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Position statement

The art and science of high-quality health care: Ten principles that fuel quality improvement

Health and Public Policy Committee and Office of Health Policy

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Executive summary

Quality improvement science refers to activities and systems that improve the delivery of high-quality health care. It comprises dimensions of quality that shed light on the processes that assure quality outcomes and measure them. There is a difference between quality assurance (QA) and quality improvement (QI).

QA is the conveyance that delivers quality; it embodies management and process. QA is retrospective and foundational. QI is the measurable result; QI is prospective and outcome oriented. Dimensions of quality are the raw ingredients fueling both.

There are eight dimensions of quality commonly discussed: safety, accessibility, acceptability, appropriateness, provider competence, efficiency, effectiveness and outcomes. These dimensions touch the breadth of health care to enhance the patient — and provider — experience. The dimensions represent factors that overlap; they are not mutually exclusive. Their weight and influence are also dependent on care settings (e.g., team-based care, information systems) and other factors affecting program initiatives (e.g., social determinants of health, investment, policies).

The Royal College's CanMEDS framework clearly defines the roles of a medical expert — attributes harmonious with driving quality improvement to arrive at high-quality health care.

In 2009 the Royal College's Health and Public Policy Committee (HPPC) agreed to investigate fundamental systems that facilitate "quality assurance" and to develop a policy position statement on the values and principles that lead to "quality improvement." In the same year, the College of Family Physicians of Canada (CFPC) released recommendations to enhance patient-centred primary care by introducing an enhanced care concept that improves access and health outcomes.

In 2011, the Canadian Medical Association's (CMA) *Principles to guide health care transformation in Canada* stresses a health-care improvement framework that speaks to patient-centredness, quality health care factors — appropriateness, timeliness, safety and effectiveness — prevention, equitability, sustainability and accountability.

On June 3, 2011, The Royal College hosted the *3rd RAC (Regional Advisory Committees) Summit*. Delegates were encouraged to provide their feedback and ideas on the dimensions of quality and the derived principles of QI. This paper reflects their comments, ongoing work by the HPPC and direction taken by the CFPC and CMA with respect to quality.

Leading quality improvement practices involve all stakeholders — particularly patients — consult across professions and measure results. Collaboration, communications and transparency are keys to success in achieving quality outcomes. Outcomes affecting all stakeholders in the health-care system should be measured, with particular attention and voice given to patients and providers. Canadians expect leadership from all levels of government and across jurisdictions to achieve cooperation on the development of solutions which place emphasis on access, quality improvement and safety.

The attainment of quality is complex because perspectives differ and its parameters are multi-dimensional and interrelated. Nevertheless, quality is dependent on achieving key dimensions; QI principles are derived from them. The following QI

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principles serve as guidelines for physicians when applying QI practices. The challenge is to implement them, facilitate change and break unworkable paradigms.

Ten principles of quality improvement for high-quality health care

1. **Dimensions of quality must be relevant to and actionable by appropriate stakeholders.**
   Dimensions of quality must be compatible with QI to help advance it in all settings and models of care. Although some dimensions are clearly relevant to most stakeholders, it is also important to recognize that some may not be applicable in all circumstances.

2. **Quality improvement must be measurable and lead to desired outcomes.**
   The results of QI must measure health improvements, stabilization, prevention or minimization with active therapies — including drivers of patient and provider satisfaction.

3. **Quality improvement systems must facilitate the delivery of a continuum of care, providing benefits to patients and providers.**
   Quality improvement systems must be simple and non-intrusive such that they do not interfere, impede or detract from health professionals' duties, allowing them to provide services throughout the continuum of care. They must not be another bureaucratic layer.

4. **Patient outcomes and provider services should reflect a culture of safety.**
   Quality and safety go hand in hand; provider behaviours, team dynamics and patient satisfaction are areas that need attention in practice to ingrain a culture of safety.

5. **Lifelong learning, maintenance of competencies and continuous professional development are integral to the quality improvement process.**
   Physicians enhance their professional skills in the best interests of patients; the practice environment must be conducive to and supportive of ongoing learning. Leadership throughout the spectrum of education, training, professional development and maintenance of competencies needs to constantly invigorate quality improvement in practice.

