Journal of Health and Social Sciences 2020; 5,3:309-316
The Italian Journal for Interdisciplinary Health and Social Development

VIEWPOINT ARTICLE
IN HEALTHCARE POLICY

Healthcare access, quality of care and efficiency as healthcare performance measures: A Canadian health service view

Yamin Tauseef JAHANGIR[1,2], Elena NEITERMAN[3], Craig R. JANES[4], Samantha B. MEYER[5]

Affiliations:

[1] PhD, School of Public Health and Health Systems, University of Waterloo, Ontario, N2L 3G1, Canada
[2] Lecturer, Department of Public Health, North South University, Dhaka 1229, Bangladesh
[3] PhD, Continuing Lecturer, School of Public Health and Health Systems, University of Waterloo, Ontario, N2L 3G1, Canada
[4] PhD, Professor; Director, School of Public Health and Health Systems, University of Waterloo, Ontario, N2L 3G1, Canada
[5] PhD, Associate Professor, School of Public Health and Health Systems, University of Waterloo, Ontario, N2L 3G1, Canada

Corresponding author:

Yamin Tauseef Jahangir, School of Public Health and Health Systems, Faculty of Applied Health Sciences, University of Waterloo, 200 University Avenue West, Waterloo, ON N2L 3G1, Canada.
E-mail: ytjahangir@uwaterloo.ca

Abstract

While most performance judgements are value-relative, in health systems reform it is important to focus on intermediate performance measures like healthcare access, quality of care and efficiency in healthcare on health status of population, the satisfaction of patients, and the degree to which services are made equitable. However, to date these concepts are not well-defined, remain fairly ambiguous and, consequently, are also not well-measured. Therefore, such concepts do not provide sufficient information to inform changes to the health system that may improve population level outcomes related to structural factors. Our paper established an argument and from our viewpoints we provide a more conceptual clarification on how these three intermediate variables may shape assessments in health system performance, while drawing from the Canadian healthcare system performance gaps and placing them as evidence. We found an immediate need for patient-centred outcome measures in service and clinical quality instead of surrogate outcome measures, need for improved measures on the rate of service utilization such as in terms of service-orientation and patient satisfaction, and a need for more robust approach in measuring allocative efficiency in healthcare to be the key areas of strengthening performance assessments. These intermediate variables can play an important role in Canadian policy and also would have dominant roles in legislative agenda and outcome, which can be both responsive and influential.

KEY WORDS: Canada; healthcare and policy; healthcare access; healthcare outcome indicators; quality of care.

Riassunto

Mentre molti giudizi sul rendimento si basano sul valore, nella riforma dei sistemi sanitari è importante focalizzare su misure di performance intermedie come l'accesso all'assistenza sanitaria, la qualità della cura, l'efficienza sanitaria misurata attraverso lo stato di salute della popolazione, la soddisfazione dei pazienti ed il grado con cui i servizi sono equamente distribuiti. Tuttavia, ad oggi questi concetti non sono ben definiti, rimangono piuttosto ambigui e, di conseguenza, non sono ben misurati. Di conseguenza, tali concetti non forniscono un'informazione sufficiente per realizzare quei cambiamenti del sistema sanitario che possano migliorare gli outcome a livello di popolazione relativi ai fattori strutturali. Il nostro lavoro fornisce sull'argomento una delucidazione più concettuale su come queste tre variabili intermedie possano modellare le valutazioni della performance dei sistemi sanitari, mentre descriviamo e mettiamo in evidenza le mancanze di performance del servizio sanitario canadese. Abbiamo scoperto la necessità immediata di misure di outcome relative ai servizi che siano centrate sul paziente e sulla qualità clinica invece di misure surrogate di outcome, inoltre abbiamo la necessità di migliori misure relative al tasso di utilizzo del servizio, in termini di orientamento al servizio e di soddisfazione del paziente e la necessità di un approccio più robusto misurando l'efficienza allocativa in sanità, aree chiave per rafforzare le valutazioni di performance. Queste variabili intermedie possono giocare un importante ruolo nella politica del Canada ed avrebbero anche un ruolo di primo piano nell'agenda legislativa e degli outcome che potrebbero essere entrambi responsivi ed influenti.

