Available online at www.sciencedirect.com

Public Health

journal homepage: www.elsevier.com/puhe

Original Research

A quality assessment index framework for public health services: a Delphi study

Z.G. Zhao [a,*], J.Q. Cheng [a], S.L. Xu [a], W.L. Hou [a], J.H. Richardus [b]

[a] Shenzhen Center for Disease Control and Prevention, No. 8 Longyuan Road, Nanshan District, Shenzhen, 518055, China

[b] Erasmus MC, University Medical Center Rotterdam, Postbus 2040, 3000, CA, Rotterdam, The Netherlands

ARTICLE INFO

Article history:
Received 19 March 2014
Received in revised form
17 September 2014
Accepted 29 October 2014
Available online 30 December 2014

Keywords:
Quality assessment
Public health service
Index
Delphi

ABSTRACT

Objectives: This study sought consensus-based indices for quality assessment of the public health service (QAPHS) to evaluate the service quality of public health in Shenzhen and other cities in China.

Study design: A qualitative study.

Methods: A list of quality assessment indices was formed based on Donabedian theory. These indices were presented to an expert panel in a two-round Delphi study to establish a consensus view. A weight of indices was established to validate the applicability and practicability of the framework. The specialist authority coefficient and Kendall's W were also calculated based on statistical analysis.

Results: A total of 30 experts participated in the Delphi study. Consensus was reached on four first-grade indices, nine second-grade indices and 28 third-grade indices. The specialist authority coefficient (Cr) was high (between 0.88 and 0.92), while Kendall's coefficient (W) of all the indices was >0.5 with statistical significant differences ($P < 0.05$). This indicated correlation among panelists and had high reliability.

Conclusions: A unified and hierarchical quality assessment index framework for public health services was established. The framework should be further tested and improved in practice.

Introduction

Quality assessment in public health is the measurement of achievement of population health objectives and practices.[1] Public health agencies worldwide have increasingly recognized the potential benefits of quality assessment and the need of formal assessing and improving the quality of their services.[2–5] Measuring quality can help monitoring progress toward public health goals and become more accountable to the populations they serve.[5,6] Public health quality indices are quantitative statements of quality assessment about the capacity, actions, or results of public health practices.[1] It is

* *Corresponding author*. Tel.: +86 0755 25502619; fax: +86 075525532595.
E-mail addresses: zhaozhiguang@hotmail.com (Z.G. Zhao), cjinquan@szcdc.net (J.Q. Cheng), christylele@126.com (S.L. Xu), 494466593@qq.com (W.L. Hou), j.richardus@erasmusmc.nl (J.H. Richardus).
http://dx.doi.org/10.1016/j.puhe.2014.10.016

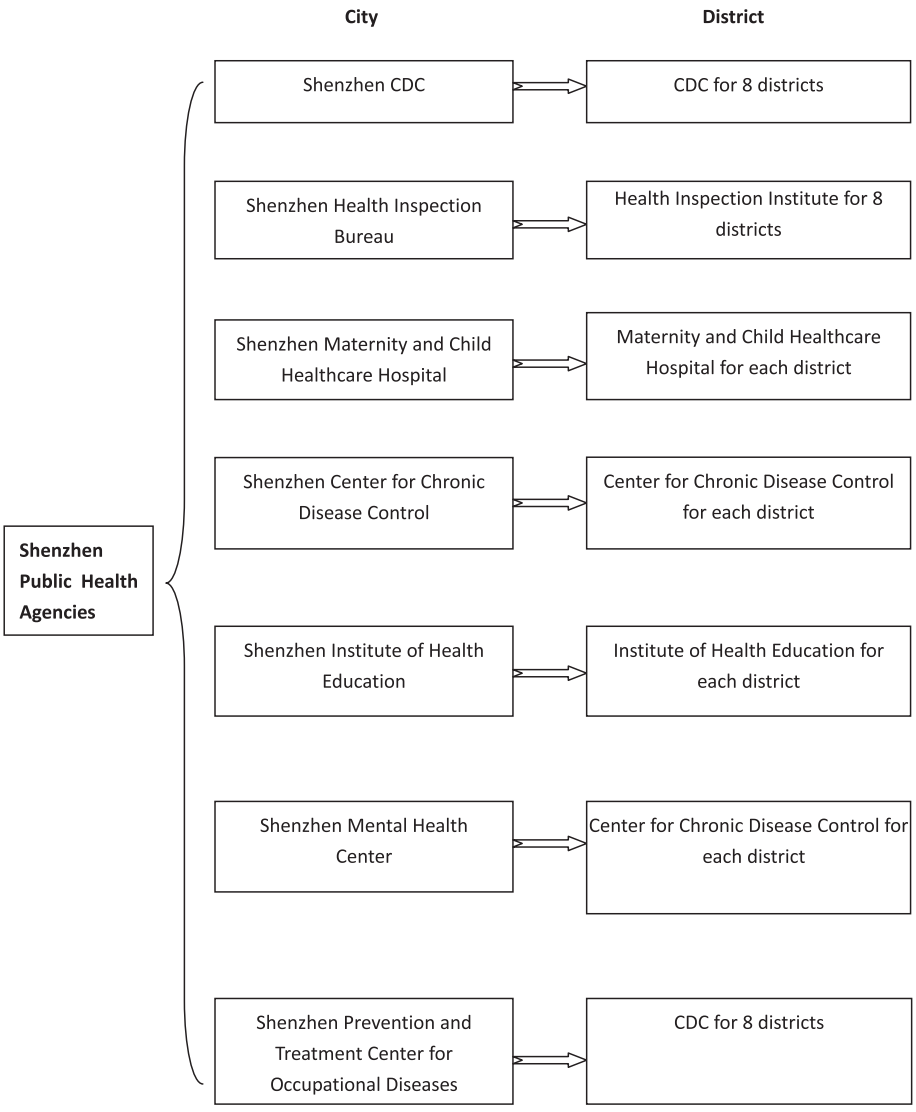

Fig. 1 – Public Health Agencies of Shenzhen at city and district level.

important to develop a framework of quality assessment indices for public health services for the purpose of standardization and comparability.

Shenzhen is a large port city in southern China, adjacent to Hong Kong, with over 15 million inhabitants, of which about 80% being a so-called floating population (non-registered migrant population). This unique demographic situation has led to a marked diversity of public health agencies in Shenzhen, including seven agencies at city level and more than fifty agencies at district level (Fig. 1).[7] For this reason, public health agencies in Shenzhen were classified differently from other cities of China. Nationwide, a set of assessment indices for public health institutions were released by China's Ministry of Health and applied generally since 2008.[8]

It is however, just the examination of one health department, namely 'Center for Disease Control and Prevention (CDC)' – the only public health agency of many regions of China which contains all basic public health work. Those assessment indices including regional assessment indices of six categories (control and prevention of communicable diseases and chronic non-communicable disease, public health emergency disposition, health hazards monitoring and intervention, health education and health promotion, operation security) with 17 items, and institutional assessment indices of eight categories (disease control and prevention, public health emergency disposition, information management, health hazards monitoring and control, laboratory testing, health education and health promotion, technical guidance and application, and comprehensive index) with about 35 items and 100 indices in provincial, municipal and county level. However, in Shenzhen, CDC is divided into several public health institutions (Fig. 1). Therefore, the comparison to several institutions should be conducted by China's Ministry of Health rather than in one institution when designing the assessment index framework. Moreover, the assessment index framework mainly focused on the seven basic functions of CDC, and the work of functions and items of the work. There are differences between the basic functions of public health agencies, also between their work. The assessment index framework cannot be available to all public health