6. **Governments should support quality improvement by providing incentives and investment and facilitate its development through collaborative mechanisms.**
   The primary responsibility of government is to provide support for the health care system by engaging all participants of it. Alignment/collaboration/cooperation across various federal-provincial-territorial-municipal governments will improve the sharing of knowledge.

7. **Collaboration, knowledge exchange, transparency and accountability are critical factors in improving quality.**
   Inter and intra-professional collaboration, patient-centredness and stakeholder involvement are critical factors to improve clinical practices.

8. **Physicians and other providers should embrace system thinking that advocates on behalf of the community of patients.**
   The greater good recognizes every ones part in a health care system that is quality oriented for patients.

9. **Physicians and other providers need to be accountable for quality improvement practices recognizing their responsibilities within the boundaries of the greater health care system.**
   This is an individual component of accountability that does not abdicate responsibility to a greater system; it strikes a balance of shared accountability thus providing the public with greater confidence in the delivery of high-quality health care.

10. Physicians and other providers need to actively engage in system refinement to improve quality.

Physicians who embrace their roles as communicators, collaborators, managers, health advocates, scholars and professionals (Royal College CanMEDs framework roles) lend themselves as leaders in promoting and advocating quality improvement for change and continuous clinical practice refinement.

Context

The Royal College and its members have significant roles to play in advancing quality improvement. The Royal College CanMEDS framework defines a medical expert as a physician who integrates his/her role as a communicator, collaborator, manager, health advocate, scholar and professional by applying medical knowledge, clinical skills and professional attitudes in his/her provision of patient-centred care[1]. These attributes are harmonious with quality improvement principles; specialists who embrace these roles lend themselves as leaders in promoting and advocating quality improvement for change and continuous improvement.

Despite increased emphasis on quality and expanded quality improvement science, Canadians highlight quality of health care among their top concerns[2]. In 2009 the Royal College Health and Public Policy Committee (HPPC) agreed to investigate fundamental systems that facilitate quality assurance and to develop a statement on levers to promote and sustain high quality health care.

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In the same year the College of Family Physicians of Canada (CFPC) released its discussion paper on patient-centred primary care in Canada — *Bring it on home*[3]. Its medical home concept stresses a lifetime of care from a personal family physician supported by a team of providers. Timely, appropriately funded and monitored outcomes and quality improvement programs supported by electronic medical health records are the hallmarks of patient-centredness.

In 2011, the Canadian Medical Association (CMA) issued its *Principles to Guide Health Care Transformation in Canada*[4]. The principles were framed according to the Institute for Healthcare Improvement's, *Triple Aim Framework*. The CMA reiterates patient-centredness as seamless access to the continuum of care in a timely fashion but also stresses that quality of care should be measured as appropriate by patients. It goes on to recognize value for money by addressing factors affecting sustainability and accountability. The CMA goes further; it addresses population health through prevention and social determinants of health.

On June 3, 2011, The Royal College hosted the *3rd RAC (Regional Advisory Committees) Summit*. Delegates were encouraged to provide their feedback and ideas on the dimensions of quality and principles on QI. This paper reflects their comments, ongoing work by the HPPC and direction taken by the CFPC and CMA.

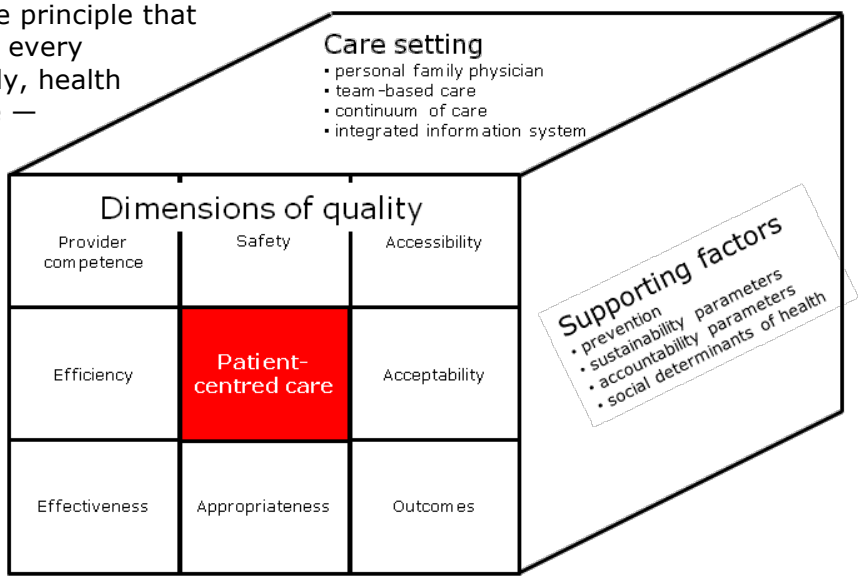
Quality has been part of the health care and policy discourse for nearly half a century. Avedis Donabedian, identified as the father of quality, first published on the topic in 1966[5]. Donabedian suggests that quality is the product of two factors: science and technology, and secondly, its application in practice. Donabedian's definition of quality assurance states, "it means all actions taken to establish, protect, promotes and improve the quality of health care[6]." He goes on to say that the assurance of quality is difficult to achieve