TAKE-HOME MESSAGE

Healthcare delivery in Canada can be addressed in ways which are policy-informing, and by considering the conceptual clarification in performance indicators of healthcare access, quality of care and efficiency in utilization in healthcare, it is imperative that the policy variable of interest should also focus on supply and demand side factors in healthcare, as well as its influence in patients' characteristics and especially on their healthcare needs.

Competing interests - none declared.

Cite this article as: Jahangir YT, Neiterman E, Janes CR, Meyer SB. Healthcare access, quality of care and efficiency as healthcare performance measures: A Canadian health service view. J Health Soc Sci. 2020;5(3):309-316

DOI 10.19204/2020/hlth2

Received: 19/02/2020 Accepted: 22/03/2020 Published Online: 30/05/2020

INTRODUCTION

The pursuit of equity or fairness is a central objective of many health systems and reflects concerns with the distribution of the burden of ill health across the population [1]. In order to ensure the quality of health services, population health has been measured extensively both internationally and regionally [2]. These measures focused on standardized mortality rates, life expectancy and adjusted for rates of disability in the form of disability-adjusted life years (DALYs) [2]. However, even though they are informative, it is somewhat difficult to assess the extent to which variations in health outcomes can be attributed to the health system [3]. Therefore, in order to inform health system responsiveness, it is important that performance measures reflect the role health sector plays in population health outcomes [4]. This requires an understanding of the connection between the health sector in general, and judgements about its performance, and the larger social and economic systems. It is also important to focus on the structural features of the health care system, including variables that are indicators of 'access', 'quality' and 'efficiency', which are referred to as 'intermediate performance measures' [3]. Such characteristics of the system help to understand the level of service delivery performance on health system goals. However, to date these concepts are not well-defined, remain fairly ambiguous and, consequently, are also not well-measured. Therefore, such concepts do not provide sufficient information to inform changes to the health system that may improve population level outcomes related to structural factors [3]. Further, it is important to learn about these concepts relevant to better measures in health system performance. In this viewpoint, this paper argues and provides some conceptual clarification on the terms of healthcare access, quality of care and healthcare efficiency that might guide the development of measures, or mapping of existing indicators or measures, in healthcare performance for equitable care while giving emphasis on the gaps as evidence from the Canadian healthcare system.

DISCUSSION

Healthcare access

Access to healthcare is central to the performance of health care systems around the world [5]. However, access to healthcare remains a complex notion as different authors describe it differently [6, 7]. As explained by Levesque et al. (2013), the term 'access' is defined as the use of health care, qualified by need for care [8]. Penchansky (1981) [5] described access in terms of the fit between the characteristics of providers in the health services and the characteristics and expectations of the clients. In this view, access to healthcare is a product of supply factors, such as the location, availability, cost, and appropriateness of services. It is also a product of demand factors, such as the burden of disease and knowledge, attitudes, and skills, self-care practices, past experience with health care, perceived quality of care, health literacy or the ability to pay [9]. Therefore, access can be seen in two separate ways- the physical availability of services (e.g. beds, doctors, nurses) or effective accessibility (e.g., cost, travel times, service levels, waiting times, cultural acceptability) [3]. While it is not easy to collect information on the latter, the term 'access' is often used to refer to utilization of service [3]. That is, although various indicators of access might be measured, it is utilization that is observed [10]. Thus, the focus of access studies is mostly related to the rates at which health services are actually used or how satisfactory consumers perceive their care to be, which is often not considered in measures of access [11].

Aday and Andersen suggest that a distinction must be made between 'having access' and 'gaining access' – the possibility of using a service if required and the actual use of a service [9–11]. Thus, access is viewed from a broader perspective by Levesque (2013) [8] while describing these determinants of access as: 1) approachability of healthcare needs; 2) acceptability of professional values, norms, culture; 3) availability and accommodation relating to geographic location and appointment mechanisms; 4) affordability such as the direct, in-

direct and opportunity costs involved; 5) appropriateness regarding interpersonal quality and coordination. Through these approaches, patients go through various stages to access services and is therefore defined heavily as an attribute of services, thereby making it to be more patient-centred [12].

