Manitoba Health

Physician Integrated Network (PIN)

Evaluation Plan

Manitoba
Building for the Future

Preamble

This document is an overview of an evaluation plan to measure the impact of the Physician Integrated Network (PIN) initiative on patient care and provider satisfaction with reference to the identified PIN objectives within the context of primary care renewal in Manitoba and Canada. The indicators included in this outline are derived from two sources. Where possible, they have been derived from the Primary Health Care Indicator Development Project completed by the Canadian Institute for Health Information (CIHI) in March 2006. The Primary Care Indicator Development Project developed indicators to measure primary care reform as defined by the primary health care transition fund, and in many cases, also meet the criteria of the Manitoba Physician Integrated Network initiative. The CIHI project identified over one hundred and fifty (150) indicators. While some of these indicators are specific to individual clinics and thus relevant to this initiative, other indicators are only relevant at a regional or systemic level or are not relevant to the objectives of the PIN initiative. These indicators will be supplemented by indicators developed in the Manitoba Centre for Health Policy (MCHP) report titled: *Profiling Primary Care Practice in Manitoba* by Norman Frohlich, Alan Katz, Carolyn De Coster, Natalia Dik, Ruth-Ann Soodeen, Diane Watson and Bogdan Bogdanovic. The latter group of indicators will be further developed as part of the PIN Baseline Evaluation Deliverable, to be undertaken by researchers at MCHP as part of the 2007/2008 Manitoba Health deliverable agreement.

Overall Evaluation Framework

The PIN objectives are as follows:

1. To demonstrate high quality primary care with a specific focus on Chronic Disease management.
2. To improve access to primary care.
3. To improve the working environment for all primary care providers.
4. To improve Primary Care providers' access to and use of information.

These objectives relate to certain key areas that could be evaluated. For example, objective 1 relates to key areas of:

- Quality of Care
- Preventive practices
- Chronic Disease Management practices

Objectives 2 and 3 relate to key areas of:

- Patient and Provider Satisfaction (to address patient access and provider lifestyle issues)
- Utilization of other primary care providers

Objective 4 relates to the key area of:

- Access and use of information

This plan is based on suggested indicators for the key areas which will assist in measuring the success of the initiative towards meeting each of the objectives.

Qualitative and quantitative evaluation approaches are included in this plan. While indicators are by definition, qualitative and 'measurable', evaluations often include quantitative components to reflect aspects of the initiative that do

not lend themselves well to linear measurements as well as introducing the richness of direct quotations that tell the story behind the numbers. It will be beneficial to include a qualitative component to the evaluation focusing on both the experiences of those participating and the lessons from the implementation that should inform future initiatives.

The first step required for the evaluation will be the PIN practice and patient profile development.

Purpose:

(a) To develop a practice profile that broadly defines the demographic characteristics of each participating physician and each group practice;

(b) To identify* the patients who should be included in the “virtual practice” of each physician i.e. those patients for whom that physician would be the most responsible provider, based on previously developed MCHP algorithms.

Process

(a) Identify participating physicians

(b) Identify * those patients for whom each physician provided the majority of their care over the past year using the established algorithm. For patients who have no contacts with the system over the past year, their records would be tracked over the past three years to identify their most responsible physician.

(c) Establish the practice cohort.

*describe the age, sex, SES and morbidity status of each physician’s practice and for the physician group

* Identify* the patients who should be included for each physician for the EMR chart abstraction to establish the baseline evaluation.

NOTE: MCHP cannot identify any patients. MCHP has the capacity to list the scrambled personal identifiers for these patients (scrambled PHINs) and to transfer this list to Manitoba Health where they can be unscrambled for use in data extraction.

