

# Team-based care Evaluation and Adoption Model (TEAM) Framework

## Supporting the comprehensive evaluation of primary care transformation over time

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### Abstract

**Objective** To introduce the new Team-based care Evaluation and Adoption Model (TEAM) Framework.

**Quality of evidence** The initial TEAM Framework was derived from a series of reviews and consultations with academic and clinical experts. In a parallel process, team-based primary and community care evaluation in Canada was assessed through a structured review of academic literature, followed by a review of policy literature of existing primary care evaluation frameworks.

**Main message** The review of academic articles alongside an analysis of policy documents and existing evaluation frameworks in primary care resulted in the development of the 10-dimension TEAM Framework.

**Conclusion** Primary care transformation requires evaluation over time. The TEAM Framework provides a comprehensive framework for assessing evidence needed to support short- and long-term actionable improvements for team-based primary and community care in Canada. This framework will inform the development of an evaluation tool kit for primary care teams.

### Editor's key points

- ▶ Primary care transformation in Canada has been positioned as the way to address increasing costs, improve access to primary care providers, and address changing population needs.
- ▶ However, primary care transformation requires evaluation, both formative and summative, over time. To date, there has been little focus on comprehensive evaluation of transformation efforts in the context of team-based primary and community care.
- ▶ The new Team-based care Evaluation and Adoption Model Framework described in this article provides a comprehensive framework for assessing evidence needed to support short- and long-term actionable improvements for team-based primary and community care in Canada.

### Points de repère du rédacteur

- La transformation des soins primaires au Canada a été positionnée comme étant la façon de s'attaquer à l'augmentation des coûts, d'améliorer l'accès aux professionnels des soins de première ligne et de répondre aux besoins changeants de la population.
- Par ailleurs, la transformation des soins primaires exige une évaluation au fil du temps à la fois formative et sommative. Jusqu'à présent, l'évaluation exhaustive des efforts de transformation dans le contexte des soins primaires et communautaires en équipe a suscité peu d'intérêt.
- Le nouveau cadre modèle d'évaluation et d'adoption des soins en équipe TEAM (Team-based care Evaluation and Adoption Model) décrit dans cet article présente un ensemble complet de paramètres pour évaluer les données factuelles nécessaires pour appuyer des améliorations réalisables à court et à long terme dans les soins primaires et communautaires en équipe au Canada.

# Cadre modèle d'évaluation et d'adoption des soins en équipe (TEAM)

## Soutenir l'évaluation exhaustive de la transformation des soins primaires au fil du temps

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### Résumé

**Objectif** Présenter le nouveau cadre modèle d'évaluation et d'adoption des soins en équipe TEAM.

**Qualité des données** Le cadre TEAM initial était dérivé d'une série de revues, et de consultations avec des experts scientifiques et cliniques. Dans un processus parallèle, l'évaluation des soins primaires et communautaires en équipe au Canada a été analysée au moyen d'une revue structurée des ouvrages scientifiques, suivie par un examen de la documentation sur les politiques dans les cadres existants d'évaluation des soins primaires.

**Message principal** La revue des articles scientifiques, et l'analyse des documents sur les politiques et des cadres d'évaluation existants en soins primaires se sont traduites par l'élaboration du cadre TEAM en 10 dimensions.

**Conclusion** La transformation des soins primaires demande une évaluation au fil du temps. Le cadre TEAM offre un cadre complet pour évaluer les données factuelles voulues pour appuyer des améliorations réalisables à court et à long terme dans les soins primaires et communautaires en équipe au Canada. Ce cadre documentera l'élaboration d'une trousse d'outils d'évaluation à l'intention des équipes de soins primaires.