Although Aday and Anderson described access in terms of 'utilization of services', for Canada Health Act (CHA) it is mostly related to responding only to needs of health care services [13]. To elucidate, the Federal Government of Canada focuses on utilization mainly in terms of 'necessary hospital and physician services', meaning that services should be shared to meet the expectations of equal use for equal needs [13]. This implies to equal health coverage, fair distribution of resources throughout the country, and removing geographic and other barriers to access [12]. However, little attention has actually been paid to the distribution of resource needs of healthcare services within populations [14]. Hence, the policies emerging from the CHA are less focused on promoting equal use for equal needs, but more with equal access to services across populations heterogenous in their ability to pay [13]. In a longitudinal study of the National Population Health Survey in Canada, Setia et al. (2011) found that there were unmet healthcare needs among younger men and women, and a significant trend for higher odds of unmet healthcare needs with decreasing income in both these genders [15]. Having a regular doctor increases the 'potential healthcare access' and those who have regular doctor are more likely to access care [16]. However, Veugelers (2003) [17] found that specialist services were less used by lower socio-economic groups in Canada, and services are not equitably distributed to this group despite the existence of universal health coverage. Further, the Canadian Institute of Health Information provides series of composite health indicators which focus mainly at the provider level for hospital performance. Consequently, these indicators tend to over-represent inpatient and preventive services, and under-represent ambulatory care and other interventional procedures [1, 2]. Therefore, performance measures for access would have to be more patient-centered and as Donabedian (1972) [18] explained that 'proof of access is use of service, not simply the presence of a facility', it can be measured in terms of actual utilization of health care and from the level of satisfaction (e.g., how accessible and service-oriented is the care process).

Quality of care

Quality of care is sometimes defined from the patient's point of view and sometimes from the perspective of the doctor [3]. More inclusive service judgements make quality divided into two separate categories. Service quality is considered in terms of travel and waiting times, interpersonal relationships with the provider such as care, respect and politeness, while clinical quality is related to human inputs such as skills and decision-making, non-human inputs such as equipment and supplies and the production system [3–4, 6].

Considering the United States healthcare system, quality is often associated with price for availing health services. However, the United States, while having the world's most expensive health care system, also has poor patient outcomes [19]. In Canada, the increased use of family physician and hospital services in lower socioeconomic groups seem to correspond to the higher healthcare need to utilize services resulting from their poorer health [17]. However, studies in Canada do not explicitly analyse the interactions of these higher needs for healthcare with other explanatory variables such as cost, income, or quality of care [13]. For example, the Commonwealth Fund survey found that 25% of Canadians reported waiting longer than 8 weeks to see a specialist, compared with just 3% in Switzerland and the United States, and between 10% and 20% in most other high-income countries [20]. While this is even more complex when analyzing the health systems country-wide and also within provinces in Canada due to geographic make up or remoteness [21]. Therefore, quality measures in Canada may consider on approaches that would bring

better evidence to ensure system performance [22]. Instead of surrogate outcome (e.g., in clinical over-testing or over-medication as indicators of quality outcome measure), a patient-centeredness approach (e.g., outcomes that reflect on experiences and satisfaction) or instead of binary (cut-off) thresholds of risk (e.g., blood pressure or haemoglobin A1c) a more continuous measures of risk (e.g., use of Global Outcome Scores for aggregates risk measures) would be more feasible in quality improvement in healthcare [22].

Quality measures should also focus on meaningful health outcomes in Canada as well, and measures that address social determinants, multimorbidity or individualized care should be some thoughtful approaches as they may provide broader knowledge on quality of care from individual perspectives [23]. For example, Self-Assessed Health (SAH) status or self-reported health questionnaire focus on perceived health status of a patient and are often included in general socio-economic and health surveys which is a measure of socio-economic inequalities in health, and also reflect on quality of health outcomes [1, 24, 25]. Hence, even for a system that is efficient in producing quality, the question remains how much quality and along what dimensions will maximize society's ability to achieve its overall health goals.

Healthcare service efficiency

The concept of efficiency is usually applied when considering the relative performance of organizations within a health system. Health care system efficiency is categorised as how services are produced and what services are produced [3]. The first of these is the technical efficiency, referring to a situation in which a good or a service is produced at minimum cost. For example, is the cost-per-day at the hospital as low as possible or are as many patients are being treated within a given budget? [3]. The second form of efficiency is allocative efficiency, which refers to the maximum level of output that can be produced assuming the cheapest mix of inputs within a limited budget. For example, whether a set of outputs can maximise patient satisfaction [1]. Thus, in health systems it is often common to ask whether a particular set of services is maximising health status gains. If output growth increases than the inputs in health care, it is then a sign of improved productivity as efficiency increases [3].