Data sources are proposed to include data from the Electronic Medical Records (EMRs) at each of the initial implementation sites and the Population Health Research Repository housed at the Manitoba Centre for Health Policy (MCHP), as well as satisfaction questionnaires delivered to clients and providers. The MCHP analyses (done as part of the deliverable) will be undertaken using the data files available in the Population Health Research Data Repository at MCHP. The specific files to be analyzed include the following:

- Hospital File (to examine use patterns);
- Physician Data File (for assessing specialty and demographic characteristics of physicians);
- Medical Claims File (to examine physician use over time);
- DPIN file;
- Vital statistics files (for births and deaths in the province);
- Population Registry (to obtain information concerning martial status, family structure, and time period in the province);
- Public-use and linked files from Canadian Census (to obtain relevant community-level data on key socioeconomic characteristics, e.g. education, occupation, income levels and population projections).

A number of indicators relevant to the domains listed above are included in the CIHI indicator list. It is proposed that the specific indicators to be measured be agreed upon between Manitoba Health and the initiative participants prior to

the initiation of the initiative. An additional consideration is the need to be able to capture the relevant data for downloading into a database. This will depend on the ability of the specific EMR(s) software to capture the identified indicators. The combination of primary “chart abstraction data” from the EMR and data from the data repository will allow comparisons of similar data from the data different data sources. The current chronic disease definitions and other categories defined by uses of the repository will be tested as part of this project.

Some of the potential indicators include:

Objective 1 - To demonstrate high quality primary care with a specific focus on Chronic Disease.

1) Quality of Care

Changes instituted over the past 12 months as a result of quality improvement initiatives

2) Health Risks

- Tobacco use
- Unhealthy eating habits
- Problem drug use
- Physical inactivity
- Overweight status
- Problem alcohol drinking
- Unintentional injuries (home risk factors)
- Unsafe sexual practices
- Unmanaged psychosocial stress and/or depression

3. Preventive practices

- Screening: Pap every 2-3 years
- FOBT annually over 50 years
- Mammography according to screening policy/ recommendations
- Lipids (every 5 years)
- Blood sugar annually
- Processes for medication incident reduction
- Childhood immunizations
- Influenza vaccination rates

- Pneumococcal vaccinations
- Breast feeding support/counseling
- BP measured
- Weight/exercise activity recorded
- Smoking cessation advice given to smokers

3) Chronic Disease Management & Mental Health practices

- *Diabetes*
  - Hgb Alc
  - Microalbuminuria
  - Fundoscopic exams
  - Foot exams
  - Lipid profiles
  - BP measurement
  - Obesity/overweight screening

- *Asthma*
  - Use of preventive meds (inhaled steroids and Leucotriene antagonists)
  - ER visits
  - Patients with self care plans

- *CHF*
  - ER visits
  - Patients weighed regularly
  - ACE inhibitor as first line treatment
  - Lipids
  - BP measurement
  - Blood sugar
  - Obesity/overweight screening

- *Hypertension*
  - Blood sugar
  - Lipids
  - Serum creatinine
  - BP measurement
  - Obesity/overweight screening

- *Mental Health*
  - *Depression - offered treatment or referral to a mental health provider*
  - *Panic disorder or generalized anxiety disorder - offered treatment or referral to a mental health provider*
  - Patients starting antidepressants and seen within 2 weeks for monitoring

- *Coronary Artery Disease (CAD) Management*
  - *Blood sugar*
  - *Lipids*
  - *BP Measurement*
  - *Obesity/overweight screening*
  - *Lipid reduction counseling*
  - *Beta blockers*

Objectives 2 and 3 - To improve access to primary care and to improve the working environment for all primary care providers

Inclusion of questions related to the access and use of information will be included as part of provider surveys.

4) Patient/provider satisfaction

Patient and provider satisfaction can be measured in a number of domains. There are validated satisfaction surveys in the literature. The most commonly used tool in Canada is the Primary Care Assessment (PCAT) developed by Dr Barbara Starfield. This tool is being used to evaluate various other primary care initiatives in Canada which adds the advantage of making our results comparable to those achieved in these other jurisdictions.

