

Developing a systems-based framework to assess the impact of the organizational-level financial mechanism on the provider behavior in the hospital setting

Guanyang Zou^{a,c} Barbara McPake^a Xiaolin Wei^b, John Walley^c, Karina Kielmann^a

^aInstitute for International Health and Development, Queen Margaret University, Edinburgh, UK

^bSchool of Public Health and Primary Care, the Chinese University of Hong Kong, Hong Kong, China

^cNuffield Centre for International Health and Development, University of Leeds, Leeds, UK

Background

Evidence on the organizational-level financial mechanism on provider behavior is scarce and weak. This study aims to propose and pilot-test a systems-based framework to assess impact of the organizational-level financial mechanism on provider behavior in the hospital setting.

Methods

The framework was established by synthesizing theoretical and empirical evidence of applying systems theories such as systems dynamics on health interventions. Using case study approach, the framework was pilot-tested in a Chinese county. Tuberculosis care, previously provided by TB program, was recently integrated in a ‘designated’ public hospital to improve ‘people-centeredness’. However, this hospital received no government funding to support the newly integrated TB unit(financially ‘self-sustaining’). The study methods included patient chart review, in-depth interviews and causal loop diagramming.

Results

The framework encompasses organizational-level financing mechanisms and management processes, both interacting to influence provider behavior. The intermediary management processes include inter-connected sub-blocks of health governance, resources management and organizational culture.

Integration did not necessarily improve the ‘people-centeredness’, with a high level of irrational prescriptions for uncomplicated TB cases in terms of prescription of non-TB drugs(70%), CT(90%) and hospitalization(16%)(‘*unintended consequences*’). Non-linear relationships were found between the financial mechanism and prescription behavior. Lack of government

funding('self-sustaining') demotivated the hospital management: distorted 'performance-based' bonus systems, dominating medical culture and lack of clinical governance and training on TB care (*'reinforcing loop'*). Recent implementation of zero markup policy of drug prescriptions may limit drug prescriptions(*'balancing loop'*). However, this does not apply to prescribing hospitalization and medical investigations like CT.

Conclusion

The proposed systems-based framework, further amplified with a causal-loop diagram is useful in evaluating systems-level interventions, especially in identifying complex and dynamic relationships, key determinants and contextual-level factors that affect the achievement of 'people-centeredness'. This study will contribute to improving the operational concepts and frameworks for the WHO-recommended systems-based thinking, currently remaining abstract and theoretical.