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Enumerating the preventive youth health care workforce: Size, composition and regional variation in the Netherlands

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ABSTRACT

The progress in workforce planning in preventive youth health care (YHC) is hampered by a lack of data on the current workforce. This study aimed to enumerate the Dutch YHC workforce. To understand regional variations in workforce capacity we compared these with the workforce capacity and the number of children and indicators of YHC need per region.

A national survey was conducted using online questionnaires based on WHO essential public health operations among all YHC workers. Respondents ($n = 3220$) were recruited through organisations involved in YHC (participation: 88%).

The YHC workforce is multi-disciplinary, 62% had >10 years working experience within YHC and only small regional variations in composition existed. The number of children per YHC professional varied between regions (range 688–1007). All essential public health operations were provided and could be clustered in an operational or policy profile. The operational profile prevailed in all regions. Regional differences in the number of children per YHC professional were unrelated to the indicators of YHC need.

The essential public health operations provided by the YHC workforce and the regional variations in children per YHC professional were not in line with indicators of YHC needs, indicating room for improvement of YHC workforce planning. The methodology applied in this study is probably relevant for use in other countries.

1. Introduction

The services provided by the preventive youth health care (YHC) workforce are pivotal to current youth and future population health [1,2]. A recent study reported an inverse association between public health staffing and provision of preventive services to women and children on the one hand and infant mortality rates on the other [3]; this finding confirmed similar results from earlier research [4,5]. Insight into the capacity of the YHC workforce, and the services provided in relation to youth health needs, is required to support health human resource planning and to maintain and/or improve youth health. This also applies to countries with relatively good youth health. Although the health of youth in the Netherlands is among the best in Western Europe, promoting youth health remains a continuous challenge for the YHC workforce. Adverse trends over time in behavioural risk factors (e.g. overweight, and an uneven distribution of health across socioeconomic

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groups) may affect youth health and warrant continuous attention [6]. YHC is preventive care focusing on the growth and development of the child to prevent severe health problems, and is the largest discipline within the public health field in countries in Western Europe [7].

Workforce planning, or health human resource planning, consists of activities to bring the quantity and/or quality of the health human resources to a desired level [8,9]. Most countries in the WHO European region (WHO Eur), except for Albania, Spain and the Netherlands, make use of guidelines on the size of the YHC workforce in terms of a desired ratio between the numbers of children per YHC professional: ranging from, e.g. 1 nurse per 350 children in Armenia to 1 nurse per 2000 children in Cyprus [10]. However, standards on the appropriate size and composition of the YHC workforce in relation to youth health needs are absent in WHO Eur countries. Also lacking is adequate insight into the size and composition of the YHC workforce and the services provided, also in the Netherlands.

It is essential to fill this gap in knowledge to support YHC health human resource planning and policy development. Therefore, this study enumerates the YHC workforce and services provided in the Netherlands. In the absence of standards on the appropriate size of the YHC workforce, we examine whether regional variations in the workforce capacity can be understood in terms of the number of children per region and variations in indicators of youth health care need. We assumed to find more YHC workers in regions with more children and more YHC workers in regions with e.g. a higher prevalence of children with overweight, as indicator of youth health care need.

2. Methods

2.1. General study design

In 2013 we assessed the environmental public health workforce in the Netherlands using a newly developed strategy. This strategy showed that characterisation of the public health workforce and the services provided is feasible by (1) identification of relevant organisations and individual workers, and (2) obtaining information from those individuals via a questionnaire addressing the essential services provided. As this 2-step approach earlier appeared to be feasible and valid, we used this same strategy to assess the YHC workforce [11].

For the essential services we used the 10 essential public health operations (EPHOs) as defined by WHO Eur in 2012 [12].

For the present study, a national cross-sectional survey was performed. The YHC workforce was defined as all workers who contribute to the delivery of YHC. This definition was operationalised as all those who consider YHC as part of their job and who are responsible for providing any of the EPHOs. We specified the WHO's EPHOs for YHC and assessed the individual respondent's involvement in these by means of an online questionnaire.

Every effort was made to adequately inform all participants and to protect their privacy. According to Dutch law, formal ethical approval was not required for this study.

2.2. Development of the questionnaire

For specification of the EPHOs to YHC existing policy documents were used, e.g. from the professional organisation of YHC physicians and documentation on the basic duties package which municipalities have to fulfil according the Public Health Act [13]. We also involved a group of 7 national YHC experts who agreed on the resulting specifications. Based on the documents and the expert opinions, we added two services: 'management and team leadership' and 'providing a youth health safety net' as this is a specific public health operation in the Netherlands.

Table 1 presents a description of youth public health and the related EPHOs in the Netherlands. The YHC questionnaire contained 20 items divided into three sections: (i) eligibility and socio-demographic variables, (ii) job characteristics, and (iii) EPHOs.

After some adaptations based on a pre-test of this questionnaire among 30 YHC workers, the questionnaire took about 10 min to complete.

2.3. Recruitment of participants

All organisations likely to conduct YHC tasks were identified, i.e. all local public health services, other local YHC organisations, national public health organisations, and universities. Within these, we invited all workers considered to be involved in youth EPHOs.

To enhance recruitment of as many employees substantially involved in YHC, e.g. to recruit respondents involved in EPHOs 'monitoring' and 'health promotion' outside the departments of YHC, all workers from the divisions of epidemiology and health promotion of the local public health services were approached. Similarly, all workers from specific research institutes and departments of public health of universities were approached to recruit workers involved in EPHO 'advancing public health research' and 'assuring a sufficient and competent public health workforce'.

The mailing list was composed in collaboration with YHC experts and with support from the national association of organisations of the local public health services and one other national YHC organisation. This latter organisation supports YHC practice, policy and research from a national perspective and maintains a good overview of the national YHC networks.

2.4. Data collection strategy

The survey was performed in May 2014. The invitation to participate in the survey was distributed by e-mail to all organisations that agreed to participate, i.e. all local public health services ($n = 26$) and 73% of the other YHC organisations ($n = 16$) and, within these organisations, to >7000 workers. The invitation emphasised voluntary participation and confidentiality. The e-mail contained a link to a secured website where participants could complete the electronic questionnaire. In the week after the invitation, two reminders were sent to the non-responders. After two weeks the database was closed, data were downloaded, and the analyses were performed with SPSS 14.0.