Although access to care is difficult to measure, clinic reported availability is a valid indication of access. Additional information related to access can also be measured such as waiting time for an appointment (regular appointments, follow up appointments and appointments for acute episodes) and access to 'after hours' services.

A further measure of access will be explored using the Research Repository, where use of other primary care providers can be captured and used as a marker of access to the designated primary care physician.

5) Utilization of other primary care providers

The integration of non-physician providers into primary medical care practice can be addressed in a number of different ways. As not all patients would be equally well served by the involvement of an alternative provider, a quantitative value may be difficult to generate without a very complex process to identify those for whom this may be beneficial. An alternate approach would be to identify the relevant alternate providers and seek their input on the functional relationship with the clinic to compliment patient reported satisfaction with this aspect of care.

Objective 4 – To improve primary care providers' access to and use of information systems.

Inclusion of questions related to the access and use of information could be considered as part of provider surveys.

Assumptions

This plan is based primarily on the availability of primary data collected as part of routine care noted in electronic medical records at the participating clinics and for administrative purposes. As one of the proposed selection criteria for the initial participating clinics is the use of an EMR, this plan is also based on the assumption that data will be available both prior and subsequent to, the introduction of the various key elements of the PIN initiative.

It is assumed that these data will be available in an anomymised format that is compatible with the SAS statistical program for analysis.

Evaluation Approach Limitations

The evaluation will be limited to measuring the changes at each of the initial participating sites (and one comparison site) in each of the specified indicator areas. Most of the comparisons with non-participating sites will only be possible if those sites who are not involved as the initial sites for implementation are willing to participate and further, if comparable data from those sites are available for comparison purposes. An additional consideration would be the need to ensure that non-participating sites are also comparable to the initial participating sites in terms of size, location and population served. It would be preferable to have comparable data from non-participating sites available to use as controls, as this would assist in attributing any observed changes at the participating sites to the initiative rather than changes within the broader health system in general. In the absence of such comparative data, the analysis will be limited to 'before and after' comparisons at each of the initial participating sites. Comparisons of the indicators developed using the administrative data between the participating sites and other sites will be possible.

Another limitation to the inclusion of only those sites which are involved in the initial implementation will be that any evaluation of care received by the clinic's/site's patients at other sites such as other primary care sites, emergency rooms, walk-in clinics or by specialists will only be included for the non EMR indicators. The evaluation using MCHP data repository will analyze this data. It should be noted that the evaluation using the MCHP Repository data will not be available until approximately a year after the completion of the project. The time lag necessitated by the timeline for data availability from Manitoba Health precludes the MCHP deliverable from providing useful "real time" evaluation. It

does however provide for the development of a long term evaluation and monitoring plan for primary care renewal projects in Manitoba.

This evaluation will not measure a number of initiative outcomes due to data limitations. For example, comprehensive access to care cannot be measured without the ability to include the use of other providers in the analysis. Health outcomes are also very difficult to relate specifically to primary care practice. Traditional measures of health are dependent on both interaction with primary care and other components of the health system. Hospitalization rates are a useful measure for a limited number of conditions but are not practical as outcome measures for this initiative due to the small sample size.

Time Frame

It is imperative that the PIN initiative evaluation process commence at the outset of the initiative if changes in service provision and health measures are to be measured over the course of the implementation period. While many indicators can be measured retrospectively from the EMR, other important measures will require primary data collection (e.g. provider and patient/user satisfaction) before the implementation. This will assist in measuring changes that the initiative aims to facilitate.

The initial implementation sites have been identified. PIN initiative core elements such the introduction of blended funded processes are targeted for introduction during the Spring of 2007. Given these milestone projections, it will be imperative that primary data collection commence in the winter of 2006/2007.

The practice and patient profiles for participating sites will need to be generated prior to April to allow the participating physicians to look at their baseline data when planning the implementation of the PIN at their clinics.