since expectations of patients and providers are always changing — upwards. The attainment of quality has become a central preoccupation in health care; scholarship on the topic has greatly advanced.
It is incumbent on the Royal College and its members not only to maintain quality at the highest possible levels, but to ensure that the public, regulators and payers understand the importance of all dimensions of quality. Otherwise, there is not only a danger that quality will be eroded, but so might be professional autonomy and self-regulation.

This policy position statement discusses the principles of quality improvement and the responsibilities of the profession, government and regulators in promoting and sustaining quality improvement.

Dimensions of quality

Quality improvement subscribes to the principle that opportunity for improvement exists in every process on every occasion[7]. Historically, health care has focused on quality assurance — through a system for evaluating the delivery of services or the quality of products — and quality control, a system for verifying and maintaining a desired level of quality. These methods used alone are not adequate to enhance outcomes[8].



Whether seen as a system or discrete actions, the following eight measurable dimensions of quality are presented as pillars of quality improvement to simplify what could otherwise be a complicated concept[9]:

- safety,
- accessibility,
- acceptability,
- appropriateness,
- provider competence,
- efficiency,
- effectiveness and
- outcomes[10].

Some argue that patient-centred, patient-driven health care should be the dominant dimension that drives quality but some would disagree. Nevertheless, All of the following dimensions affect the patient and touch on settings and factors that affect QI.

Safety is
the reduction of "patient safety incidents (adverse events)" within the health care system through the use of leading practices shown to improve patient outcomes and enhance prevention.

Accessibility is
the availability of care, based on medical need, within the health care system. Accessibility should be fair, equitable, timely, easy and affordable. It includes providers, drugs, technologies, facilities, information, redress and treatments throughout the continuum of care.

Acceptability is
meeting appropriate patient and societal needs by recognizing the informed preferences of patients and society regarding accessibility, alternative treatments, patient-practitioner relationship, amenities, the effects of care and the cost of care.

Appropriateness is
the necessary and ethical care for patients by providers who balance the "primacy of patient welfare" and cultural and social expectations against the management of finite resources.

Provider competence
enables the measure of performance and is characterized by knowledge, traits, skills, abilities and behaviours resulting in quality outcomes.

Efficiency is
the optimal use of minimal or scarce resources to achieve desired results.

Effectiveness is
the degree to which desired health outcomes are achieved with the application of active therapies and treatments.

Outcomes are
results measured against objectives, standards or expectations from patients or providers.

Conclusion

Quality improvement cannot be guaranteed with certainty but the attainment of high-quality health-care can be driven by patients, providers and payers. Synergy is incumbent on cooperation, collaboration and support mechanisms that facilitate quality improvement and propagate a safety culture. The dimensions of quality represent broad perspectives that are complex and inter-related; they are not mutually exclusive.

Related resources

Leading practices

The Royal College CanMEDS framework clearly defines the practical attributes of a medical expert who achieves patient-centred care[11].

The CFPC[12] highlights a patient-centred primary care program as a coordinated, continuous and comprehensive inter-professional team through the

Dimensions of quality may be defined in many ways but one common thread touches patients to some degree.

direction of a personal family physician — a continuum of care that is adequately funded, electronically monitored and outcome-measured for quality improvement.

The CMA[13] identifies quality health care factors as appropriateness, timeliness, safety and effectiveness.

