporating compelling data to demonstrate impact (e.g. impact of team-based care connection on A1C).
 - iii. Use plain language and infographics and translate materials as required.
 - iv. Clarify roles and responsibilities within the circle of care (e.g. ensure that the physician’s role in wellness is agreed upon and clear).
 - v. Review and revise program/service names to ensure they accurately reflect the support being provided (e.g. Diabetes Education Programs vs. Diabetes Management Programs or Integrated Diabetes Management Teams).

No one is judgmental or trying to teach you. They let you know what you need to know and inform you on important areas, then they give you space to ask questions and discuss. (SRCHC Client¹²)

*During the development of this report, the project team in collaboration with other stakeholders developed two engagement tools that have been included in Appendix C for your reference.

2. Improve outcomes associated with the Quadruple Aim** by:

- a. Focusing on supporting people at risk of or already living with diabetes across the entire diabetes continuum (e.g. upstream risk identification and reduction to complex management).
- b. Building on the information within this report to ensure a thorough understanding of current state within the specific region/OHT.
 - i. Use local and regional baseline data to examine current engagement strategies, connection practices, barriers and needs (e.g. referral data, regional/neighbourhood statistics, neighbourhood level physician data, provincial/regional data).
 - ii. Identify 3-5 most common chronic diseases that people with diabetes are living with; explore the experiences of those living with these co-morbidities; and collaboratively plan how to best meet their needs.
 - iii. Use population health data (i.e. sub-regional, neighbourhood) to identify and explore populations with unmet needs (e.g. populations who are not accessing team-based diabetes care, populations not attached to primary care/using walk-in clinics, etc.).
 - iv. Use hospital data to document the number and demographic profile of patients with a T2DM diagnosis identified at any point (e.g. at admission or during the hospital stay).

**Quadruple Aim: better patient and population health outcomes, better patient family and caregiver experience, better provider experience, and better value.¹¹

3. Support the use of a digital first approach to leverage technology by:

- a. Expanding methods of engagement to include digital options (audio messages/sound bites, videos etc.).
- b. Working collaboratively with vendors to embed prompts, reminders, and alerts regarding team-based care into electronic health records.
- c. Exploring the use of electronic chronic illness care assessment tools that can inform the development of more effective chronic care models (e.g. Assessment of Chronic Illness Care).¹³
- d. Exploring the use of electronic tools, such as shared database to track engagement efforts.

4. Support the use of a standardized performance framework aligned to the Quadruple Aim** by:

- a. Developing standardized evaluation frameworks, tools and processes including a quality improvement family of measures/indicators to measure engagement that:
 - i. Leverage any data that is already being collected (e.g. # of referrals, # engaged).
 - ii. Connect and align with any other monitoring systems including local Primary Care Scorecards, provincial Primary Care Practice Reports, and national Diabetes Action Canada's Diabetes Repository and Diabetes Canada's 360° Strategy.
 - iii. Include value-based outcome and process measures of both level of engagement and impact of engagement.
 - iv. Support the use of common evaluation tools & processes that are transparent, objective and impartial.
- b. Sharing the measurement plan and data from each region/OHT broadly to support ongoing sustainability, improvement and spread.

The programs and services have helped improve my health and well-being (SRCHC Client¹²)

Additional Considerations

The use of a quality improvement framework for planning, implementation, and evaluation of all recommendations is required to ensure success. Key elements of this approach that are of particular importance include:

- a) Ensuring key stakeholder groups, from all relevant sectors, are involved from the beginning and remain involved throughout the entire process (e.g. people at risk of or already living with diabetes, caregivers, physicians, other service providers, etc.).
- b) Using a co-design approach to develop and implement the engagement strategy that builds upon existing successful strategies, models, and tools to consolidate resources and align efforts across programs/groups and regions.
- c) Aligning with evidence-based work including Ontario Health's Diabetes Quality Standards, Diabetes Canada's Clinical Practice Guidelines, and Diabetes Canada's 360° Strategy.
- d) Starting with small tests of change (e.g. within one OHT) to ensure a foundation for sustainability and spread.

It is also important to acknowledge that adequate resources need to be available for regions to plan, implement, evaluate and sustain a regional engagement strategy.

Summary & Next Steps

This report contains a number of recommendations that will aid in the development of a collaborative regional physician engagement aimed to improve access to interdisciplinary team-based diabetes care.