Appendix A - Indicator Definitions

Category	Indicator	Applicable Patient Population	Population/Condition Definition	Indicator Definition
Health Risk Identification				
	Tobacco use	Core Patients 12 years and over	Definition of Core Patient	% of patients screened for health risk over the past 12 months
	Unhealthy eating habits	Core Patients 12 years and over		% of patients screened for health risk over the past 12 months
	Problem drug use	Core Patients 12 years and over		% of patients screened for health risk over the past 12 months
	Physical inactivity	Core Patients 12 years and over		% of patients screened for health risk over the past 12 months
	Overweight status	Core Patients 12 years and over		% of patients screened for health risk over the past 12 months
	Problem alcohol drinking	Core Patients 12 years and over		% of patients screened for health risk over the past 12 months
	Unintential injuries (home risk factors)	Core Patients 12 years and over		% of patients screened for health risk over the past 12 months
	Unsafe sexual practices	Core Patients 12 years and over		% of patients screened for health risk over the past 12 months
	Unmanaged psychosocial stress and/or depression	Core Patients 12 years and over		% of patients screened for health risk over the past 12 months
Prevention				
	Screening: Pap every 2-3 years	Female core patients 18 years to 69 years		% of patients who received papanicolaou smear within past 3 years
	FOBT annually over 50 years	Core patients 50 years and over		% of patients who received screening with Hemoccult test within past 24 months
	Mammography	Female core patients 50 years to 69 years		% of patients who received mammography and clinical breast examination within past 24 months
	Lipids	Female core patients 55 years and over		% of patients who received a full fasting lipid profile within the past 24 months
	Lipids	Male core patients 40 years and over		% of patients who received a full fasting lipid profile within the past 24 months
	Blood sugar annually	Core patients 50 years and over		% of patients who had fasting blood sugar measured in past 24 months
	Childhood immunizations	Core patients 7 years and over		% of patients who have received required childhood immunizations by age 7
	Influenza vaccination rates	Core patients 65 years and over		% of patients who have received influenza immunization within past 12 months
	Pneumococcal vaccinations	Core patients 65 years and over		% of patients who have received a pneumococcal immunization
	Breast feeding support/counseling	Core patients who had a live birth		% of patients who received counselling on breast feeding, education programs and postpartum support to breast feeding [timeframe?]
	BP measured	Core patients 18 years and over		% of patients who had their blood pressure measured within the past 24 months
	Weight/exercise activity recorded	Core patients 12 years and over		% of patients who received specific help or information on regular physical activity within the past 12 months
	Smoking cessation advice given to smokers	Core patients 12 years and over who are smokers		% of patients who have received help or information to quit smoking within the past 24 months
Diabetes Management				
	Hgb Alc	Core Patients with Dx of Diabetes 18 years and over	Definition of dx of diabetes = at least two visits where billing was submitted with a dx of diabetes and a drug was prescribed	% of patients who received testing within the past 12 months

