



Faculty of Humanities and Social Sciences  
Department Health Sciences and Health Policy

LECTURE SERIES SPRING 2017

# Strengthening Health Systems through Learning Cycles

Turn  
Knowledge  
into

**ACTION**

WEDNESDAYS AT 5.00 PM, HS 1

UNIVERSITY OF LUCERNE, FROHBURGSTRASSE 3, 6002 LUCERNE

# Introduction

Health care systems throughout the world are facing challenges, arising from changes in patterns of communicable and non-communicable diseases, population aging, technological progress, and resource constraints, to name but a few. To ensure fitness-for-purpose, effectiveness and efficiency of health systems, creative policy and practice responses are needed. Decision-making on all levels of the system should be supported by the best available evidence, systematically and transparently providing access to high-quality research that addresses health system needs, including the evaluation of expected benefits and costs of different courses of action. Many obstacles exist to this evidence-informed policy approach and in many countries it does not work.

In response to this structural failure, there is a call for a learning health system (LHS) – a system in which the research agenda can be more collaboratively developed to be responsive to current needs of the health system, facilitating the flow of information at the levels of policy, research and practice. Such a system creates a continuous learning process that matches research need, as identified by stakeholders, and research results. This in turn can enhance a culture of shared responsibility, creating a learning environment that links all actors in the health system – patients, health care providers, insurers, researchers and health policy makers – in the common cause to strengthen the health system, improve population health, and ultimately achieve better value for the money in health care.

In this lecture series, distinguished scientists from different countries and health care systems present their vision of a LHS and share their experiences in the implementation of the LHS idea. The Swiss Learning Health System (SLHS), hosted by the Department of Health Sciences and Health Policy at the University of Lucerne, in collaboration with different partner institutions, is a national initiative to build up necessary infrastructure, technology and mechanisms for a learning cycle in the context of the Swiss health system. The lecture series is part of the launch of the SLHS at the beginning of this year.

Coordinator of the lecture series:



Prof. Dr. Stefan Boes

[www.unilu.ch/healthsem](http://www.unilu.ch/healthsem)

# Program

March 8, 2017

**A Learning Health System for Diagnosis**



**Brendan Delaney**

*Chair in Medical Informatics and Decision Making  
Faculty of Medicine, Department of Surgery and Cancer  
Imperial College London, UK*

Diagnosis is one of the primary tasks of the Primary Care Physician or General Practitioner (GP), diagnostic error is also the single greatest reason for litigation against GPs. Decision support is one possible intervention to help with this task, but existing systems lack evidence-based content, integration with the electronic health record (EHR), and have been designed with no regard for either the cognitive tasks of the GP or the human-computer interface needed to support them. Further, conducting large studies to develop diagnostic evidence is notoriously difficult and costly.

Such a problem is an ideal target for the 'Learning Health System' (LHS), describing a digital infrastructure that supports research and knowledge translation activities as part of routine health IT. FP7-TRANSFoRM, an EU large collaborative project has supported the development of a LHS for diagnosis in primary care. An evaluation of a prototype system, integrated with an EHR system, using simulated patients (actors), found an 8% absolute improvement in diagnostic accuracy with the decision support system versus without.

March 22, 2017

**Antibiotic Resistance from a Health Systems Perspective and as Part of Agenda 2030**



**Göran Tomson**

*Senior Professor of International Health Systems Research Department  
of Public Health Sciences, and Department of Learning, Informatics,  
Management and Ethics Karolinska Institutet, Sweden*

Antibiotic resistance (ABR) has been classified by WHO as one of the greatest threats to global health. Current use, misuse, and overuse of antibiotics raise dangers and ethical dilemmas that cannot be solved in isolation, exclusively within a health system building block or even within the health sector only. There is a need to tackle ABR on levels ranging from individuals, households, and the communities, to health care facilities, the entire health system, but also the animal and environment sector (One health) and finally to national and global levels. Going beyond the health system building blocks means looking at determinants of ABR referring to wider global dynamics including Agenda 2030 with the SDGs. Multi-level governance is the key for successful action in containment strategies. This will involve health systems, the wider national context as well as the global community that influences the functioning of these health systems. In order to be effective and sustainable in both high and low-resource settings, implementation of containment interventions at all levels needs to be managed based on existing theories and models of change.

April 5, 2017



## The Emperor Is Naked: Challenging Assumptions in Health Systems Evidence

**Xavier Bosch-Capblanch**

*Senior Scientist, Project and Group Leader*

*Swiss Tropical and Public Health Institute, Switzerland*

There is wide agreement among the international health community that decisions in health care have to be informed by the best available evidence. Approaches for the production, synthesis, dissemination and use of evidence have been largely systematised, thanks to the pioneering work in clinical medicine. But, how do we adapt and apply those approaches when dealing with health systems issues? Do our assumptions really hold? Examples from low- and middle-income countries are provided to illustrate ideas.

