Information Technology for Health Care in Mozambique

Editorial Introduction

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Mozambique provides a truly challenging setting for the implementation and introduction of health information systems. With its brutal, colonial history under the Portuguese, followed by a devastating post-colonial civil war, Mozambique is only slowly recovering. The legacy from this relatively recent history has left deep scars in ways that are relevant to the development of health information systems under the current social and political conditions, as this special issue sets out to demonstrate.

With its almost 800,000 square kilometers, Mozambique is a vast country exceeding the size of Texas or France and has a population of approximately 20 million. Material and institutional resources, however, are extremely scarce. According to the Human Development Index developed by the United Nations Development Programme (UNDP) and the World Bank, Mozambique is ranked at number 157, making it among the 22 poorest countries in the world (UNDP, 2004).

This scarcity carries immediately over to the health care sector. Life expectancy is 38.5 years. Endemic malaria accounts for about 50% of all outpatient consultations with an estimated 14% of 15- to 49-year-olds with HIV/AIDS. The country's 435 physicians and 1200 health facilities are hard-pressed to serve the population of about 20 million.

From this crude outline of the socio-historical and political landscape, it should be evident that Mozambique represents an extreme case for developing and using health information systems (Avgerou & Walsham, 2000). In Flyvbjerg's (1998) terms, Mozambique is a *critical* case in the sense that if you can make a solution work here, against all odds, they should work in other, more favorable, locations as well. Yet, dramatic shortcomings in all kinds of resources, has simultaneously the potential to trigger local improvisation or *bricolage*, the life-blood of any properly grounded information systems, as pointed out by Ciborra (2000).

The information systems described in this special issue address the health care sector, i.e., they are domain-specific and not generic. This has important repercussions of both an analytical and practical nature. To establish working information systems in this sector, it

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is essential to tie them closely into existing technical, institutional, and political structures. New health information systems need to be *embedded* into the fabric of deeply entrenched routines. As opposed to more stand-alone information systems, health information systems of the kind discussed here are tightly intertwined with—thus sensitive to—the detailed configurations of the health care sector. In short, health information systems need to be institutionalized to work.

The four articles that make up this special issue section are all part of the ongoing, multicountry project HISP (Health Information Systems Program; www.hisp.org) aiming at improving health information management within the primary health care sector. The aim of HISP is, by furthering more effective health information management, to encourage more decentralized decision-making regarding distribution and prioritizing of health resources such as vaccination campaigns or targeted action for selected patient groups. It accordingly has a politically charged agenda insofar as it aims at intervening in underlying issues over power distribution and division of labor.

The article, "The Role of Communication Practices in the Strengthening of Counter Networks: Case Experiences From the Health Sector of Mozambique" by Emílio Luís Mosse and Sundeep Sahay, describes the local level micro-practices of the everyday reporting routines of health information from the Xai-Xai health district of Mozambique. At the hearth of the analysis, framed using Castells' (1996) notion of networks is the conditions for developing alternative routines (or counter networks). This addresses strategies to intervene into the existing, institutionalized routines and establish viable alternatives. The authors discuss political, social, and technological constraints, visible also at the local level, that need to be overcome to make organizational space for alternatives.

The article, "The Role of Identity in Health Information Systems Development: A Case Analysis From Mozambique" by Emílio Luís Mosse and Elaine Byrne, takes as its point of departure recent conceptualizations of identity formation. Moving beyond traditional accounts of identity as relatively stable personal attributes, Mosse and Byrne explore how identity is part of, and interacts with, the unfolding of professional activities (understood as "projects," see Giddens, 1991). Based on empirical material from the Cuamba health district of the Niassa province in Mozambique, the authors discuss tensions and power struggles between a predominantly centralized existing system and the health care workers' affinities and ties with the local community.

Baltazar Chilundo and Sundeep Sahay in their article, "HIV/AIDS Reporting Systems in Mozambique: The Theoretical and Empirical Challenges of 'Representations"' discuss the way accounts of HIV/AIDS are constructed, circulated, and acquire trustworthiness. Inspired by insights from the Science and Technology Studies field through the works of Latour (1999), the authors critically investigate the way representations—numbers, figures, percentages, and statements like "The resulting projections from the 2002 survey data have provided an estimate of the national prevalence rate in adults (15 to 49 years old) at 13.6%"—get constructed. Chilundo and Sahay thus engage in politically charged discourses on whose voice is heard and, ultimately, whose truth prevails.

Honest C. Kimaro and José L. Nhampossa in their article, "Analyzing the Problem of Unsustainable Health Information Systems in Less Developed Economies: Case Studies From Tanzania and Mozambique" discuss the conditions for making information systems based solutions survive *over time*, i.e., become sustainable (Braa, Monteiro, & Sahay, 2004). The motivation for this question comes from the depressingly clear pattern in many developing countries that after the early, possibly prototype-based, phases of a project, the information systems solution tend to whither away over time. Kimaro and Nhampossa

discuss and contrast the case of Mozambique and Tanzania. A key point in their analysis is the way donor-funded projects *create* challenges for sustainable solutions. This hinges on the fragmenting impetus of targeted, specialized donor-sponsored projects which contribute strongly to generating nonintegrated, heterogeneous efforts with accompanying information systems. This obviously is highly unintended of donor-funded projects in health care, yet quite evident. In Mozambique, the donor agencies account for 17% of GDP and are thus an influential but "unmanageable" actor on the scene.

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