	Nephropathy screening (e.g. albumin/creatinine ratio, microalbuminuria)	Core Patients with Dx of Diabetes 18 years and over		% of patients who received testing within the past 12 months
	Fundoscopic exams	Core Patients with Dx of Diabetes 18 years to 75 years		% of patients who received testing who saw and optometrist or ophthalmologist with the past 24 months
	Foot exams	Core Patients with Dx of Diabetes 18 years and over		% of patients who received a microfilament foot exam for peripheral neuropathy
	Full fasting lipid profile screening	Core Patients with Dx of Diabetes 18 years and over		% of patients who received testing within the past 12 months
	BP measurement	Core Patients with Dx of Diabetes 18 years and over		% of patients who received testing within the past 12 months
	Obesity/overweight screening	Core Patients with Dx of Diabetes 18 years and over		% of patients who received testing within the past 12 months
Asthma Management				
	Use of preventive meds (inhaled steroids and Leucotriene antagonists)	Core Patients with Dx of Asthma 6 years to 55 years of age	Definition of dx of asthma = at least 2 visits where billing was submitted with a diagnosis of asthma and at least two prescriptions for asthma drugs (given at separate visits)	% of patients who were dispensed more than 4 cannisters of SABA within the past 12 months and received a prescription for preventer/controller medication
	ER visits	Core Patients with Dx of Asthma 6 years to 55 years of age		% of patients who visited an emergency dept. within the past 12 months
	Patients with self care plans	Core Patients with Dx of Asthma 6 years to 55 years of age		% of patients who have received a self-care plan (plan for medication adjustment in response to change in symptoms or Peal flow rate)
Congestive Heart Failure Management				
	ER visits	Core Patients with Dx of CHF 20 years to 75 years of age	Definition of dx of Congestive Heart Failure = at least two visits where billing was submitted with a diagnosis of CHF	% of patients who visited an emergency dept. for CHF within the past 12 months
	Patients weighed regularly			% of patients who received testing withing the past 12 months
	ACE inhibitor as first line treatment	Core Patients with Dx of CHF 18 years and over		% of patients using ACE inhibitor or ARBs
	Lipids	Core Patients with Dx of CHF 18 years and over		% of patients who received testing withing the past 12 months
	BP measurement	Core Patients with Dx of CHF 18 years and over		% of patients who received testing withing the past 12 months
	Blood sugar	Core Patients with Dx of CHF 18 years and over		% of patients who received testing withing the past 12 months
Hypertension Management				
	Fasting blood sugar	Core Patients with Dx of Hypertension 18 years and over	Definition of dx of hypertension = at least two visits where billing was submitted with a dx of hypertension and at least one prescription given for an antihypertensive drug	% of patients who received testing within the past 12 months
	Full fasting lipid profile screening	Core Patients with Dx of Hypertension 18 years and over		% of patients who received testing withing the past 12 months

	Test to detect renal dysfunction (e.g. serum creatinine)	Core Patients with Dx of Hypertension 18 years and over		% of patients who received testing withing the past 12 months
	BP measurement	Core Patients with Dx of Hypertension 18 years and over		% of patients who received testing withing the past 12 months
	Obesity/overweight screening	Core Patients with Dx of Hypertension 18 years and over		% of patients who received testing withing the past 12 months
Coronary Artery Disease Management				
	Fasting blood sugar	Core Patients with Dx of Coronary Artery Disease 18 years and over	Definition of dx of coronary artery disease = at least one visit where billing was submitted with a dx of CAD and at least one presciption was given for a drug related to treatment of CAD	% of patients who received testing withing the past 12 months
	Full fasting lipid profile screening	Core Patients with Dx of Coronary Artery Disease 18 years and over		% of patients who received testing withing the past 12 months
	BP measurement	Core Patients with Dx of Coronary Artery Disease 18 years and over		% of patients who received testing withing the past 12 months
	Obesity/overweight screening	Core Patients with Dx of Coronary Artery Disease 18 years and over		% of patients who received testing withing the past 12 months
	Lipid reduction counselling	Core Patients with Dx of Coronary Artery Disease 18 years and over		% of patients with LDL > 2.5mmol/L who were offered advice on lifestyle and/or lipid-lowering medication
	Beta blockers	Core Patients who have had an acute MI		% of patients currently prescribed a beta blocking drug
Mental Health				
	Patients starting antidepressants and seen within 2 weeks for monitoring	Core Patients with Dx of Depression	Definition of dx of depression = at least one visit where billing was submitted with a dx of depression and treatment was given at the same visit	% of patients who are taking antidepressant drug treatment under the supervision of a PHC provider and had follow-up contact by a PHC proviers for review within 2 weeks of initiating treatment
		Core Patients with Dx of Depression 18 years and over		% of patients who were offered treatment (pharmacological or non-pharmacological) or referral to a mental health provider
		Core Patients with Dx of Panic Disorder or Generalized Anxiety Disorder 18 years and over		% of patients who were offered treatment (pharmacological or non-pharmacological) or referral to a mental health provider