INSPECT-LB

Institut National de Santé Publique, d'Épidémiologie Clinique et de Toxicologie

POLICY BRIEF

HEALTH ECONOMICS

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Title: Health Economics Research in Lebanon

Authors: Iskandar K, Abdo R, Karam R, Rizk R

SUMMARY

In an era of health technology advancement and increased costs of new medications, there is an increased pressure for costs containment due to budget constraints. The challenge is to choose the right balance between costs and consequences and select the optimal treatment per money spent. Health economics is an emerging mandatory part of the drug registration process in many countries. It is a tool for assessing the efficiency and effectiveness of many practices in healthcare including medication use, treatment selection and infection control and prevention practices. However, it is not a tool for cost savings, it rather allows us to optimize the use of resources and secure patient safety. In Lebanon, health economics research is emerging and data is scarce. Lots of work and efforts are needed to inform and provide front line policy makers with the data needed to develop strategies for sustainable health improvement.

POLICY IMPLICATIONS/MAIN RECOMMENDATIONS TO THE MINISTRY OF PUBLIC HEALTH

- Creating a national multidisciplinary Health technology assessment division in the MOPH.
- Writing national policy and procedures for health technology assessment.
- Setting a mandatory national surveillance and reporting system for all communicable and non-communicable diseases.
- Writing the methodology for data access, evaluation and validation.
- Integrating health technology assessment in drug registration process and in reimbursement strategies.
- Creating disease related groups.
- Reviewing of health economics guidelines.

SUMMARY OF THE RESEARCH OF THE HEALTH ECONOMICS AXIS AT INSPECT-LB

Background

Assessment of the effectiveness of different healthcare treatment strategies and prevention practices can inform stakeholders including pharmacists, physicians, nutritionists, other healthcare professionals in addition to the hospitals and government about the efficiency of available alternatives. In Lebanon, data is lacking and efforts are done in isolation.

Health economics axis at INSPECT-LB is dedicated to provide valid data to allow extrapolation and generalizability and thus provide a reliable tool for healthcare decision making.

The axis of the health economics at INSPECT-LB is currently divided into four major interests:

- Acute communicable and non-communicable diseases.
- Chronic communicable and non-communicable diseases.
- Special population: Geriatric and pediatric patients.
- Infection control and prevention practices.

Acute Communicable and Non-Communicable Diseases

Economic burden of antibiotic resistance in Lebanon

Current situation: Antimicrobial resistance (AMR) is a silent pandemic, jeopardizing the achievement of the world's sustainable development goals. By 2050, deaths from AMR are projected to reach 10

million annually and associated costs are estimated to be as high as 100 trillion dollars. The prospect of entering a post antibiotic era mandates a global effort to contain this global public health threat. Estimates of the economic outcomes of AMR are being utilized by policy makers to push AMR up the political agenda, and have fueled the calls for a global collective action before it turns into a crisis. The World Health Organization 2014 report on surveillance of AMR highlighted the paucity of data especially in low and middle income countries, and stressed on the need for local high quality studies. In Lebanon, estimates of the economic burden of AMR are lacking. Quantifying financial impact of resistance is needed to establish the magnitude of AMR, in terms of both health and cost, and to evaluate the cost-effectiveness of interventions aiming to tackle the problem.

Current work: A prospective nationwide data collection has been conducted for a period of one year in 10 hospitals from different regions in Lebanon. Included patients were all infected adult hospitalized patients. Infection is documented clinically and microbiologically. Excluded patients were (1) cases of probabilistic infection with no growth according to microbiologic reports (2) patients less than 18 years of age and (3) cases admitted for less than 48 hours to the hospital. The study considered the payer perspective. Sources of data were hospital records including microbiology laboratory and financial records, physician reports and nurses progress notes. Five articles are projected to tackle the problem among which two were submitted and the remaining are under process.

