

# **Optimal Screening Approaches**

COORDINATING OPTIMAL SCREENING PROGRAMS IN CANADA: A MULTIFACETED APPROACH

#### ERIC CHEN¹ AND HAMZA QAMAR²

Bachelor of Health Science (Honours), Class of 2015 <sup>2</sup>Bachelor of Science, Biology (Honours), Class of 2017 McMaster University

Correspondence: eric.chen3742@icloud.com and gamarh@mcmaster.ca

The McMaster Health Forum strives to be a leading hub for improving health outcomes at the regional and provincial level in Canada. Through problem-solving and discussion, they harness information, convene stakeholders, and prepare action-oriented leaders to meet pressing health issues creatively.

#### INTRODUCTION

Disease screening is the process of testing asymptomatic individuals for the risk or presence of disease.1 However, the advent of advanced screening technologies in recent decades poses a challenge to the Canadian healthcare system. The lack of a consistent screening policy among Canadian provinces and poor adherence to screening guidelines have compounded the challenge.<sup>2-4</sup> The McMaster Health Forum convened a stakeholder dialogue on October 17, 2013 with regards to supporting optimal screening practices in Canada. In consultation with stakeholders, the Forum created an issue brief describing the problem, three elements of a comprehensive approach to address this problem, and key implementation considerations for this approach.5

## WHAT IS THE PROBLEM?

Three key issues have contributed to sub-optimal screening practices in Canada: 1) screening policies and practices vary between provinces and territories; 2) the structure of the healthcare system in Canada limits efforts to coordinate the implementation of optimal screening approaches; and 3) there is inconsistent adherence to existing screening guidelines and principles. Together, these three problems pose significant challenges to optimal screening practices for Canadians across provinces and territories. The level of screening provided greatly differs between Canadian provinces and territories. For example, Manitoba offers more than

three times as many screening tests for newborns compared to the maritime provinces of Prince Edward Island and New Brunswick.<sup>6,7</sup> Screening guidelines for ailments such as hypertension and diabetes are also yet to be made regionally consistent.8-9 Furthermore, competing interests in healthcare impede the implementation of optimal screening practices, such as the financial gains to physicians who offer more tests, and the political gains to candidates who promise to implement largescale screening efforts that are unsupported by current evidence.<sup>10</sup> Together, these inconsistencies lead to a great variation in screening approaches within Canada, and must be addressed when implementing optimal screening practices to benefit all Canadians. The Canadian healthcare system also faces significant challenges in the implementation of coordinated screening approaches. Screening uptake appears to be significantly lower in rural and northern areas, as well as among immigrants, refugees, and members of ethno-cultural communities. 11-13 Currently, there are no existing national requirements for adherence to screening protocols, nor cross-jurisdictional reviews of current efforts in screening.

Finally, healthcare consumers often do not consistently adhere to evidence-based screening guidelines, even when the optimal screening options are available. Adherence to recommendations is severely limited by the ease of obtaining screening tests at the patients' request, and by the widespread availability of screening tests outside formal screening programs.<sup>14</sup>



## APPROACHES TO ADDRESS THE PROBLEM

The McMaster Health Forum, in consultation with expert informants, identified three elements of a comprehensive approach to improve screening practices in Canada. The Forum then appraised systematic reviews relevant to each of the three elements. First, a model could be created to coordinate decisionmaking about screening across multiple sectors and jurisdictions. This approach includes the establishment of a process to identify potential coordination models and set priorities for evidence synthesis as part of a pan-Canadian coordinating hub on optimal screening practices. 15-16 Additionally, it could include the development of criteria to guide healthcare decision-making with respect to resource allocation in terms of the costs and benefits provided by screening tests. 17-18 Efforts to consult and engage consumers and other relevant stakeholders could also be made to inform the decision-making process.<sup>19</sup> These strategies would ensure the establishment of models that are optimal for screening practices.

Second, a "hub" to coordinate evidence synthesis and recommendation development to support optimal screening practices could be established. A centralized hub can serve the needs of all Canadians through 1) panel discussions with appropriate experts; 2) providing specific locales with access to research evidence; and 3) facilitating local adaptations to research evidence. These combined interventions will minimize crossjurisdictional variations in screening.

Third, support for optimal implementation of screening approaches could be offered to all stakeholders. For healthcare providers, practices such as the distribution of educational

materials as well as audit and feedback have been shown to improve adherence to practice guidelines.20 With regards to patients, the development of decision aids and personalized risk communications improved patient risk assessment. Frequent postal and telephone reminders also significantly improved participation in organized screening programs. 21-22 These efforts may collectively serve to improve adherence to established screening guidelines.

## **IMPLEMENTATION CONSIDERATIONS**

Potential barriers exist at each level of individuals and institutions involved in the provision of optimal screening in Canada. For instance, consumers may not adopt recommended guidelines due to over-enthusiasm for one approach. Alternatively, physicians may be unwilling to change their current practice, and may view the proposal as an encroachment on their professional autonomy. Governments also may not be willing or have sufficient resources to create, develop, and sustain a central hub for evidence synthesis decision-making to support optimal screening practices.

While each element of this approach has unique or shared barriers that may prevent their full or effective implementation, there also exist 'windows of opportunity' through which an effective implementation can be achieved. The Canadian Task Force on Preventive Health Care, established in 2010, provides a model and infrastructure through which the elements of optimal screening can be supported.<sup>23</sup> Additionally, the success of the National Immunization Strategy implemented in 2003 can serve as an example of how to operationalize all the elements of the plan proposed for optimizing screening practices.