Primary care transformation in Canada has been positioned as the way to address increasing costs, improve access to primary care providers, and meet changing population needs.<sup>1</sup> The Quadruple Aim has frequently been used as a framework for optimization of health system performance in 4 areas of focus: improving the health of populations, enhancing patient experience of care, enhancing provider experience, and reducing per capita costs of health care.<sup>2,3</sup>

In the published literature, there is widespread recognition of the potential of team-based primary and community care (TBPCC).<sup>4-8</sup> Some studies have shown that TBPCC practices provide more appropriate care to their patients,<sup>8-10</sup> with improved comprehensiveness, coordination, and efficiency of care,<sup>10,11</sup> and lower burnout rates for providers.<sup>12</sup> Previous studies of the transition to team-based practice have identified key change concepts for practice transformation: empanelment (attachment of patients to primary care providers); continuous and team-based relationships (linking patients to both providers and care teams, and support for longitudinal relationships); patient-centred interactions; engaged leadership; quality improvement strategies; enhanced access; care coordination; and evidence-based care.<sup>1,8,9,13</sup>

The Patient's Medical Home (PMH) model is a building block of TBPCC in Canada, and has been launched, with variation, in multiple jurisdictions across North America.<sup>11,13-15</sup> The College of Family Physicians of Canada defines the *Patient's Medical Home* as the place patients feel most comfortable presenting and discussing their personal and family health and medical concerns.<sup>14</sup> The PMH model is defined by a framework that includes foundations (appropriate infrastructure, connected care, administration of funding), functions (comprehensive team-based care with family physician leadership; community adaptiveness and social accountability; accessible care; patient- and family-centred care; and continuity of care), and ongoing development (measurement and continuous quality improvement and research, as well as training, education, and continuing professional development). Despite the widespread use of the language of PMHs and the creation of high-level implementation guides,<sup>14</sup> there has been little focus on comprehensive evaluation in the context of TBPCC.

There are few models for evaluation that can both assess existing TBPCC and guide improvement. Those in use are often regionally specific (eg, Ontario's family health team model, implemented in 2005).<sup>16</sup> Transformation of health systems is complex<sup>17,18</sup> and progress in Canada varies from province to province.<sup>19-21</sup> Dr Julia M. Langton and colleagues emphasize the importance of congruence between "a primary care performance measurement system and accepted conceptual frameworks that articulate important features of high-quality primary care systems."<sup>18</sup> This article

presents the Team-based care Evaluation and Adoption Model (TEAM) Framework as a coordinated approach to evaluation and an umbrella under which key principles can be standardized.

## Objective

The TEAM Framework was developed to provide a comprehensive, evidence-based structure to guide planning and evaluation in primary care for regions and jurisdictions that are adopting or enhancing TBPCC. To reach the goal of creating an evidence-informed framework to guide TBPCC planning, adoption, and evaluation, a multi-method, iterative approach was undertaken (**Figure 1**).