Further exploration, strategy development and testing are required which will require the commitment of planners, decision-makers, and organizational leads within the target region. To support this future work the project team has committed to the following next steps:

1. Share this report with the following key stakeholders in the hope that they will implement the above recommendations as part of their respective physician engagement plan.
 - a. Ontario Health
 - b. Local planning partners (i.e. Ontario Health Teams and other regional groups) within the Greater Toronto Area
 - c. Primary care groups with the suggestion to share with their colleagues and with any physician training groups they are associated with
 - d. Diabetes-related central connection services with the Toronto region
 - e. All other key stakeholders groups involved in delivery or planning of diabetes-related services including diabetes-related program leads and patient advisory groups
2. Invite regional planners and decision-makers to connect with project team members as well as with the Regional Diabetes Steering Committee members and other key stakeholders within the Toronto region for further input and feedback.
3. Continue to share these recommendations by posting the report on Toronto Diabetes Care Connect website and exploring other methods of dissemination as appropriate.

More information

Contact Lori Sutton, Regional Facilitator – Toronto Diabetes Care Connect, South Riverdale Community Health Centre at lsutton@srchc.com

References

1. *Diabetes 360°: A Framework for a Diabetes Strategy for Canada*. Recommendations for Governments, July 2018. Diabetes Canada.
2. *Diabetes Education Programs: Report on Key Informant Interview Findings*. May 2015. West Toronto Health Link.
3. Diabetes Canada 2018 Pre-Budget Submission: 90-90-90 – Measurable change and improved productivity by 2021: To the House of Commons Standing committee on Finance. August 2017. Diabetes Canada.
4. Boren S, Fitzner K, Panhalkar P, Specker J. *Costs and Benefits Associated with Diabetes Education – A Review of the Literature*. The Diabetes Educator January/February 2009;31(1):72-96.
5. Lian J, McGhee S, Chau J, Wong C, et al. *Systematic review on the cost-effectiveness of self-management education programme for type 2 diabetes mellitus*. Diabetes Research and Clinical Practice 2017;127:21-34.
6. *Benefits of Credentialed Diabetes Educators*. Australian Diabetes Educators Association Limited; Deloitte Access Economics Pty Ltd. 2014.
7. Duncan I, Ahmed T, Li Q, Stetson B, et al. *Assessing the Value of the Diabetes Educator*. The Diabetes Educator 2011;37(5):638-1382.
8. Ohsfeldt R, Phillips M, Balamurugan A, Hughes T. *Cost-Effectiveness of a Diabetes Education Program for Medicaid Patients*. American Diabetes Association 65th Scientific Sessions 2005 Abstract.
9. Powers M, Bardsley J, Cypress M, Duker P, et al. *Diabetes Self-management Education and Support in Type 2 Diabetes: A Joint Position Statement of the American Diabetes Association, the American Association of Diabetes Educators, and the Academy of Nutrition and Dietetics*. Diabetes Care 2015;38:1372-1382.
10. *TCRS Quarterly Reporting Q2 2015-2016*. Toronto Diabetes Care Connect, South Riverdale Community Health Centre 2015
11. Ontario Ministry of Health. *Ontario Health Teams: Guidance for Health Care Providers and Organizations*. Retrieved from http://health.gov.on.ca/en/pro/programs/connectedcare/oht/docs/guidance_doc_en.pdf
12. *Client Experience Survey*. South Riverdale Community Health Centre 2019.
13. Clement M, Filteau P, Harvey B, Jin S, et al. *Diabetes Canada 2018 Clinical Practice Guidelines for the Prevention and Management of Diabetes in Canada: Organization of Diabetes Care*. Can J Diabetes 2018;42:S27-S35.

Appendices

Appendix A: Project Team

Project Team Members (alphabetical)
1. LAMP Community Health Centre (Abida Rahman, Deniese Masters McKenney, Natalie Wilkinson)
2. Parkdale Queen West Community Health Centre (Jane Rajah)
3. Sinai Health Systems - Bridgepoint Family Health Team, (Tara Koyama)
4. South Riverdale Community Health Centre (Lori Sutton – Project Lead)
5. Sunnybrook Academic Family Health Team (Leigh Caplan)
6. Unity Health - St. Josephs Health Centre (Brenda Pozzebon)
7. Unity Health – St. Michael’s Hospital (Dana Whitham)
8. Unity Health – St. Michael’s Academic Family Health Team (Melinda Glassford)
9. Unison Health and Community Services (Katharine McEachern)
10. Vibrant Healthcare Alliance (Ann Phillips)
Note: Dr. Nicole Nitti (East Toronto Sub-Region Primary Care Clinical Lead) was jointly leading this work until August 2019.