Several examples of leading practices provide guidelines for applying quality improvement in practice:

- In 2005 the World Health Organization (WHO) published best practices in quality assurance systems pertaining to traditional medicine education[14]. Although the Royal College oversees the medical education of specialists in Canada, the following key directives from the WHO of a credible quality assurance program in medical education apply. Leading practices should

    - involve major stakeholders,
    - be open to public review,
    - be collegial and consultative,
    - highlight strengths and weaknesses,
    - have a monitoring and review process,
    - have means and authority to implement improvements,
    - have access to adequate resources to make changes and
    - be goal oriented with well defined positive outcomes and benchmarks.

- Agrizzi et al. (U.K.) stated that accreditation is one of the most known and applicable methods for assessing the performance of health care organizations to ensure the delivery of high quality health care[15]. An in-depth array of key performance indicators (KPIs) in accreditation — with no fewer than 32 KPIs — provided extensive measures for developing standards, measuring outcomes and assessing overall quality.

- Borrowing from the U.S. Agency for International Development (USAID), its 18-year quality improvement project provides guiding principles under methods and tools to help implement quality improvement in practice[16]; adapting quality improvement principles to specialties,

    - patients and providers alike are the prime beneficiaries,
    - system and process transparency and simplicity are prime attributes,
    - measurements of performance, standards and progress are prime metrics and
    - positive outcomes are based on inter and intra specialty collaboration.

- Continuous quality improvement processes are well underway in Australian primary health care[17]. Leadership at all levels to facilitate organizational linkages and engaging multiple stakeholders are critical to success — including policies that shape regulatory, financing and performance frameworks that support a vision for quality improvement.

- The Institute for Healthcare Improvement[18] uses a *Model for Improvement* to help organizations implement QI by facilitating change to break unworkable paradigms.

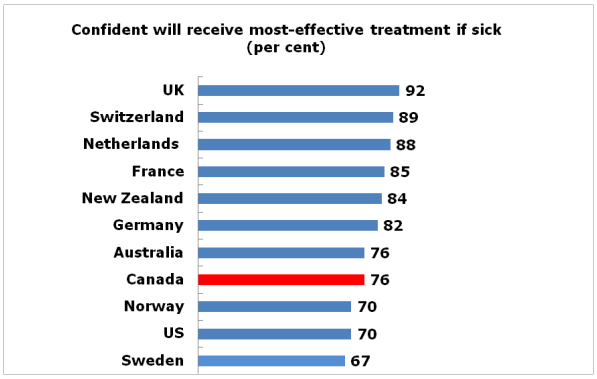
Measuring outcomes

Key performance indicators (KPIs) are used as gauges to evaluate quality improvement progress in achieving desired outcomes. Short-term indicators or dashboards give immediate feedback; others measure attainment of long-term possibilities. Grades or scores measure gaps against standards.

Of the eight dimensions of quality discussed in this paper, most quality improvement literature and definitions highlight patient satisfaction as a primary goal for deploying quality improvement measures, patient satisfaction being a component of "acceptability". However, its attainment is not possible if provider satisfaction is ignored. Their mutual relationship is inextricably linked and the physician-patient relationship — as well as other health professional-patient relationships — is at the core of a patient-centric philosophy.

Patient satisfaction

Health Canada identifies patient satisfaction as a measure of well-being in Canada[19]. Although the majority of Canadians are generally satisfied with health care as supported by a 2010 survey by the Commonwealth Fund, when compared to their cohorts in comparably developed countries, Canada has amongst the worst showings across key indicators that possibly measure patient satisfaction (e.g., inset).



A recent Canadian study published in the British Medical Journal (BMJ)[20] that also made headline news[21], correlated prolonged emergency department wait times with greater risk of adverse events — validating patient concerns. Regardless, patient satisfaction/dissatisfaction is an important KPI in quality improvement. Evidence points to increasing levels of patient frustration based on certain aspects of delivery which tarnish the quality image of health care.

The findings are *not* a reflection of the quality of care when received but it is an indication that the delivery system is under stress and therefore affecting the quality of deliver. More work needs to be done to correlate outcomes with contributing factors.

The Government of Canada published a report on its role within the context of the health of Canadians[22]. Its findings pointed to a number of Canadian expectations that provide a litmus test for quality improvement objectives: Canadians want federal, provincial and territorial co-operation with respect to health care delivery — there is strong support for national standards in health care provision and they want timely access to medically necessary services regardless of an individual's ability to pay — and without causing financial hardship.