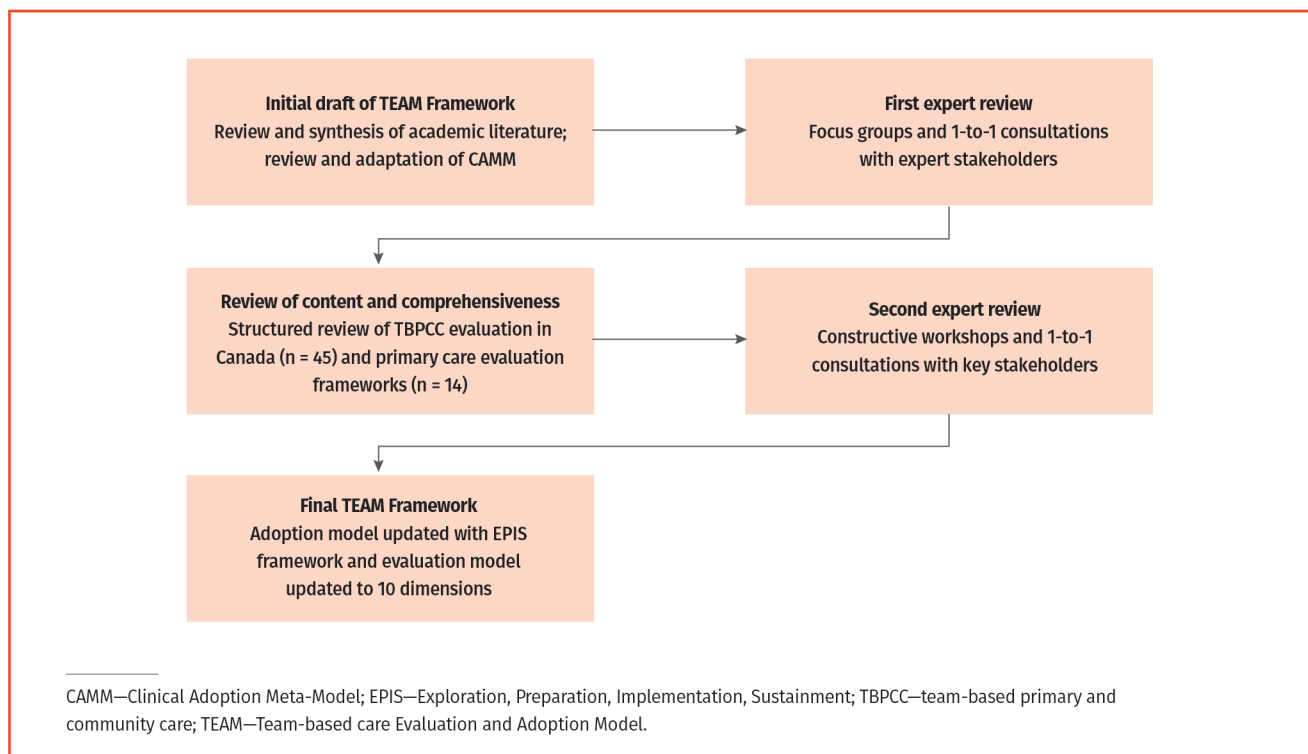
## Quality of evidence

**Initial draft of the TEAM Framework.** We first conducted a rapid review and synthesis of peer-reviewed academic literature related to team-based primary care and evaluation using MEDLINE (Ovid and PubMed) and then conducted an advanced search with Google Scholar (limited to title field only) using the search terms *primary care* and *evaluation* and *team* or *team-based care*. These initial reviews informed the development of a draft 8-dimension evaluation model, built against the backdrop of the World Health Organization (WHO) partnership pentagon,<sup>22</sup> which defines key partners to engage in health systems transformation.

To encourage thinking about the evolution of indicators and outcomes over time in primary care evaluation, we developed an adoption model parallel to the evaluation model, as part of the TEAM Framework. The adoption model focuses on the context of primary care transformation and was adapted from the Clinical Adoption Meta-Model, a temporal model that was developed to describe processes and possible challenges with clinical adoption and decision making.<sup>23</sup>

**First expert review.** Following initial development, the TEAM Framework was reviewed by a focus group and through 1-to-1 consultations with expert stakeholders in British Columbia (BC). Stakeholders were identified through evaluation working groups at the BC Ministry of Health, the Department of Family Practice at the University of British Columbia (UBC) in Vancouver, and the UBC School of Population and Public Health, and included policy makers, TBPCC project leaders in communities, and researchers with relevant expertise.

**Review of content and comprehensiveness.** To further confirm the content and comprehensiveness of the TEAM Framework, we engaged in 2 additional literature reviews. The first was a structured review of peer-reviewed literature, registered using the Covidence platform and focused on the current state of evaluation of TBPCC in Canada. We reviewed the MEDLINE (Ovid and PubMed), CINAHL, Embase, SPORTDiscus,

**Figure 1.** TEAM Framework development process

and PsycInfo databases, and did an advanced search with Google Scholar (title field only) with the search terms *Canada* and *primary care* and *team*. We excluded reviews, opinion papers, laboratory-based studies, and studies based outside of Canada. Forty-five publications met our inclusion criteria. These articles were then mapped to the Quadruple Aim and to the initial TEAM Framework to ascertain the aspects of TBPCC that are currently being evaluated in Canada and where they fit in the initial framework.

We then conducted a review of gray literature (provincial, national, and international policy documents), using the general search terms *primary care* and *evaluation* and *framework*, as well as *province* and *primary care* and *evaluation* and *policy*, to develop a list of primary care evaluation frameworks that are currently being used to support evaluation in Canada and internationally. Our search resulted in a list of 14 frameworks, which we narrowed down to 10 after excluding frameworks that did not include enough detail or referred only to specific subpopulations.<sup>3,7,9,14,24-29</sup> These 10 frameworks were analyzed and compared to develop a list of key areas that have typically been included in primary care evaluation. The key areas were then mapped to the initial TEAM Framework to ensure the framework was comprehensive.

