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49 – Where General Practice Meets Public Health: Surveillance and Prevention as Examples

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Introduction

Traditionally, general practice deals with individual patient care for people with illnesses and diseases or who are worried about their health. Public health deals with the threats potentially affecting the health of populations, e.g. through vaccination programs, sanitation, surveillance, or health education at population level. Public health is organized and financed as a governmental service.

Health systems vary with respect to the integration of general practice and public health from almost complete overlap (e.g. in Central and Eastern European countries) to complete segregation (e.g. in Belgium and in The Netherlands). However, the level of integration does not affect the potential contribution of general practice to public health. We argue here that the setting of general practice and the information available in general practices is very valuable for public health purposes. We illustrate this for two domains of public health: surveillance of common infectious diseases, notably influenza, and the prevention of chronic diseases.

Surveillance of influenza and other common infectious diseases

The importance of general practice in signalling the emergence and the course of influenza epidemics over the last 60 years is well recognized and sentinel practice networks have been established in numerous countries [Deckers et al, 2006]. Historically these networks were established to monitor various common infectious diseases (e.g. measles, mumps, rubella) many of which are now prevented through vaccination. In these practices, data on the number of patients presenting for each illness is collected and reported on a daily or weekly basis to public health authorities. This 'early warning' information provides insight into the periodicity, age specificity and severity of epidemics. In the example of influenza, virological surveillance has been integrated as part of clinical surveillance in many countries enhancing the interpretation of clinical surveillance data and providing virological determination at the earliest opportunity [Hannoun et al, 1989]. The virus strain-specific information obtained from general practice supports the choice of vaccine strain types to be included in the WHO recommendations for influenza vaccine manufacture. Associated patient-specific vaccination uptake information has also facilitated studies of influenza vaccine effectiveness [Hardelid et al, 2012].

Influenza is the best example of an illness with a significant public health impact which is predominantly managed in general practice. There are many other illnesses (e.g. chickenpox/herpes zoster, skin infections) for which data from primary care is

essential for the evaluation of optimum and cost effective management strategies. In most countries sick persons usually visit a general practitioner as the first point of contact when they have significant symptoms, which makes general practice- based medical records a valuable source of information on population health trends.

Over the last 20 years general practices participating in the surveillance networks have converted from a paper to an electronic record-based reporting system, opening up new opportunities for disease surveillance and its management; in particular therapeutic management such as antibiotic prescribing, which is, as a result of its association with antimicrobial resistance, an issue of particular importance for public health. More than ninety per cent of antibiotic prescriptions are issued in general practice and it is essential if we are to achieve more appropriate use of antibiotics that patient-specific antibiotic data are collected routinely on a continuous basis [Woodhead et al, 2004].

Prevention of chronic diseases

According to the Institute of Medicine's categorization of prevention, universal prevention is the domain of public health, and indicative and care-related prevention is the domain of health care, including general practice. However, selective prevention (identification of people at high risk and interventions aimed at reducing their risk) has no natural embedding, neither in public health, nor in general practice. Selective prevention is at the interface of public health and general practice: it addresses the general population without symptoms or diseases and it addresses general practice for individualized risk-reducing interventions. As general practitioners keep a medical record of their patients, information about their risk profile is available. This facilitates the identification of persons whose risk profile is not available or incomplete, and these persons can be invited selectively. This increases the efficiency of selective prevention when compared to a mass screening prevention programme.

Prevention of chronic diseases such as cardiovascular diseases, diabetes mellitus or chronic respiratory diseases often means intervening in the lifestyle of people (physical exercise, smoking, diet). This includes interventions on the individual level, but also at the level of their household and the community they live in. General practitioners are in the ideal position to tailor risk-reducing interventions to individuals, with regard to their social and physical environment. Therefore, close collaboration between public health professionals and general practitioners in the field of prevention of chronic diseases is warranted and will increase the effectiveness of preventive interventions.

Where family practice meets public health: the importance of linked information

The examples of influenza surveillance and prevention of chronic diseases illustrate the interface between general practice and public health. An effective link between the two is established through the use of individual patient data which is collected routinely in general practice. Exploitation of this link requires the collection of the raw data from primary care and its storage as coded data according to an agreed classification system. Ideally, the same classification system should be used in all healthcare domains thus maximizing opportunities for linking information from different sources. There is also a need for longitudinal linkage over time which is readily achieved in patient-specific medical records. However, reliable linkage of individual patient data across different health care providers requires the use of unique patient identifiers. Information stored in (electronic) medical records is primarily recorded for individual patient care purposes but it has an economic value for public health services, e.g. for determining the disease burden in populations [Fleming et al, 2004]. There is also a political perspective: aggregated information from medical records provides critical information about groups of people who are otherwise marginalized such as persons with minor mental illness, immigrants, and homeless persons.

Take home messages

- Information available in general practices is very valuable for public health purposes
- General practice is the ideal setting for real-time surveillance of common diseases
- Patient-specific data needs to be recorded and stored according to an agreed classification system
- Patient-specific information from medical records facilitates tailored prevention of chronic diseases
- Aggregated data from general practices provide insight into population health

Original abstract

<http://www.woncaeurope.org/content/sentinel-practice-networks-contribution-general-practice-public-health-europe>

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