A report by the Health Council of Canada[23] addresses the key elements of the first ministers' agreements on health care driven by public opinion and perception of quality. Negative perspectives continue around access to care, wait times and human resources for health — perceived doctor and nurse shortages.

Provider satisfaction

If quality improvement implementation is to take hold, provider satisfaction/dissatisfaction KPIs need to be part of the equation. A U.S. study in 2006 highlights the pressure points of dissatisfaction and the factors that affect high satisfaction levels of physicians in hospital settings[24]. These KPIs need more insight into the Canadian context including other health-care providers.

Endnotes

1. Royal College, 2010, *CanMEDS Physician Competency Framework*, 1
2. Soroka, 2007, *Canadian Perceptions Health Care*, 3
3. CFPC, 2009, *Bring it on Home*, 4
4. CMA, 2011, *Principles Health Care Transformation*, 1
5. Best and Neuhauser, 2004, *Avedis Donabedian: Father Quality*, 472
6. Donabedian A. 2003. *An introduction to quality*, i
7. USAID, 2011, *QA in Healthcare*, 1
8. Varkey, Reller and Resar, 2007, *Basics of Quality Improvement*, 1
9. Macintosh and McCutcheon, 1992, *Stretching to Continuous Quality*, 19
10. Saskatchewan Health Quality Council, 2010, *Quality Insight 2010*, 1
11. Royal College, 2010, *CanMEDS Physician Competency Framework*, 1
12. CFPC, 2009, *Bring it on Home*, 4
13. CMA, 2011, *Principles Health Care Transformation*, 1
14. WHO, 2005, *Quality Assurance Traditional Medicine*, 29
15. Agrizzi, Jaafaripooyan and Akbarinhaghighi, 2010, *KPIs for Healthcare Accreditation*, 8
16. USAID, 2011, *QA in Healthcare*, 2011, *How to Improve*, 1
17. Gardner et al., 2010, *Understanding Uptake Quality Improvement*, 1
18. Institute for Healthcare Improvement, 2011, *Model for Improvement*, 1
19. HRSDC, 2005, *Health Patient Satisfaction*, 1
20. Ackroyd-Stolarz et al., 2011, *Emergency Department Adverse Events*, 1
21. Blackwell, 2011, *ER Crowding Greater Risk*, 1
22. Government of Canada, 2002, *The Health of Canadians*, 1
23. Soroka, 2007, *Canadian Perceptions Health Care*, 15
24. Bogue et al., 2006, *Secrets of Physician Satisfaction*, 31

Bibliography

Ackroyd-Stolarz S, JR Guernsey, NJ MacKinnon and G Kovacs. 2011. *The association between a prolonged stay in the emergency department and adverse events in older patients admitted to hospital: a retrospective cohort study*. Last retrieved April 1, 2011, from BMJ website: www.qualitysafety.bmj.com

Agency for Healthcare Research and Quality. 2011. *Health Care Efficiency Measures*. Last retrieved April 25, 2011, from AHRQ website: www.ahrq/gov/qual/efficiency

Agrizzi D, E Jaafaripooyan and F Akbarihaghighi. 2010. *Key Performance Indicators (KPIs) for healthcare accreditation system*. Last retrieved April 25, 2011, from University of Southampton website: www.southampton.ac.uk

Best M and D Neuhauser. 2004. Heroes and martyrs of quality and safety. Avedis Donabedian: father of quality assurance and poet. Quality Safety Health Care BMJ. **13**: 472 – 473.

Blackwell T. 2011. *ER crowding puts patients at greater risk, study finds*. National Post. January 27, 2011.

Bogue RJ, JG Guarneri, M Reed, K Bradley and J Hughes. 2006. Secrets of Physician Satisfaction. *The Physician Executive*. November-December 2006: 30 – 39.

Canadian Medical Association. 2011. *Principles to Guide Health Care in Canada*. Consultation draft: 4 pp.

Canadian Patient Safety Institute. 2009. *Canadian Disclosure Guidelines*. ISBN 978-1-926541-00-6

College of Family Physicians of Canada. 2009. *Patient-centred Primary Care in Canada: Bring it on Home*. Discussion paper: 27 pp.