- Article 1: Economic burden of urinary tract infection due to resistant compared to non-resistant Escherichia coli: A prospective cohort study
- Article 2: Highlighting the gaps in quantifying the burden of surgical site infection due to resistant compared with non-resistant bacteria

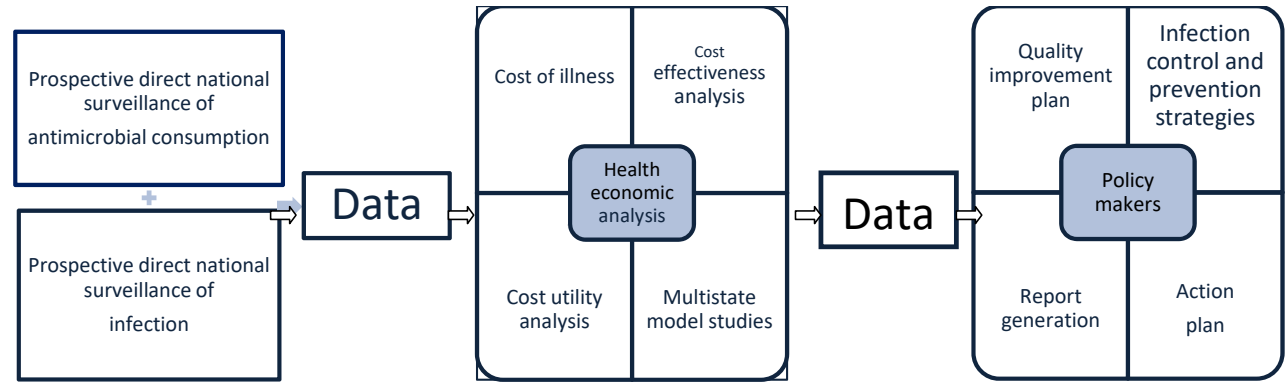
Action needed: it is suggested:

(1) to conduct an ongoing prospective national surveillance of antimicrobial consumption and reconcile data with microbiology testing results in hospital settings in addition to ongoing prospective national surveillance of infection in-hospital settings and in out-patient as part of patient follow-up for at least 90-day post-discharge depending on the type of infection. A surveillance plan must be mandatory consistent ongoing and tested for its ability to generate accurate and reliable data and serve as feedback and benchmark purposes.

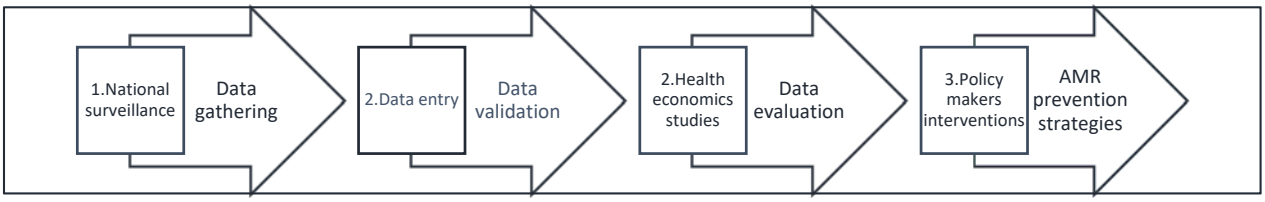
(2) Data will serve as basis for health economic analysis for the evaluation of the cost of illness and the cost-effectiveness of interventions aiming at the implementation of a quality improvement strategy to decrease the incidence of AMR.

(3) Results of these studies should be undertaken from multiple perspectives, ultimately the societal perspective in order for policy makers to set a national plan to support initiatives tackling the prevention of AMR and thus securing patient safety and sustainable development (Figure 1).

- Set a mandatory consistent and continuous national surveillance of communicable and non-communicable disease.
- Write data validation and data analysis plans.
- Implement a law mandating the reporting of infection and antibiotic consumption in the hospitals and in other healthcare settings.
- Recruit highly motivated, dedicated and highly trained in infection prevention preferably with expertise in epidemiology and basic knowledge in communicable diseases and data management and processing.
- Set a plan for public education and engagement.
- Put a national strategy to include to minimize and prevent antibiotic resistance.
- Consider the impact of antibiotic resistance on sustainable development.
- Consider the use of antibiotics in agriculture.



Data management plan



Implementation roadmap

Figure 1: *Proposed data management plan and Implementation roadmap*

Chronic Communicable and Non-Communicable Diseases

A. Hemodialysis and role of dedicated dieticians (DD)

Current situation: The Lebanese Healthcare Organizations Accreditation Law does not currently specifically describe the required dietetic care for hemodialysis patients. Clinical duties of the hospital dietitian are limited to providing evidence that the dietitian responds to requests to assess patients, in addition to a documented review on a standardized form in patients' medical records, with no specifications for hemodialysis patients. The renal dialysis chapter of the accreditation law only requires evidence of regular consultation and coordination with other health professionals (e.g. dietitians), without further specifications of the dietitian-to-patient ratio or time. The roles and responsibilities of dietitians are thus not set nor organized by law. Accordingly, almost all hemodialysis patients in Lebanon receive only one yearly routine dietetic consultation; in addition to dietetic counseling following nephrologists' consult request.