The annual spending in Canadian health care system in 2013 was 11.2% in comparison to 7% in 1975 while many key indicators have improved the health status at a faster pace in this time period [26, 27]. With increased health expenditure a recent public survey by Environics Research in 2011 placed more priority on efficiency for health systems reform in Canada [26]. However, to date, and as explained by the Ontario Ministry of Finance, little or no attempt has been made to measure systematically what expenditures buy in the Canadian healthcare system, nor to identify factors associated with higher levels of efficiency and have limited influence on decision-makers for strong health system reforms [26, 28, 29]. Moreover, variations in the population health of regions may explain variations in the efficiency, as different health researchers use different output indicators (e.g., potential years of life lost or disability adjusted life years) as measures for the inputs given (such as, dollar value spent on major components in healthcare in Canada like physician payment, pharmaceutical spending, cost of residential facilities and community care) [26]. As few international studies included Canada in a comparative analysis for health care efficiency, a recent OECD (Organization for Economic Co-operation and Development) study found the level of health system inefficiency in Canada to be 20% [28]. We agree with Allin et al. (2015) who confirmed that, the focus should be in investments towards primary care rather than specialized care, thereby increasing healthcare efficiency and equity for the lower income brackets [26]. Thus, we think a diversity of interventions on healthcare services, health promotion and disease prevention, and broader determinants of health is required to improve efficiency [21, 22, 26]. For a healthcare system, the efficiency

is determined as whether technical and allocative efficiency allows a society to reach its minimum health goals. Therefore, as studies suggest, increasing efficiency can actually advance equity by making health care less costly to reach equity objectives [3].

The way forward

In Canada, the national family expenditure surveys between 1964 and 1982 showed that in terms of dollar value and as a share of total income, the rich in comparison to the poor spent more on health care and in 1964 the affluent families spent 4.5 times more on healthcare [30]. While although this ratio dropped in 1982, the relative burden remained consistently higher for the lower income population than for the rich, as majority of the family income was spent on out-of-pocket payment expenses, such as, dental care, drugs and other appliances [30, 31]. Further, national health insurance in Canada has done little to modify the long-term regressive trends in the purchasing of uninsured health care services [17].

As we mentioned earlier, for equity or fairness to be a central objective of health systems, it is frequently observed that physicians and provider organizations treat patients with significant differences in their severity of disease, socio-economic status, behaviours related to health and patterns of compliance with treatment recommendations [1]. These differences make it difficult to draw direct performance comparisons and pose considerable challenges for developing accurate performance measures [1]. Hence, moving forward, our question remains as what improvements in health-sector performance are most important for all consumers which, according to Levesque et al. (2013), is the combination of characteristics of services, providers and systems that are aligned with people, and community capabilities [3, 8]. In terms of quality of care, clinicians and organizations often try 'gaming the system' i.e. providing disproportionate care to patients who are barely in the 'wrong' end of their treatment line [22]. For example, performing cancer screening; or overmedication such as, use of anti-hyperglycemic medications to reduce HgbA1c levels in type 2 diabetes [22]. Thus, as mentioned by Mechanic (2006) [32], it is often the physicians rather than the consumers who make the decision of what services should be purchased. Therefore, another way forward is to give importance towards patient-centeredness such as, patient satisfaction should be ensured in quality measures as it evaluates the 'success' of the medical services in achieving their curative and caring objectives [9, 22].

At times performance assessment of allocative efficiency focus on treating patients with their willingness to pay to specific kind of treatment. However, the cost-effectiveness to care will diminish as cost per case increases. Then rather than a 'yes' or 'no' issue of a specific intervention, such as dialysis treatment, the question then remains as, for 'how long' will a dialysis treatment be given and to which patient [3]. Thus, one way of further shaping performance assessment should be by creating 'ethical benchmarking', meaning comparing national performance (variables like access, quality and efficiency) with various standards to see where performance in healthcare is inadequate and potentially improvable [3]. As the populations have now become more diverse in recent years, fulfilling the priorities of regions and special cultural and national groups in Canada has become the dominant issue on the national legislative agenda [31].