**Second expert review.** The framework then went through several revisions with the authors and other

expert collaborators from the stakeholder groups identified in the WHO partnership pentagon,<sup>22</sup> to clarify the aspects included in the evaluation model and refine the dimension definitions. Stakeholder groups included primary care providers, academics with expertise in primary care evaluation, and policy makers. A series of constructive workshops and 1-to-1 consultations were conducted with key stakeholders, designed to engage participants in confirming definitions and assessing the comprehensiveness of the framework. This phase also included additional framework mapping by the authors and research team.

**Final TEAM Framework.** The framework mapping process and second round of expert review led to the addition of 2 dimensions to the evaluation model that had previously been incorporated in other dimensions, resulting in a 10-dimension model. The adoption model was also expanded to incorporate the EPIS (Exploration, Preparation, Implementation, Sustainment) framework.<sup>30</sup> The EPIS framework has been widely applied in implementation research<sup>30,31</sup> and provides a comprehensive framework that explores the fit between evidence-based practice, innovation, and the settings in which innovations occur.<sup>31</sup>

**Ethics approval.** Discussion with the UBC Office of Research Ethics confirmed that research ethics board approval was not required.

## Main message

The TEAM Framework incorporates a 10-dimension evaluation model (**Figure 2**) and an adoption model (**Figure 3**) to evaluate TBPCC. Together, these models comprise the TEAM Framework.

The 10 dimensions of the evaluation model are as follows: relationship-centred care, patient experience, provider experience, team function, quality-of-care process, capacity and access, TBPCC foundations, governance and accountability, health of the population, and health care costs. The definitions of each dimension are outlined in **Table 1**,<sup>3,7,9,14,24-29,32-38</sup> while descriptions of the aspects included in each dimension can be found in the supplementary material, available from **CFPlus**.\*

The transformation of primary care is a process that occurs over time and requires a focus on formative evaluation (early-stage evaluation, creating opportunities for feedback, learning, and iterative improvements) as well as summative evaluation (longer-term and bigger-picture outcome-focused evaluation). Assessing the long-term benefits of systems change requires 5 to 10 years<sup>17,39</sup>; however, shorter-term evaluation is needed to

support decision makers, continuous quality improvement, adaptation, and the flexibility to ensure the process is relevant to specific contexts and communities. In the context of considering change in complex systems, Drs Morgan Price and Francis Lau highlight that adoption models

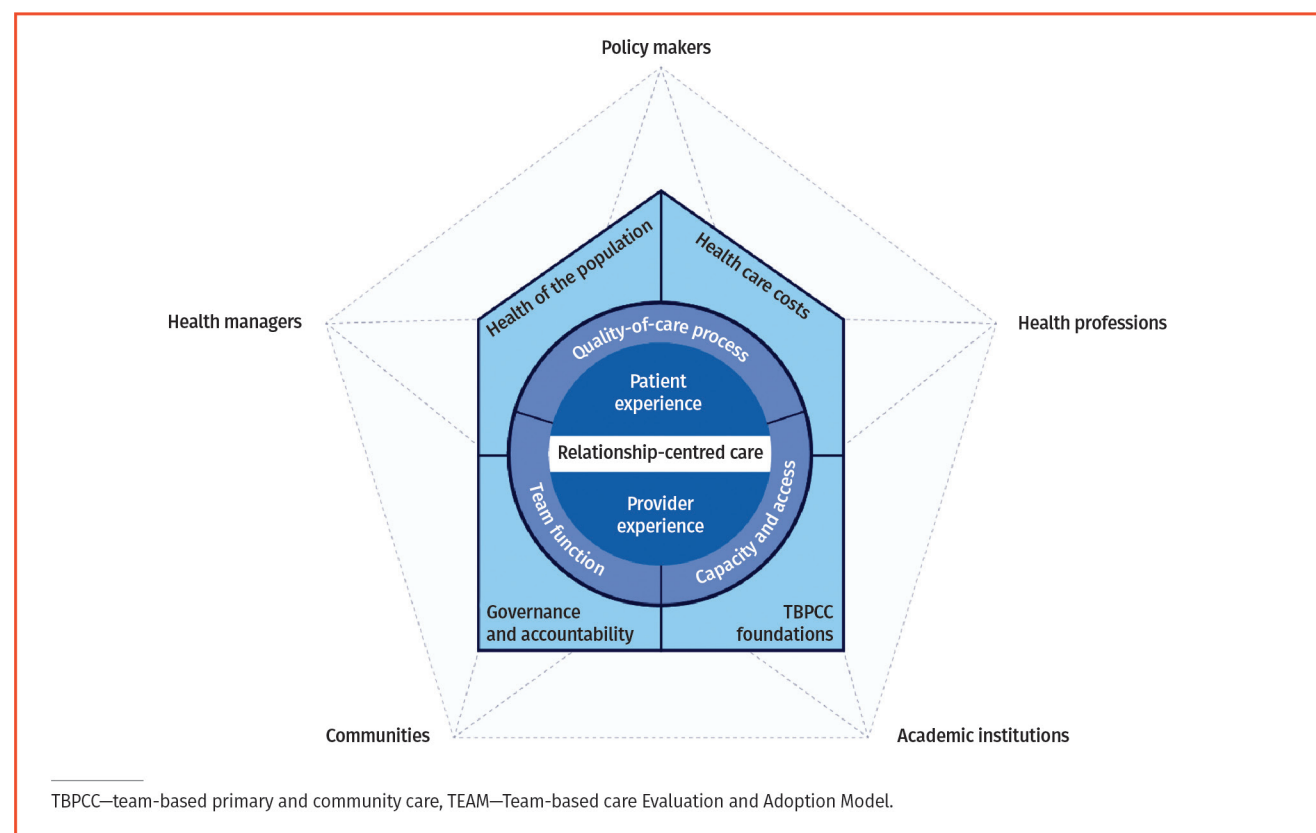
have a number of common features ... a) they describe a number of dimensions related to adoption; b) they are designed for a specific audience; [and] c) they allow for variability in assessment.<sup>23</sup>