Previous work: Cost-effectiveness of dedicated dietitians for hyperphosphatemia management among hemodialysis patients in Lebanon [1-5]

The most recent local evidence on the effectiveness of dietetic interventions for hyperphosphatemia management among prevalent hemodialysis patients emanates from the Nutrition Education for Management of Osteodystrophy (NEMO) trial. Results from the NEMO trial showed that intensive nutrition education by dedicated dietitians targeting hyperphosphatemia management was superior to the other protocols in reducing serum phosphorus, without compromising the nutritional status of the patients. An alongside economic evaluation showed that the dedicated dietician protocol yielded the greatest effectiveness and decrease in societal costs, but did not affect QALY. Recruitment of a dedicated dietician seems to be a cost-effective initiative leading potentially to costs savings on the long term basis.

Action needed:

- Include an article in the Lebanese Healthcare Organizations Accreditation Law, specifying a minimal dietitian-to-hemodialysis patient ratio and time
- Ensure adequate dietitian caseload (dietitian-to- patient time and ratio) through recruiting dietitians solely dedicated to hemodialysis patients
- Clarify the roles and responsibilities of the dedicated dietitian

- Recognize the role of the dietitians at the hemodialysis unit, involving them in the multidisciplinary patient care and best practices approach in the hemodialysis units in order to ensure optimal patient outcome
- Provide every hemodialysis patient adequate nutrition education through DD
- Add the cost of the intensive nutrition education to the bundled payment to the hospitals by third party payers
- Include renal dietetic specialization within the didactic or internship programs in Lebanon

B. Economic Burden of Multiple Sclerosis (MS) on the Lebanese Society

Current situation: In Lebanon the number of MS patients is estimated to be between 1200 and 1700 based on 2008 figures. The peak age of onset of MS is in the third decade, with 62.4% of the patients developing their first symptoms between 20 and 39 years. Of the total number of patients, 85.1% have relapsing remitting MS at onset, and 7.9% primary progressive MS. The Lebanese Ministry of Public Health covers the costs of all MS medications. However, besides medications, the treatment of MS requires additional blood tests, imaging and chronic medical follow-up that are costly and unfortunately not covered by the MOPH which places an additional burden on the MS patients. Up-to-date, there are no information about the total costs of MS to the Lebanese health care system and society; also, the impact of MS on QOL of Lebanese patients was not previously explored.

Action plan:

- Highlight the need for the Ministry of Health to cover additional expenses related to chronic medical follow-up, and relapse treatments that place an added burden on the MS patients
- Use health-related quality of life (HRQoL) assessments of MS patients to check whether interventions have been effective, and to determine whether further action is required

Special Population: Geriatric and Pediatric Patients

Current situation: Health economic studies tackling special population are lacking. Geriatric and pediatric populations have different physiologic characteristics affecting the pharmacokinetic and pharmacodynamics properties of the medication. Response to the treatment and treatment strategies is expected to show variability making it important to focus on these age groups in order to deliver efficient personalized care.

Action needed:

- National data gathering should consider the particularity and vulnerability of the geriatric and pediatric age groups as a special focus during data validation, processing and analysis
- Disease related groups should be established in order to provide equity in reimbursement and access to the treatment
- Geriatric population should be granted a health budget for an overall assessment of fragility and health status. Cost effectiveness studies potentially will show that investing in prevention and optimizing medication use can lead to savings in morbidities, mortality and improvement in QOL.

Infection Control and Prevention Practices

Current situation: In order to provide high quality of patient care and prevent infection particularly surgical site infection, different infection control and prevention strategies are used in the hospital and in the community. According to the CDC and the WHO, these practices are often expensive and lack evidence. Cost-effectiveness studies are needed to show which approach is cost-effective in order to minimize costs and improve benefits.

Action needed: Pharmacoeconomic data should be an integral part of the drug registration process and reimbursement strategies.

Conclusion

The health economics axis of INSPECT-LB is aiming to conduct research projects to guide decision-makers in their future actions.

Members of INSPECT-LB health economics axis are ready to discuss any of these suggestions with the Ministry of Public Health, and present all needed documents and action plans.

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