Education Division Scholarship

Graduate School of Education and Psychology

11-2016

Transforming Conventional Curative Care into Holistic Wellbeing using mHealth Social Business Models

Kathy M. Andrews

Lani Fraizer

Faiz Shah

Cathleen Deckers

Farzin Madjidi

See next page for additional authors

Follow this and additional works at: https://digitalcommons.pepperdine.edu/gsepedu

Authors

Kathy M. Andrews, Lani Fraizer, Faiz Shah, Cathleen Deckers, Farzin Madjidi, Gabriella Miramontes, and June Schmieder-Ramirez

Transforming Conventional Curative Care into Holistic Wellbeing using mHealth Social Business Models

Kat Andrews, *EdD*, Lani Fraizer, *EdD*, Faiz Shah, *MD*, Cathy Deckers, *EdD/RN/MSN*, Farzin Madjidi, *EdD,* Gabriella Miramontes, *EdD,* June Schmieder-Ramirez, *PhD*

Pepperdine University, Graduate School of Education, Los Angeles, California USA
Yunus Center Asian Institute of Technology, Pathumthani, Thailand
California State University Long Beach, Department of Nursing, Long Beach, California USA

ABSTRACT
Extreme poverty often leads to poor quality of life with no access to basic human needs like healthcare (Fraizer & Shah, 2015). The lack of quality health care results in poor health outcomes, especially for those living in poverty and remote rural regions. Technology offers a pivotal role in bridging access and creating affordable solutions (Fraizer, 2009; Fraizer & Madjidi, 2012). In particular, technology for accessing mobile health, or mHealth, provides a unique opportunity for people to take an active role in their health care (Andrews, 2016; Andrews, Madjidi, Fraizer, Miramontes & Schmieder-Ramirez, 2016). This paper examines the global shift in the healthcare paradigm as a result of emerging digital technologies and ubiquitous telecommunication, and whether Social Business models can be successfully used to make healthcare more accessible and financially viable for those living in poverty and remote rural regions, without fundamentally affecting quality of care.

INTRODUCTION
One of the most basic human instincts (Cziko, 2000) is to sustain optimal health. When physiological needs are not met, people find themselves unable to function at the most basic mental, physical or emotional levels. For an increasing number of people around the world quality healthcare is out of reach because they lack insurance coverage, are in remote locations, and cannot afford the high cost of health services. For those living in poverty, particularly in remote rural areas, not being able to access affordable, quality health care adds the burden of disease and disability, further exacerbating marginalization.

The prevailing hospital-centered model is expensive as well as inadequate in serving growing populations with declining disposable incomes (OECD, 2016). Because this model requires the patient to physically present themselves at a hospital or clinic, and requires that a physician make all medical decisions, it is a high cost model that doesn't always match the resources with the patient needs. As a result, a large number of individuals choose to go without care, even when they have insurance. Those struggling with poverty, marginalization, and lack of access are even less likely to pursue such services (CDC, 2013).

The hospital-centered way of delivering care has been questioned since the early 1900s for prioritizing acute inpatient care, sometimes at the expense of community-centered wellbeing, creating what is now "a socially insensitive and economically dysfunctional" (Rosenberg, 1987, p. 6) system. In its 2008 hospital guidelines, The Joint Commission acknowledges that while the importance of the

hospital is unlikely to diminish as a hub for knowledge creation and expanding the boundaries of cutting edge healthcare, digital technology is poised to shift the focus of care delivery beyond the hospital.

Hospital-centered care models do not sufficiently promote preventative health measures or maintenance and management of chronic illnesses such as diabetes. In addition, they are increasingly unable to meet the financial, medical and technological demands of population based health measures. As a result, providing an affordable way for more people to be able to access quality care is vital to improving health and wellness outcomes.

With today's digital technology (Chase, 2012) and ubiquitous mobile telecommunication coverage, a global shift in the healthcare paradigm is clearly at our threshold. Mobile health, more commonly known as mHealth, grew out of virtual healthcare services that date back to the early 1900s with the introduction of the modern telephone which allowed physicians to conduct medical consults remotely. Today mHealth is fast evolving to offer multiple layers that are all geared towards improving access to services. Its practical application has advanced into a growing network of medical advice lines, video consultations, virtual hospitals as well as mobile health applications.

For communities with low resources and limited access to quality healthcare, mHealth provides alternatives that promote healthy behaviours, prevent disease, and reduce likelihood of recourse to hospitalization in a manner that is affordable and readily accessible. These alternative options are already increasing access to quality healthcare at reduced prices for communities all over the world.

For example, in Mexico, with a $5 monthly subscription with the local telephone company, subscribers can avail themselves of unlimited phone-consultations with licensed medical professionals 24

hours a day (Hansen, 2008). In Kenya, Changamka Microhealth works with the Health Ministry to provide prenatal care e-vouchers to low-income expectant mothers, which extend to a microinsurance service that allows expectant mothers to save money for maternity expenses through a mHealth mobile application ("app") called m-Kadi (Townsend, 2013; Changamka, 2016). In Bangladesh, Grameen Communication (GCC) offers services to the patient's doorstep through a "doctor-in-a-box" unit linked to a telehealth hub in Dhaka (Ahmed, n.d.). The same model is being replicated in rural Pakistan (GCC, 2016). In the U.S. the Department of Veterans' Affairs has, since 2004, progressively transitioned from episodic institution-based remedies to home-based self-management care programs and virtual physician consultations through telehealth applications (TJC, 2008).