The TEAM Framework includes an adoption model to encourage thinking on the evolution of indicators over time, from measuring baseline and early intention to change, through to observable behaviour and, finally, long-term outcomes (**Figure 3**).

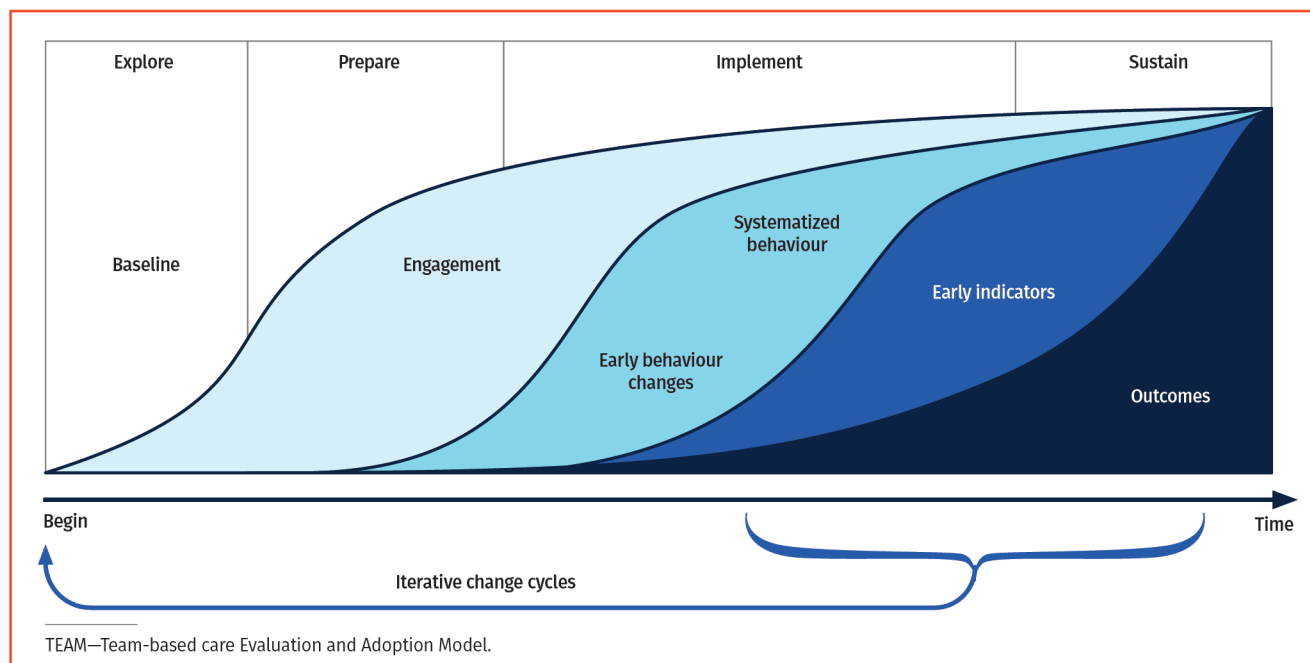
The goal of the adoption model is to support meaningful evaluation in TBPCC projects throughout their life cycle so that evaluation informs the change, identifies unintended consequences, and guides meaningful continuous quality improvement. The adoption model highlights that timing for different indicators is important and that we should not be looking for long-term outcomes in the first weeks following implementation.