- Raffle A, Gray M. Screening Evidence and Pract tice. Oxford, United Kingdom: Oxford University Press; 2007.
- Andermann A, Blancquaert I, Déry V. Genetic
- Andermann A, Blancquaert I, Déry V, Genetic screening: a conceptual framework for programmes and policy-making. Journal of Health Services Research & Policy 2010;15(2):90-7. Leddin DJ, Enns R, Hilsden R, Plourde V, Pabeneck L, Sadowski D et al. Canadian Association of Gastroenterology position statement on screening individuals at average risk for developing colorectal cancer. Canadian Journal of Gastroenterology 2010;24(12):705-14. Mema SC, McIntryre L, Musto R. Childhood vision screening in Canada: Public health evidence and practice. Canadian Journal of Public Health 2012;103(1):40-5.
- 2012,103(1):40-5. Wilson MG, Lavis JN. Evidence Brief: Supporting Optimal Screening Approaches in Canada. Hamilton, Canada: McMaster Health Forum, 17 October 2013.
- ZUI3.
  Canadian Organization for Rare Disorders, Newborn Screening in Canada Status Report. Toronto, Canada: Canadian Organization for Rare Disorders; 2013.
- Canadian Partnership Against Cancer. Breast Cancer Control in Canada: A System Performance Special Focus Report. Toronto, Canada:
- mance special hocus Report. Ioronto, Canada: Canadian Parhership Against Cancer; 2012. Canadian Task Force on Preventive Health Care. Recommendations on Screening for High Bloom Pressure in Canadian Adults. Edmonton, Canada: Canadian Task Force on Preventive Health Care; 2012
- Canadian Task Force on Preventive Health Care. Recommendations on screening for Type 2 diabetes in adults. Canadian Medical Association Journal 2012;184(15):1687-96.
  Moynihan RN, Cooke GPE, Doust JA, Bero L, Hill S, Glasziou PP Expanding Disease Definitions in Guidelines and Expert Panel Ties to Industry. A Cross-sectional Study of Common Conditions in the United States. PLoS Med 2013;10(8):e1001500.
  Maddison AR, Asada Y, Urquhart R. Inequity in access to cancer care: A review of the Canadian literature. Cancer Causes Control 2011;22(3):359-66. Grewal S, Bottorff JL, Balneaves LG. A Pap test screening clinic in a South Asian community of Vancouver, British Columbia: challenges to maintaining utilization. Public Health Nurs 2004 September;21(5):412-8.

- Vancouver, British Columbia: challenges to main-taining utilization. Public Health Nurs 2004 September;21(5):412-8.

  Redwood-Campbell L. Fowler N, Laryea S, Howard M, Kaczorowski J. Before you teach me I. cannot know: immigrant women's barriers and enablers with regard to cervical cancer screening among different ethnolinguistic groups in Canada. Can J Public Health 2011 May;102(3):230-4her. Should I go for a Mammogram. Canadaina Breast Cancer Foundation. Whay;102(3):230-4her. Should I go for a Mammogram. Canadaina Breast Cancer Foundation 2013 September 16;Available from: URL: http://www.cbcforg/central/About-BreastHealth/EarlyDetection/Mammography/Pages/Where-to-Get-a-Mammogramsapx.

  Martin-Misener R, Valaitis R, Wong ST, MacDon-Jald M, Meagher-Stewart D, Kaczorowski J et al. A scoping literature review of collaboration between primary care and public health Primary Health Care Research & Development 2012; 13(4):327-46.

  Norrani HZ, Husereau DR, Boudreau R, Skidmorre B. Priority settling for health technology assessments: A systematic review of current practical approaches. International Journal of Technology Assessment in Health Care 2007;23(3):310-5.

  Guindo AL, Wagner M, Baltussen R, Rindress D, van TJ, Kind P et al. From efficacy to equity. Literature review of decision making. Cost Effectiveness and Resource Allocation 2012;10(1):9.

  Vuorenkoski L, Toiviainen H, Hemminki E. Decision-making in priority settling for medicines A review of empirical studies. Health Policy 2008;86(1):19.

  Menon D, Stafnski T, Martin D, Windwick B, Singer P, Cauffield TState of the science review. Incorporating public values and technical information into health care resource allocation decision- making. Edmonton, Canada: Alberta Innovates Health Solutions; 2003.
- Edmonton, Canada: Alberta Innovates Health Solutions; 2003.
  Grimshaw JM, Thomas RE, MacLennan G, Fraser C, Ramsay CR, Valle L et al. Effectiveness and efficiency of guideline dissemination and implementation strategies. Health Technology Assessment 2004;8(6).
  Stacey D, Bennett CL, Barry MJ. Col NF, Eden KB, Holmes-Rovner M et al. Decision aids for people facing health treatment or screening decisions. Cochrane Database of Systematic Reviews 2011;(00):1-215.
  Camillioni L, Ferroni E, Cendales B, Pezzarossi
- 2011;(10):1-215.
  Camilloni L, Ferroni E, Cendales B, Pezzarossi A, Furnari G, Borgia P et al. Methods to increase participation in organised screening programs: a systematic review. BMC Public Health 2013;13(1):464.23. Canadian Task Force on Preventive Health Care Canadian Task Force on Preventive Health Care 2013 July 30; Available from: URL: http://canadiantaskforce.ca/

More details on the problem and the suggested approaches to optimizing screening in Canada as identified by the McMaster Health Forum are available in the Forum issue brief, which can be found at http://www.mcmasterhealthforum.org/