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Lecture #5**CHALLENGES AND TRENDS IN THE INTEGRATION OF WORKER HEALTHCARE: PROMOTION, PROTECTION AND ASSISTANCE**Alberto José Niituma Ogata^{1,2}

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Global economic, demographic, social and political changes demand a new approach to health. This new approach cannot be restricted to the health “sector,” i.e. providers, occupational medicine services, hospitals, diagnostic centers, healthcare facilities and even public policy planners. It is becoming more and more clear that the determinants of health are multiple and diffuse across society, which demands non-fragmentary and non-unifocal approaches. Population health seeks to provide an integrated view of health to achieve the outcomes desired by the different social stakeholders.

The social determinants of health comprise the various factors which interfere with the lives of people, such as the physical, social and economic environment and individual behaviors. The focus of public health actions falls on health determinants at the community level, preventive care, health education and individual and collective health policies. In turn, health outcomes, such as premature mortality, disability and noncommunicable diseases, derive from interactions among the various social determinants of health. As is known, individual and population inequalities interfere with the health outcomes. They are part of the transversal areas of the National Health Promotion Policy, which seeks to identify differences in living conditions and opportunities to allocate resources and effort to reduce unfair and avoidable inequality¹.

Within this context, the full scope of healthcare is taken into account, namely:

- a. Health promotion
- b. Risk and disease prevention
- c. Primary care
- d. Secondary care, including management of cases and chronic diseases
- e. Tertiary care

From the clinical perspective, the population health paradigm demands that the focus of integrated healthcare falls on health promotion, disease prevention and management of chronic diseases, which depend on the collaboration of active and committed patients².

Health systems are primarily designed to provide acute care. Within such context, actions are short lasting, reactive, poorly planned and problem-oriented. Integrating guidelines and tools to facilitate clinical decision making is not the rule, and clinical interactions are far removed from the ideal. Only a systemic approach will enable sustainable outcomes for health systems and will contribute to improve the quality of life of the population³.

According to Green and Kreuter, health promotion is “any combination of educational and environmental supports for actions and conditions of living conducive to health”⁴. According to these authors, the environmental sphere includes social, political, economic, organizational and regulatory circumstances in interaction with the behavioral component of health.

Within this context, one should distinguish between the notions of disease prevention and health promotion. Prevention is any measure which, implemented before the onset or aggravation of a given disease, seeks to remove disease from the sick, or vice versa, to hinder its manifestation or make it manifest in a less severe or softer manner in an individual or community. An example of preventive approach is the implementation of an immunization program through vaccination. In turn, health promotion corresponds to interventions which ideal goal is to eliminate disease permanently or over a long period of time, for focusing on its most basic causes, rather than merely seeking to avoid diseases from manifesting in individuals or communities⁵. Therefore, screening for early detection of cervical cancer precursor lesions by means of Pap test, for instance, is not a health promotion action.

The effectiveness of health promotion programs is highly variable. The success of interventions might depend of previous planning⁶.

Interventions to minimize risk factors among the overall population should be directed to improve their lifestyle. About 40% of the health of any person depends on their behavioral choices; the genetic component contributes with 30%, social circumstances with 15%, healthcare with 10% and environmental conditions with 5%. Factors such as inheritance and aging cannot be controlled, but lifestyles can be changed and are essential to improve the state of health⁷.

Many individuals are unaware of their risk for chronic conditions. In regard to cardiovascular diseases and diabetes, many people have not yet been diagnosed with arterial hypertension, diabetes or dyslipidemia. Many women with cervical and breast cancer are diagnosed in advanced stages of disease⁸. Similarly, health systems are not stratified according to risk factors and do not implement interventions aiming at their control and mitigation.

Population-based studies, such as VIGITEL and the National Health Survey, and cohort studies, such as ELSA-Brasil, demonstrate the relevance of integrating the different social stakeholders to increase the rates of physical activity and healthy eating, reduce the prevalence of alcohol abuse and smoking, improve the control of arterial hypertension and diabetes and control the rates of overweight and obesity⁸.

It is increasingly relevant emphasizing the notion of integrated care, which involves several types of collaborations, partnerships or networks of healthcare providers and services which act together to meet the multidimensional needs of individuals or groups with similar needs or problems. Integrated care is a response to the fact that chronic diseases only seldom can be treated separately. In this type of model, treatment (and prevention) are organized in a way to ensure increasingly integrated services across the full scope of healthcare⁹.

Management of population health demands a broader perspective encompassing the entire scope of healthcare, and technology is essential within this context. Technology allows for essential components of this model of management to gain relevance and achieving better outcomes, such as continuous care, patient's commitment to self-care, interoperable health systems, dynamic electronic medical records and coordinated care delivery. The various stakeholders in the health system need to migrate from the provider-based system to another that integrates data from various levels to improve patient care. In addition, service users are increasingly appropriating information, even via mobile devices, therefore, with a more proactive participation. Finally, technology allows broadening the scope of this approach, so that it does not only focus on diseases, but encompasses aspects related to the lifestyle and well-being of people¹⁰.

Digital health has substantial impact on health systems, by interfering with the power balance between providers and patients, enabling new care delivery patterns and shifting the focus of health systems to client-centered care. While many of these developments are still not much felt, owing to the resistance of organizations and people reluctant to change the status quo, the global explosive growth of digital technologies indicate that change is unavoidable. We might expect increasing resource to telemedicine for remote diagnosis and treatment, protocol-oriented healthcare to improve the quality of care and better access to goods and services based on changes in the organization of transport and delivery services. Data will have paramount importance for health systems, be they big data and artificial intelligence tools for surveillance, planning and management, or "personalized" data in universal electronic record systems and individualized treatment protocols⁹.

Electronic health records have now broader uses; from mere repositories of information they are becoming dynamic, supporting the patients' commitment to self-care, in addition to being able to interact so as to foster health.

At the population level, electronic health records bring two main contributions: (1) care provision — identification of patients who are not receiving adequate care, and (2) learning — use of accumulated data to refine and expand the corpus of evidence to improve the knowledge on the most effective and cost-effective interventions for definite population groups³.

The data in personal health records are relevant for population health management as concerns¹⁰:

- a. Surveillance — including collection, analysis and follow-up of data related to definite outcomes for planning, implementation and evaluation of programs
- b. Access to and follow-up of population health — particularly applicable to chronic conditions (such as asthma and diabetes, for instance). In addition, it is also possible to monitor the immunization status of a definite population
- c. Monitoring the effectiveness of interventions — including real-time screening to enable eventual adjustments and corrections to thus improve their effectiveness

Patient portals should no longer be destined to mere divulgation of health information. They have to have user-friendly interfaces, include educational videos, provide access to FAQs and enable the creation of virtual communities of individuals with the same problems. This in addition to developing channels of communication between patients and the health system.

We conclude that health systems and professionals should be prepared for the challenges represented by the growing rates of chronic diseases, new forms of labor, aging and increasing use of technology as a powerful ally in healthcare.

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