May 3, 2017



## Health System Reforms and Implementation

**Rifat Atun**

*Professor of Global Health Systems*

*Harvard T.H. Chan School of Public Health, USA*

This lecture will approach the vision of learning health systems from a global perspective. Health-policy makers throughout the world are concerned with challenges to their health care systems, and system reforms need to be designed and implemented. This includes but is not restricted to the adoption and diffusion of innovations in health systems, e.g., new health technologies, and innovative financing in a global health context. Prof. Atun will share his experiences from his work with various governments in developed and developing countries and organizations worldwide on the design, implementation and evaluation of health system reform initiatives.

May 17, 2017



## Toward a Global Learning System for Health Improvement

**Charles Friedman**

*Josiah Macy Jr. Professor of Medical Education*

*Chair of the Department of Learning Health Sciences*

*University of Michigan Medical School*

The world now has the opportunity to harness the power of information technology to improve individual and population health through the achievement of systems that can continuously study and improve themselves. Such systems integrate technology, people, policy, and process – and, as such, represent a new kind of «cyber-social» system operating an ultra-large scale. This achievement is possible because of considerable progress that has already been made, but many challenges and open questions remain. This presentation will describe the vision of Learning Health Systems, document the progress to date, and outline a pathway to realize the vision.

# Department of Health Sciences and Health Policy

The lecture series is organized by the Department of Health Sciences and Health Policy of the University of Lucerne. The department promotes research and prepares scientists to work in the field of health and disability from a biopsychosocial perspective. The theoretical framework of the department is rooted in the concept of human functioning, as codified by the World Health Organization's International Classification of Functioning, Disability and Health.

## **Master in Health Sciences**

This innovative educational program launched by the Department of Health Sciences and Health Policy of the University of Lucerne is the ideal preparation for an exciting career in health. Students of the Master program in Health Sciences also attend the lecture series. It is an important part of their curriculum to broaden their interdisciplinary understanding of health.

The program offers different majors that will provide students with the unique opportunity to closely work with their supervisors and further develop their expertise in the chosen area of interest. After completion of the first semester, students can choose from the following majors:

*Health Communication:* Studying the science of using communication to influence health decisions at the individual level, in institutions and in policy.

*Health Behavior and Management:* Facilitate learning on how health behaviors and health experiences can be addressed and changed with appropriate interventions or changes to the health system.

*Health Economics and Health Policy:* Providing the foundation and principles of economic thinking and theories of political science to understand complex health systems, and to identify and address future challenges in the health care sector.

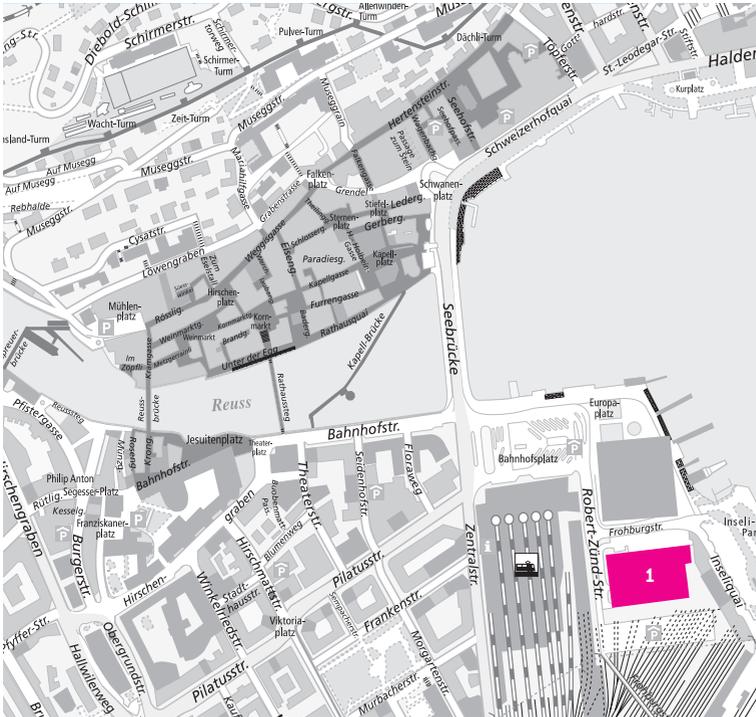
*Health Services Research:* Get accustomed with different health systems and learn the fundamental tools to develop and assess effective strategies to improve health from an institutional perspective.

*Research Methods:* Developing skills to aid decision making processes in the health sciences and related fields using state of the art quantitative and qualitative research.

The Master in Health Sciences aims to bring a new dimension into research, health service provision, and healthcare management by pioneering the development and application of a comprehensive approach in the field of health.



[www.master-healthsciences.ch](http://www.master-healthsciences.ch)



## Information

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