Appendix B: Stakeholders Engaged

Stakeholder Groups (alphabetical)
1. Diabetes Education Program Leaders Group (TDCC Stakeholder Group)
2. Hospital Diabetes Leaders Group (TDCC Stakeholder Group)
3. Interprofessional Access Working Group (Primary Care Strategy Regional Special Focus Group)
4. Mid-East Toronto PCCL, Team & PCCC
5. North Toronto PCCL, Team & PCCC
6. Regional Diabetes Steering Committee (TDCC Stakeholder Group)
7. South East FHT Patient Advisory Council
8. TC LHIN Home and Community Care Patient and Family Advisory Committee
9. West Toronto PCCL, Team & PCCC

Legend: CHC=Community Health Centre; FHT=Family Health Team; PCCL=Primary Care Clinical Lead; PCCC=Primary Care Community Council; SRCHC=South Riverdale Community Health Centre; TC LHIN=Toronto Central Local Health Integration Network; TDCC=Toronto Diabetes Care Connect

Appendix C: Engagement Tools

These tools can be obtained from Toronto Diabetes Care Connect, South Riverdale Community Health Centre.

1. Slide developed by the project team in June 2019 to provide a resource for sub-regions to use at physician engagement events

Are you having trouble finding the support you need?

Toronto Diabetes Care Connect can help connect you to:

Diabetes Management Teams
Diabetes specialized nurse/dietitian team can provide ongoing support to you and your patients to help develop and manage individualized diabetes care plans that include:

- Providing decision support to you around best practice
- Supporting insulin (and other injectable) starts and adjustments
- Supporting self-monitoring, self-management, and healthy behaviours changes
- Connecting clients to additional supports (e.g. mental health, chiropody, housing)

Choose Health Self-Management Program
Trained peer facilitators can support your patient's to learn and practice self-management skills such as goal setting and problem solving

Diabetes Eye Screening Program
Healthcare providers can screen your patients for retinopathy, send you a report & help arrange treatment if needed

Diabetes Prevention Program
Diabetes specialized nurses and/or dietitians can screen your patients for type 2 diabetes and help reduce their risk

All services are FREE, evidence-based, and available in many location and languages

Everyone with diabetes deserves team-based care
Interprofessional, team-based care for adults with T2DM has been associated with improvements in A1C, blood pressure, lipids and care processes. (Diabetes Canada 2018)

Visit TorontoDiabetesReferral.com or call 416-778-0676 x 242

Hosted by South Riverdale COMMUNITY HEALTH CENTRE
Funded by Ontario

2. E-blast developed by the Mid-East Sub-Regional Primary Care Team in June 2019 to engage physicians regarding team-based diabetes care.

Click link to visit website

Toronto Diabetes Care Connect TorontoDiabetesReferral.com

Diabetes Management, Pre-Diabetes, and Prevention Support:

Diabetes Management Teams (includes a nurse and dietitian) can provide ongoing support to you and your patients to help develop and manage individual care plans that include:

- Decision support incorporating best practice recommendations and client's situation considerations (e.g. regarding insulin/medication use, screenings, other services etc.)
- Insulin start/stop and adjustments to dose using insulin order sets or medical directives
- Teaching for self-monitoring, self-management, and healthy behaviour changes
- Connecting clients to additional resources (e.g. mental health, chiropody, housing)

Diabetes Eye Screening (Teleophthalmology Program) can screen patients for retinopathy, send the report to the provider, and help arrange treatment if needed.

Choose Health Self-Management Program offers trained peer facilitators who support patients to learn and practice self-management skills including goal setting and problem solving.

Diabetes Prevention Programs include specialty trained nurses and/or dietitians who screen patients for type 2 diabetes and help provide recommendations to reduce risk.

Programs are also available with specialized focus for populations: Aboriginal, Chinese, Francophone, racialized women of colour, and South Asian. Visit the website for information about diabetes support for children and youth through the [Pediatric Diabetes Network](#).

Some of the resources available to primary care providers:

- [Diabetes Risk Assessment Tools](#) (CANRisk tools in a variety of languages)
- [Prescription pads for Insulin](#) (includes options to select titration doses)
- [Patient handouts](#) (educational handouts on large selection of topics)
- [Endocrinology Referral information](#) (specialist contact and service details are listed)

Referrals can be made by fax, on-line submission, through the mail, or over the phone. The online form features multiple expanding menu options that allow the referrer to select individual programs, upload relevant documents (labs results, medical history, consult reports), or to submit a general request for diabetes services if not familiar with programs.

To refer or to receive more information visit www.TorontoDiabetesReferral.com or call 416-778-0676 x 242. Programs are Free. No OHIP required.
Services are offered in many languages and professional interpretation is provided when necessary.

Recommendations from the Diabetes Physician Engagement Working Group



www.TorontoDiabetesReferral.com

South Riverdale Community Health Centre

955 Queen Street East | Toronto, Ontario | M4M 3P3
tel: 416.778.0676 | fax: 416.778.1305

Hosted by



South Riverdale
COMMUNITY
HEALTH CENTRE

srhc.ca

Funded by



Ontario

Toronto Central Local Health
Integration Network