CONCLUSION

In conclusion, although indicators are available for performance assessment in health systems, there is always a need to understand the variabilities in supply and demand side factors and its influence in patients' characteristics. To our understanding, there still remains lack of information on the *causes* of inequities in access to healthcare which continues to pose challenge in policy-directives. This maybe a fact that causes are multifaceted, and that a single attributable factor (e.g., social class) is hard to acknowledge. However, we understand from evidence that by focu-

sing more on the principles of patient-centeredness and evidence-based interventions on self-assessed healthcare needs, possible concerns of misusing health system performance may be minimised. In sum, healthcare performance measures like access to care, efficiency and quality of care in Canada should also focus on assessing overall productivity in care outcomes and on improving quality of life of patients. Furthermore, we believe healthcare delivery in Canada can be addressed in ways which are policy-informing, and by considering the variations in utilization in healthcare it is imperative that the policy variable of interest should earnestly focus on the case of population characteristics and on their particular healthcare needs.

References

1. Smith PC, Mossialos E, Papanicolas I, Leatherman S. Performance Measurement for Health System Improvement: Experiences, Challenges and Prospects; Cambridge University Press; 2010 [Cited 2019 Dec 15] Available from: https://doi.org/10.1017/CBO9780511711800.002
2. Smith P. Measuring Up Improving Health System Performance In OECD Countries. OECD. 2002. doi:10.1160/TH11-07-0511.
3. Roberts M, Hsiao W, Berman P, Reich M. Getting Health Reform Right: A Guide to Improving Performance and Equity; Oxford Univeristy Press; 2009 [Cited 2019 Dec 17]. Available from: doi:10.1093/acprof:oso/9780195371505.001.0001.
4. Naylor CD, Iron K, Handa K. Measuring Health System Performance: Problems and Opportunities in the Era of Assessment and Accountability (Chapter 1). Meas Up Improv Health Syst Perform OECD Ctries. OECD Library; 2003 [Cited 2019 Dec 01] Available from: https://doi.org/10.1787/9789264195950-en.
5. Penchansky R, Thomas J. The Concept of Access: Definition and Relationship to Consumer Satisfaction. Medical Care. 1981;19(2):127–140.
6. Haddad S, Mohindra K. Access, opportunities and communities: ingredients for health equity in the South. In: Public Health and International Justice Workshop. New York: Carnegie Council on Ethics and International Affairs; 2002.
7. Daniels N. Equity of Access to Health Care: Some Conceptual and Ethical Issues. The Milbank Memorial Fund Quarterly. Health and Society. 1982;60(1):51–81. doi:10.2307/3349700.
8. Levesque JF, Harris MF, Russell G. Patient-centred access to health care: Conceptualising access at the interface of health systems and populations. Int J Equity Health. 2013;12(1):1. doi:10.1186/1475-9276-12-18.
9. Aday LA, Andersen RA framework for the study of access to medical care. Health Serv Res. 1974;9(3):208–220. doi:10.3205/psm000089.
10. Goddard M, Smith P. Equity of access to health care services: theory and evidence from the UK. Soc Sci Med. 2001 Nov;53(9):1149–1162. https://doi.org/10.1016/S0277-9536(00)00415-9.
11. Aday L, Andersen R. Equity of Access to Medical Care: A Conceptual and Empirical Overview. Med Care. 1981;19(12):4–27. doi:10.1097/00005650-198112001-00004.
12. Whitehead M. The concepts and principles of equity and health. Health Promot Int. 1991;6(3):217–228. doi:10.1093/heapro/6.3.217.
13. Birch S, Eyles JS, Newbold KB. Equitable access to health care: methodological extensions to the analysis of physician utilization in Canada. Health Econ. 1993;2(2):87–101. https://doi.org/10.1002/hec.4730020203.
14. Epp J. Achieving health for all: a framework for health promotion. Ottawa, ON: Health and Welfare Canada. 1986 [Cited 2020 Jan 10]. Available from: http://www.hc-sc.gc.ca/hcs-sss/pubs/system-regime/1986-frame-plan-promotion/index-eng.php15.

