



A Matrix Approach to Primary Care Performance Measurement: Developing a High Quality Information System Aligned with Modern Primary Care Practice

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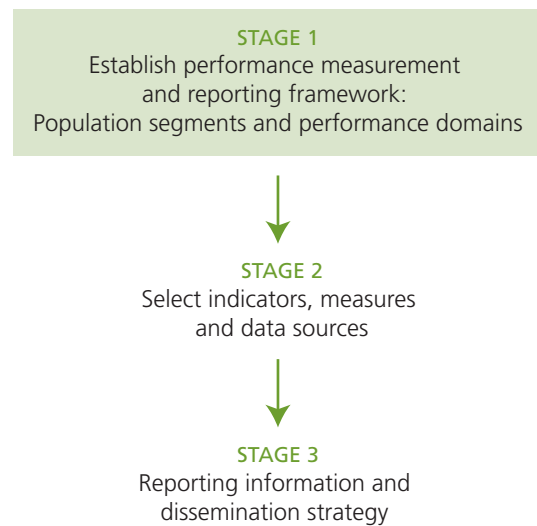
Workshop Summary

On June 24, 2015, we held a face-to-face workshop to seek input from 30 stakeholders on the most appropriate (1) **patient populations** and (2) **performance domains** to measure the functioning of primary care. Our purpose was to gain insights from patients, policy makers, clinicians, researchers and health system managers on tailoring a framework for an information system on the functioning of primary care to the BC setting. This document summarizes key considerations raised by workshop participants during small group exercises and larger group discussions.

Stakeholders from the following organizations attended the workshop: Patient Voices BC; Western Office of the Canadian Institute of Health Information (CIHI); BC Ministry of Health; Doctors of BC (the BC Medical Association); Society of General Practitioners of BC; Physicians Data Collaborative; Divisions of Family Practice; and BC’s regional health authorities.

The focus of the workshop was to establish a framework to form the basis of an information system on primary care specific to BC. Other tasks such as indicator selection will follow from this work (Figure 1).

Figure 1 Stages of performance measurement and reporting



A generic matrix (Figure 2) was used to illustrate the approach and participants were asked to think about tailoring this approach to for the BC setting (i.e., to populate something along the lines of Figure 3).

- The proposal is for an approach designed to deliver comprehensive and actionable performance information according to widely accepted core domains of primary care as well as different patient population groups.

- This work builds upon previous conceptualizations of primary care and has the goal of accurately presenting information on performance across the multiple domains that primary care systems encompass, with a specific focus on patient groups and their primary care needs.