\*The **supplementary material** is available from [www.cfp.ca](http://www.cfp.ca). Go to the full text of the article online and click on the **CFPlus** tab.

**Figure 2. Evaluation model of the TEAM Framework**





**Figure 3.** Adoption model of the TEAM framework

While 1 set of curves is shown in **Figure 3**, adoption is more iterative, so some elements of TBPCP may be implemented at different rates; therefore, flexibility in evaluation is important.

Considering where a team is along the stages of adoption (eg, exploring, planning, implementing, sustaining) and applying the adoption model to evaluation planning and quality improvement efforts across each of the evaluation model's dimensions will support the comprehensive planning and implementation of evaluation at both a practice and systems level, across dimensions that are relevant and feasible to measure.

**Next steps.** We are currently working with communities and jurisdictions across BC on the application of the framework. Next steps are as follows: develop and validate (with expert stakeholders, in line with the WHO partnership model<sup>22</sup>) the indicators for each dimension of the framework; review and adapt existing tools to support the comprehensive measurement of each dimension that meets community needs; and pilot the recommended tools in communities. The TEAM Framework provides a model to support the development of comprehensive evaluation plans for communities engaged in primary care transformation.

## Conclusion

This article shares the new TEAM Framework, which has been developed through a synthesis of international evaluation models and Canadian evaluation studies in primary care. The review process that informed the development of the TEAM Framework highlighted 10 key dimensions that need to be considered in the assessment

and evaluation of shorter- and longer-term outcomes of the transformation of primary care and transition to team-based care. The evidence clearly underscores the value of relationships, visionary leadership, efforts to support enhanced collaboration, shared understanding, and clear communication in the transition to TBPCP. By encouraging a focus on formative as well as summative evaluation, the TEAM Framework provides a comprehensive approach to assessing the evidence needed to support actionable improvements for TBPCP in Canada and is currently informing the development of an evaluation tool kit for primary care teams in BC.

A key strength of the TEAM Framework is the iterative process that has resulted in its development. Over the course of its development, a number of experts, as well as communities engaged in primary care transformation efforts in BC, have had the opportunity to work with and provide feedback on the development of the framework. This review process has been limited to those working in the BC context, and the structured review of evaluation of team-based care in primary care that was conducted as part of this work was focused specifically on the Canadian context. Future work in this area could include validation of the framework in international contexts.

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**Table 1. TEAM Framework evaluation model dimensions**