15. Setia MS, Quesnel-Vallee A, Abrahamowicz M, Tousignant P, Lynch J. Access to health-care in Canadian immigrants: A longitudinal study of the National Population Health Survey. Health Soc Care Community. 2011;19(1):70–79. doi:10.1111/j.1365-2524.2010.00950.x.

16. Andersen RM. Revisiting the behavioral model and access to medical care: does it matter? J Health Soc Behav. 1995;36(1):1–10. doi:10.2307/2137284.

17. Veugelers PJ, Yip AM. Socioeconomic disparities in health care use: Does universal coverage reduce inequalities in health? J Epidemiol Community Health. 2003;57(6):424–428. doi:10.1136/jech.57.6.424.

18. Donabedian A. Models for Organizing the Delivery of Personal Health Services and Criteria for Evaluating Them. Milbank Q. 1972;50(4):103–154. doi:10.2307/3349436.

19. Woolf SH, Aron LY. The US health disadvantage relative to other high-income countries: Findings from a National Research Council/Institute of Medicine report. JAMA. 2013;309(8):771–772. doi:10.1001/jama.2013.91.

20. Lawand C, Paltser G, Cheung G, Ytsma A. Care for Patients with Complex Needs: Canadian Results from the Commonwealth Fund 2015 International Health Policy Survey of Primary Care Physicians. Healthc Q. 2016;19(2):10–12. doi:10.12927/hcq.2016.24692.

21. Dhalla IA, Tepper J. Improving the quality of health care in Canada. CMAJ. 2018;190(39):E1162–E1167. doi:10.1503/cmaj.171045.

22. Saver BG, Martin SA, Adler RN, Candib LM, Konstantinos ED, Jeremy G, et al. Care that Matters: Quality Measurement and Health Care. PLoS Med. 2015;12(11):e1001902. Published 2015 Nov 17. doi:10.1371/journal.pmed.1001902.

23. Eddy DM, Adler J, Patterson B, Lucas D, Smith KA, Morris M. Individualized guidelines: the potential for increasing quality and reducing costs. Ann Intern Med. 2011;154(9):627–634. doi:10.7326/0003-4819-154-9-201105030-00008.

24. Pogach L, Aron D. The other side of quality improvement in diabetes for seniors: a proposal for an overtreatment glycemic measure. Arch Intern Med. 2012;172(19):1510–1512. doi:10.1001/archinternmed.2012.4392.

25. Pathy R, Mills KE, Gazeley S, Ridgley A, Kiran T. Health is a spiritual thing: perspectives of health care professionals and female Somali and Bangladeshi women on the health impacts of fasting during Ramadan. Ethn Health. 2011;16(1):43–56. doi:10.1080/13557858.2010.523780.

26. Allin S, Veillard J, Wang L, Grignon M. How can health system efficiency be improved in Canada? Health Policy. 2015;11(1):33–45. doi:10.12927/hcpol.2015.24361.

27. Canadian Institute for Health Information (CIHI). National Health Expenditure Trends , 1975 to 2015. Ottawa, Canada: CIHI; 2015.

28. Joumard I, André C, Nicq C. "Health Care Systems: Efficiency and Institutions", OECD Economics Department Working Papers, No. 769. Pais: OECD Publishing; 2010. Available from: https://doi.org/10.1787/5kmfp51f5f9t-en.

29. WHO. World Health Organization Fifty-Third World Health Assembly A53/4 Provisional agenda item 3: The world health report 2000 Message From the Director General. 2000 March [Cited 2019 Dec 22]. Available from: http://apps.who.int/gb/archive/pdf_files/WHA53/ea4.pdf.

30. Wolfe S. Ethics and Equity in Canadian Health Care: Policy Alternatives. Int J Health Serv. 2005;21(4):673–680. doi:10.2190/vkfm-dfjf-jbkb-1lw2.

31. Badgley RF. Social and Economic Disparities under Canadian Health Care. Int J Health Serv. 2005;21(4):659–671. doi:10.2190/br0t-1mdk-umd7-vwh1.

32. Mechanic D. Rationing health care: public policy and the medical marketplace. Hastings Cent Rep. 1976;6(1):34–37.