Figure 2 Example primary care performance measurement matrix

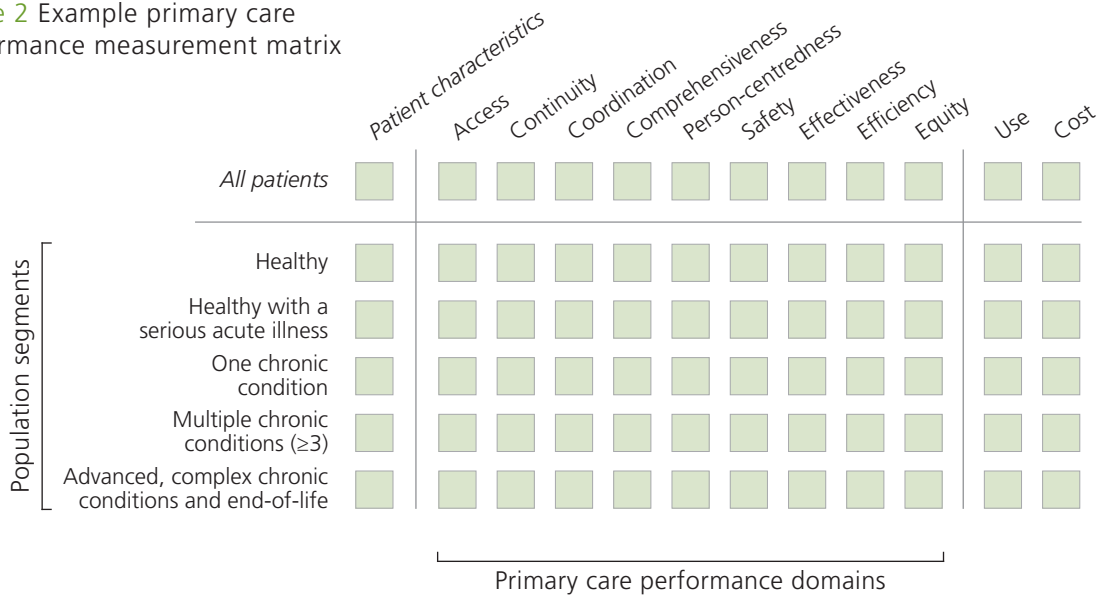
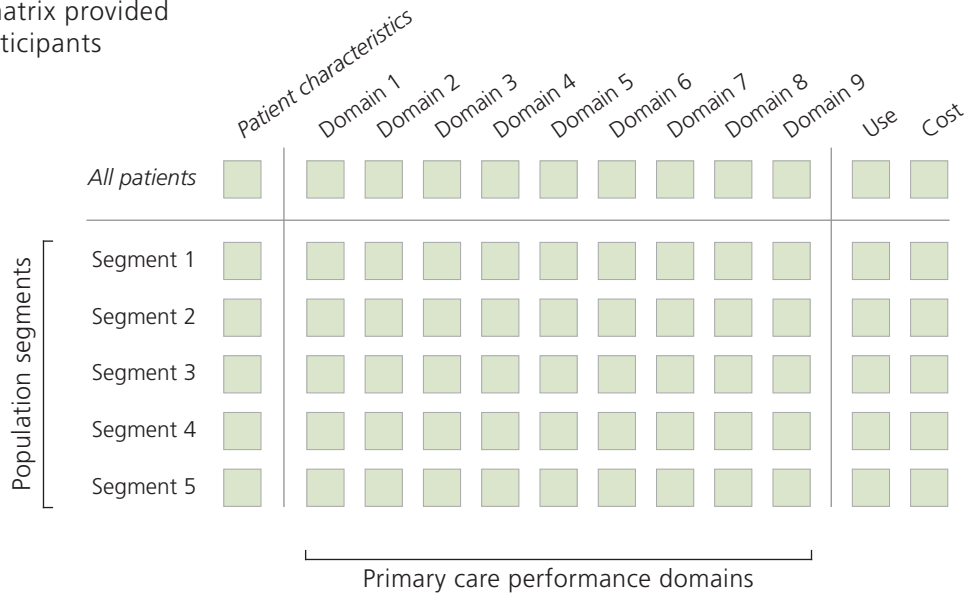


Figure 3 Blank matrix provided to workshop participants



Considerations for the framework: Population segments and domains of primary care quality

Determining the population segments

Workshop participants were divided into five working groups for this exercise. Each group included representation from different stakeholder types.

Each working group produced different selections of population segments; however, there were several common themes and considerations.

- The term/segment “healthy non-user” was deemed a misnomer** as one cannot determine if a patient is healthy if they do not access health care services (i.e., patients may be sick but not have access to primary health care). This issue relates to the question of whether the population segments should be defined prospectively (based on expected primary care needs/use) or retrospectively (based on health care utilization). The case of the “healthy non-user” category demonstrated that utilization is not sufficient to determine the population segments; however, many groups identified utilization as one of several factors to consider alongside other factors such as value, patient need and clinical complexity. In other words, there was general consensus that utilization is better identified as an outcome than as a way to categorize people.
 - There was general consensus that **pregnancy/maternal health is not a disease** and should not be a separate segment but part of the “healthy” patient group.
 - Mental health problems and substance abuse** were identified as important categories or modifying factors that were difficult to classify.
- Some groups suggested that patients with these diagnoses could be looked at separately from patients with other chronic and acute conditions whereas others suggested that mental health issues be considered in the context of other health care needs.
- All groups mentioned the importance of **incorporating ‘modifiers’ or ‘risk factors’** that cut across the clinical characteristics of all population segments. The specific terminology and factors varied by group but included the following: patient lifestyle factors (e.g. smoking, exercise); socioeconomic status; geography (residence and location of health care services); patient functional status; appropriate and inappropriate use (e.g. non-users whose poor health and lack of use places them at risk, and users who are engaging with the system more than they should); frailty; patient reported outcomes; genetic factors; and substance abuse. To this end, some groups mentioned that **the framework should be three-dimensional**, with ‘modifiers’ cutting across the population segments and performance domains.
 - Cancer patients could be treated as a separate segment**; however, there was no consensus on how this segment would be formed (e.g., cancer patients as a separate segment in the first two years following diagnosis). On the one hand, some groups suggested cancer patients should be a separate segment by virtue of service delivery in BC, as cancer services are run by a separate agency. On the other hand, when discussion was around conceptualizing cancer patients’ trajectory of health service use or needs, there were mixed views on whether ‘cancer’ signals something specific (and distinct from other chronic diseases). While primary care

involvement in cancer care may be minimal at certain times in the treatment pathway (i.e. the first year after diagnosis), primary care may have an important role in management, monitoring, and survivorship care (similar to other chronic diseases).