Dagnone T. 2009. *For patients' sake. Patient first review commissioners report to the Saskatchewan Minister of Health*. Last retrieved September 22, 2011, from government of Saskatchewan website: www.health.gov.sk.ca/patient-first-review/

Donabedian A. 2003. *An Introduction to Quality Assurance in Health Care*. New York: Oxford University Press.

Donabedian A. 1990. The seven pillars of quality. *Archives of Pathology & Laboratory Medicine*. **114** (11): 1115 – 1118.

Frank JR, LS Snell, OT Cate, ES Holmboe, C Carraccio, SR Swing, P Harris, NJ Glasgow, C Campbell, D Dath, RM Harden, W Iobst, DM Long, R Mungroo, DL Richardson, J Sherbino, I Silver, S Taber, M Talbot and KA Harris. 2010. Competency-based medical education; theory to practice. *Medical Teacher*. 32: 638 – 645.

Gardner KL, M Dowden, S Togni and R Bailie. 2010. *Understanding uptake of continuous quality improvement in indigenous primary health care: lessons from a multi-site case study of the Audit and Best Practice for Chronic Disease project*. Last retrieved April 1, 2011, from Implementation Science website: www.implementationscience.com/contents

Government of Canada. 2002. *The Health of Canadians: The Federal Role — Final Report*. Last retrieved January 27, 2011, from Government of Canada website: www.parl.gc.ca/73/2/palbus/commbus/senate/com-e/soci-e/rep-e

Health Council of Canada. 2007. *Health Care Renewal in Canada: Measuring Up*. Toronto: Annual Report to Canadians.

Human Resources and Skills Development Canada. 2005. Health — Patient Satisfaction. Indicators of Well-being in Canada. Last retrieved January 26, 2011, from HRSDC website: www.hrsdc.gc.ca

Institute for Healthcare Improvement. 2011. *How to Improve*. Last retrieved November 28, 2011, from IHI website: http://www.ihi.org/knowledge/Pages/HowtoImprove/default.aspx

Kak N, B Burkhalter and M Cooper. 2001. Measuring the competence of healthcare providers. *USAID Quality Assurance Project*. **2** (1): 1 – 28.

MacIntosh AM and DJ McCutcheon. 1992. Stretching to Continuous Quality Improvement from Quality Assurance: A Framework for Quality Management. *Canadian Journal of Quality in Health Care*. **9** (2): 19 – 22.

Penchansky R and JW Thomas. 1981. The concept of access: definition and relationship to consumer satisfaction. *Medical Care*. 19 (2): 127 – 140.

Royal College of Physicians and Surgeons of Canada. 2010. *The CanMEDS 2005 Physician Competency Framework*. Last retrieved April 25, 2011, from Royal College website: www.rcpsc.medical.org/canmeds/CanMEDS2005/index.php

Sanmartin c, K Murphy, n Choptain, B Conner-Spady, L McLaren, E Bohm, MJ Dunbar, S Sanmugasunderam, c De Coster, DL Lorenzett and T Noseworthy. 2008. Appropriateness of healthcare interventions: concepts and scoping if the published literature. International Journal of Technology Assessment in Health Care. **24** (3): 342 – 349.

Saskatchewan Health Quality Council. 2010. *Quality Insight 2010. Measuring and Reporting for Learning and Improvement.* Saskatoon: Health Quality Council.

Soroka SN. 2007. *Canadian Perceptions of the Health Care System*. Toronto: Health Council of Canada.

Statistics Canada. 2006. *Access to Health Care Services in Canada: January to December 2005*. Ottawa: Catalogue no. 82-575-XIE

United States Agency for International Development. 2011. *Methods and Tools: QA in Healthcare*. Last retrieved February 28, 2011, from USAID website: www.qaproject.org/methods/resqa.html

Varkey P, MK Reller and RK Resar. 2007. Basics of Quality Improvement in Heath Care. Last retrieved April 25, 2011, from Mayo Clinic Proceedings website: www.mayoclinicproceedings.com

Weinstein MC and JA Skinner. 2010. Comparative Effectiveness and Health Care Spending — Implications for Reform*. New England Journal of Medicine*. 362: 460 – 465.

World Health Organization. 2005. *Quality assurance of traditional medicine education*. Geneva: ISBN 92 9061 199 5.