| DIMENSION AND ASPECTS*  | DEFINITION  |
|---|---|
| Relationship-centred care<br>• Aspects: continuity; cultural safety; patient, family, and relationship centredness  | Central to the framework. Assesses the quality and continuity of a therapeutic relationship between health care providers and patients. It focuses on person- and family-centredness, <sup>14</sup> and on providing culturally safe, <sup>32</sup> whole-person care over the short and long terms. <sup>7,9,25-29</sup> Numerous studies have shown associations between relationship-centred care and improved patient outcomes <sup>33-36</sup>   |
| Patient experience†<br>• Aspects: patient perception of care, patient empowerment and activation  | The patient's and family's subjective experience of the care they receive. This dimension encompasses experiences with the care team and clinic facilities. It includes aspects such as patient perception of access to care; relationships with and trust in health care providers; respect and dignity; and patient empowerment and activation. <sup>3,9,14,25,26,33</sup> In a systematic review Doyle et al found a strong correlation between patient experience of care and clinical safety and effectiveness <sup>37</sup>   |
| Provider experience†<br>• Aspects: provider experience of work and care   | The subjective experiences of individual providers in the team about their work. This dimension includes the delivery of care to patients, interactions with their work environment, their individual role within the team, and their work-life balance, which may be reflected in career satisfaction and professional morale. <sup>3,25,28</sup>  |
| Team function<br>• Aspects: team training, communication, information systems   | This dimension comprises the structure and operation of a team; the interactions of team members; and the additional supports (including practice facilitation, information systems, team training, and leadership) that contribute to comprehensive, coordinated care. <sup>9,24,25,27</sup> The dimension is broadly focused on communication and relationships within the team and includes team behaviour that can be observed and measured. <sup>7,38</sup>  |
| Quality-of-care process<br>• Aspects: care effectiveness, quality improvement activities, care safety   | The assessment of primary care services that are actively provided by teams to patients in communities. This dimension focuses on continuous quality improvement in primary care teams and the provision of comprehensive services and safe, high-quality care for the management and control of disease. <sup>7,9,14,25-29</sup>   |
| Capacity and access<br>• Aspects: comprehensive services, equitable access, service accessibility, team capacity  | Includes geographic access, organizational access, and responsiveness, where all people in a community have equitable access to high-quality care. <sup>7,26-29</sup> The dimension focuses on the accessibility and capacity of primary care teams <sup>27</sup> and the ability of a practice to provide comprehensive and coordinated care. <sup>9,26,27</sup> It incorporates the ideals of advanced and timely access, including the provision of extended hours and same-day access to urgent care, as well as virtual access to care when needed. <sup>7,9,14,24-26</sup>  |
| TBPCC foundations<br>• Aspects: care coordination, clinical infrastructure, work force capacity, education, funding   | Features of the team, community, and supporting organizations that enable effective TBPCC. It includes both micro (clinic level) and macro (jurisdictional level) foundational aspects. It relies on opportunities for interdisciplinary education; strategies to support work force capacity; provision of clinic-level infrastructure; and appropriate funding for equipment, supplies, facilities, and information systems. <sup>7,14,24-29</sup> Additionally, it requires strong connections across the health system to provide optimal service-level coordination of care between primary care and other secondary services. <sup>7,9,14,24-29</sup> |
| Governance and accountability<br>• Aspects: evidence-based decision making, system leadership and management, monitoring and evaluation, stakeholder engagement | Includes the development of a shared long-term vision that facilitates the alignment of evidence-based policy planning to support and strengthen primary care services. <sup>27</sup> It relies on appropriate leadership and management structures, and evidence-based research and evaluation to track progress, engage stakeholders, inform policy, and focus investment to achieve desired health outcomes. <sup>24,26-29</sup>   |
| Health of the population†<br>• Aspects: health outcomes, attachment, responsive community services  | Focuses on the population of people served by the team and includes the assessment of broader health systems use measures, determinants of health, and health outcomes for that population, whether care is accessed or not. <sup>3,9,27,29</sup> As it is focused on the health of the population served by the team, it includes attachment <sup>7,9,24,26</sup> and the extent to which services are responsive to the needs of the community that the team is intended to serve. <sup>14,26</sup> In comparison, population health in the Quadruple Aim focuses on longer-term health outcomes at a societal level. <sup>3</sup>                        |
| Health care costs†<br>• Aspects: care cost-effectiveness  | The tracking and analysis of costs associated with individual patients as well as broader, systems-level costs that are influenced by the move to TBPCC. It reflects total health care spending per person and includes facility and operational costs, direct service costs, medication costs, and both hospital and ED use rates and costs. <sup>25,27-29</sup> It is a component of the Quadruple Aim, <sup>3</sup> with a focus on achieving desired results with the most cost-effective use of resources. <sup>3,26</sup>   |

ED—emergency department, TBPCC—team-based primary and community care, TEAM—Team-based care Evaluation and Adoption Model.

\*For aspect definitions, please see the supplemental material available from CFPlus (go to the full text of the article online at [www.cfp.ca](http://www.cfp.ca) and click on the CFPlus tab).

†Component of the Quadruple Aim.<sup>3</sup>

## Contributors

All authors contributed to the literature review and interpretation, and to preparing the manuscript for submission.

## Competing interests

None declared

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