A few concepts raised only by one or two of the small groups warrant further consideration. First is the degree of patient self-management that is possible and/or the role of primary service providers. Depending on the health of an individual patient, primary care involvement can range from the need for a single provider, to needing input from a care team, to a team as essential for management. For example, healthy patients are largely self-managed and could be managed by a single provider; whereas, highly complex patients require high continuity and the engagement of a primary care team that includes a range of clinicians (family physician, allied health, method for communication across acute and primary care). This consideration was endorsed as important when raised during the plenary discussion.

Second, chronic conditions were approached differently, with some groups deciding to group patients with all chronic conditions into one segment while others suggested grouping by patient self-management (i.e., capable of self-management vs not capable). The plenary discussion tended to focus around issues of provider involvement in care rather than specific criteria for determining population segments for chronic conditions (e.g., what conditions had similar primary care needs, how to rate the complexity of various conditions). This is an area that will need further discussion given that in some practices, these patients are the biggest users of primary care services.

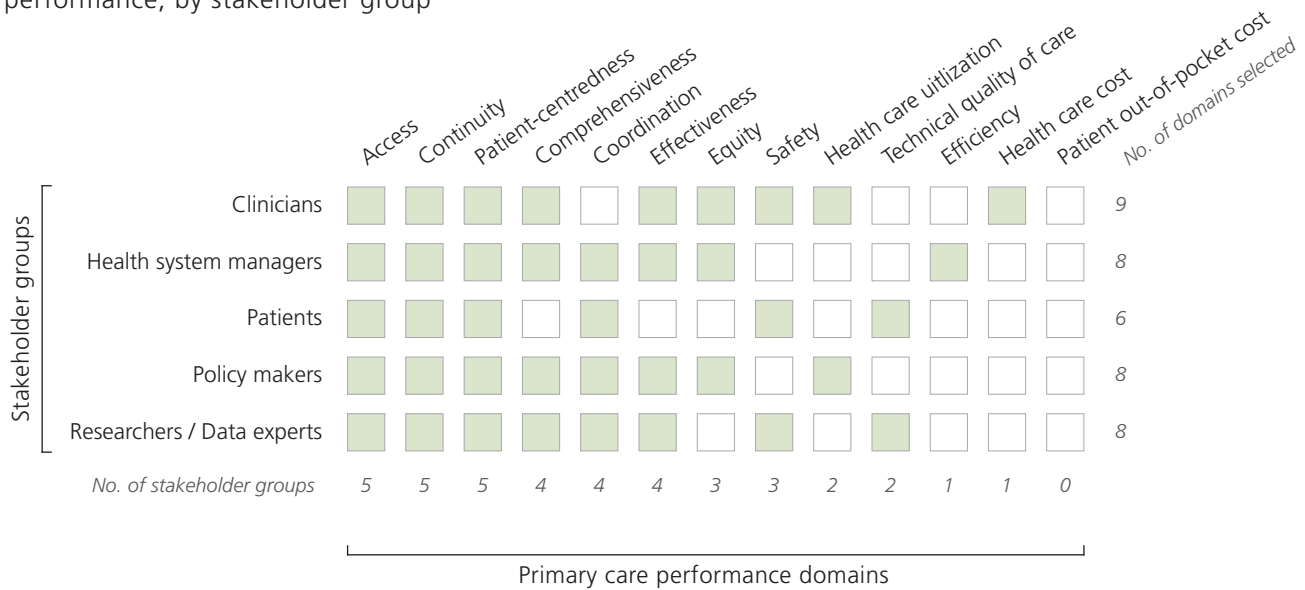
Determining the most important primary care domains

Workshop participants were divided into five homogeneous stakeholder groups for this exercise.

Some groups raised concerns about being asked to choose only five domains of primary care quality, as omission of certain domains would not necessarily indicate that those domains were not important. For example, health care costs were not in the top five for any group, yet all recognised the importance of keeping track of budgets and determining health care efficiency. Similarly, health care utilization was only in the top five for one group, yet others acknowledged the importance of this in an information system and recognized that it was often neglected. Some groups chose to combine domains (e.g., continuity and coordination were combined by the patient and policy maker groups). Some participants indicated that they needed more time to complete this exercise and some would have liked the opportunity to change the definitions of the various domains provided to them. Despite this, there was significant agreement across the groups in terms of the top ranked performance domains (Figure 4).

All of the five groups selected the following domains: patient centredness, access, and continuity (sometimes combined with coordination). Three of five groups ranked equity as being important, and the relationship between equity and 'risk modifiers' was reiterated. The domains of safety, technical quality of care and effectiveness were mentioned as important, however some groups reported seeing these domains as overlapping.

Figure 4 Most commonly endorsed domains to measure primary care performance, by stakeholder group



Considerations for making the framework a reality

The importance of local level implementation

While the purpose of the workshop was to gain insight from those closest to primary care on ways to tailor an information and reporting system to the BC setting, the importance of more nuanced local level implementation was mentioned several times. For example, considering where primary care starts and ends in the context of the health care system may vary at the local level depending on service provision and geographical location (metropolitan vs. rural).

At what level? Practice- versus system-level reporting

There was ongoing discussion about practice- versus system-level information with some participants asserting that information needs to be specifically tailored for different levels whereas others saw system-level as an aggregate of practice-level information. Some participants (predominantly clinicians) questioned whether the matrix approach

was granular enough for practice level reporting; clinicians may want to know more than performance across several larger groups, for example. To address this concern, one suggestion was that information could be tailored for different purposes with the amount of detail reduced as data are aggregated, i.e., practice-level metrics, system-level dashboards, and population-level scorecards.

Agreement on performance domains: An opportune starting point

The general agreement across stakeholders regarding domains of primary care quality was regarded as an opportunity to set up a common culture for the information system. Next steps were identified as choosing meaningful metrics for different stakeholder groups and their needs (i.e., what the information will be used for). However, the point was raised that without information about context at the local-level, indicators are not sufficient to tell the story of primary care functioning.

What the information system should look like

While it was not the primary focus of the workshop, there was some discussion about infrastructure requirements for building a meaningful and user friendly information system specific to primary care in BC (i.e., the required capabilities of the information system that would stem from this work).

- The goal of the system should be to support providers.
- The system would need to be interactive, provide timely information, and have a mechanism for feedback.
- It would be ideal if the information system could allow for learning about the health care system as part of routine practice.
- The information system should provide data for action and needs to be flexible.

It was advised that it would be important to start with what can be measured and build capacity as data infrastructure and measures evolve, rather than waiting until the perfect data or measures are available. At the same time, there was consensus that the framework should reflect aspirations as well as current reality, i.e., that there should be placeholders where information is important but not currently available.

Next steps

What do we plan to do with the information generated during the workshop?

A diversity of opinions were raised in this workshop. Given the theoretical nature of the small working group exercises, and their intent as a starting point, it was never imagined that a final framework would be the outcome of this workshop. Instead, the principles and issues raised by meeting participants are valuable information that will be used to formulate next steps.

We will commence data analysis

We will use the synthesis as described above to guide an initial attempt at operationalizing population segments with BC health administrative data holdings. We will also use the priority measurement domains as a starting point for indicator selection. This practical work will then form the basis of ongoing conversations with a smaller reference group of representative individuals self-selected from the larger group of participants, and ultimately a subsequent reconvening of the larger group (see Summary Box, next page).

We will develop a prototype interactive information system

We will develop a sample interactive dashboard to display the data and seek input from representative individuals. We expect this will be an iterative and consultative process.

Finally, we will be asking meeting participants to 'opt in' to being kept informed of updates of this work and may also ask for intermittent advice (updates will likely be quarterly).

Summary of next steps

We aim to complete tasks 1 through 5 (or 6) in the next 12 months, pending ongoing funding.

1. Operationalize population segments and show size and health care utilization (costs) associated with different permutations.
2. Choose candidate indicators for priority measurement domains.
3. Consult health informatics experts about the logistics and data model needed to make an interactive data tool that accommodates the suggested “three-dimensional” approach. Build a prototype that is flexible, online, and adaptive.
4. Engage with smaller stakeholder groups for input on tasks 1 through 3.
5. Refine segments, indicator selection and interactive data tool as required.
6. Reconvene larger group to gain input on progress.
7. Refine based on feedback and develop a plan to gain input from a much larger community.
8. Build interactive data tool into practice.

Acknowledgements

The origin of this workshop was a pan-Canadian CIHR/Michael Smith Foundation grant (PI Sabrina Wong), the purpose of which is to develop comprehensive ‘portraits’ (or information systems) of primary care performance in BC, Nova Scotia, and Ontario. For more information on this grant please visit <http://www.transformationphc.ca/>

The BC component of this work was set to focus on the Fraser East Region. This workshop represents the first stage of expanding this work beyond Fraser East to make this a provincial initiative. This workshop was funded by the Institute for Health System Transformation & Sustainability: <http://ihsts.ca/>



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