These are just a few examples illustrating the potential of mHealth's ability to increase access to quality healthcare services. However, mHealth is still an experimental approach because the regulatory environment in most countries does not allow anyone except licensed medical practitioners to participate in healthcare delivery. Of the hundreds of mHealth smartphone applications and programs flooding the market, perhaps only a handful might qualify for regulatory approval. But those that fulfill the regulatory requirements, like the examples above, have widened access, affordability and quality through licensed professional supervision, and stand to multiply the benefits of healthcare for communities with low resources and limited access to quality healthcare.

For mHealth advocates, this blend of global reach, emphasis on disease prevention and well-being, and qualified supervision, is an ideal way for promoting sustainable health outcomes. Also, with more than 50 percent of hospitals in the U.S. grappling with insolvency (TJC, 2008), the mHealth model could well be the lifeline modern health care delivery

needs. For critics, the question then becomes "how can it be done", considering that hospitals and healthcare facilities are a major social investment that continue to attract significant public funding in most countries. Moreover, the entire system of care delivery is designed around the physician-led care team. The more care teams specialize, the more importance the hospital assumes, and ironically, the more cost-ineffective it tends to become.

One answer to this dilemma comes from Muhammad Yunus, the 2006 Nobel laureate recognized for his work in social empowerment and fight against poverty (Yunus, 2008, 2010). Yunus differentiates his model of Social Business from other social enterprise models by stating unequivocally that the Yunus Social Business is a for-profit business that competes in the open market, delivering goods or services to customers who are driven by value and have a choice. Yunus' social business model looks at business as a driver of social good, where a social entrepreneur enters the market to solve a social problem. The investors are entitled to recover their actual investment, and may claim a fair market-based salary for their effort, but must plough the extra income into expanding the social benefit to a larger number of people.

Yunus' model may not describe the profit-focused enterprise often associated with modern capitalism, but it does have the potential to create shared value (Porter & Kramer 2011) by putting people before profit. Social Business by design, creates value not by enriching a few through a narrow focus on earnings, but by meeting customer needs, and addressing broader determinants of long-term success such as the well-being of society, or the conservation of natural resources. or viability of supply chains towards a more self-sufficient and sustainable business environment.
For the healthcare sector this is not a new perspective. Healthcare delivery has historically been a Social Business, where the provider recovers investment and fair compensation from the

consumer, ideally out of proportion to the social good delivered. In the prevailing hospital-entered delivery model this kind of shared value-creation is often hard to see.

However, if healthcare were to be looked upon again as a social business as it was in the days before the modern hospital-centric model became mainstream, the Yunus Social Business model would be recognizable. This perspective would allow governments and taxpayers to better understand the value created by healthcare as a social business, which can save money while improving the health of patients (Kaplan & Porter, 2011). Using social business models allows for the creation of programs that can target various problems, such as inadequate transportation and lack of insurance, that create barriers to healthcare services. Millar, Hall & Miller (2016) identified three ways social business can be typically structured, today - social enterprises, cooperatives and micro enterprises - that successfully delivered cost effective healthcare services. Yunus' Social Business model intersects all three structures.

A Yunus Social Business can be a social enterprise that uses commercial activities and strategies for the purpose of solving social problems. They create more choices for patients, lower staff turnover, greater investment of profits, increased access to alternative income streams beyond the public sector and less bureaucracy (Millar, Hall & Miller, 2016). A case study by Roy et al. (2014) found that social enterprises enabled people with mental illness to be more active members of their community and reduced depressive symptoms which further enabling them to engage in job activities.

A Yunus social business can appear as a co-operative, with multiple stakeholders that include workers, community members, all reaping the benefits of income, employment and services that are generated from the services or products provided to those stakeholders as well as commercial markets

3

Andrews, K., Fraizer, L., Shah, F., Deckers, C., Madjidi, F., Miramontes, G., Schmieder-Ramirez, J. (2016). Transforming Conventional Curative Care into Holistic Wellbeing using mHealth Social Business Models. Presented at the Social Business Academia Conference, Paris, France: November 9-10.

(Virtue Ventures LLC, 2010). For example, co-operatives became more visible in Italy during the 1970s unemployment crisis when families and care workers began working together to create care organizations for people who were without any care or services. After a slowing down through the 1980s, an explosion of new co-operatives has made them essential for providing core elements of social services for unemployment, labor integration, those without medical care, and supportive services for people with disabilities (Golsing, 2003). Using social business as a co-operative business for healthcare delivery allows the operation to work on a smaller scale, enables them to work across the health and social care field to reach excluded groups, and allows for job integration in order to improve the economic inclusion of disadvantaged groups such as ex-offenders, those with mental illness and recovering addicts (Millar, Hall, & Miller 2016).

Further, a Yunus social business can be a micro enterprise, providing goods and services to their local community, while operating on a small capital investment with fewer than 10 employees. These micro business are independent of any large organization and are often run by people who are in need of some support (2016), such as street food and gift vendors, lawn services businesses, and peasants farmers. While the organizational structure of such a micro business can vary, they all aim to make enough profit to pay workers for the services and goods provided. Such micro businesses have an advantage over larger organizations when it comes to providing health care because they offer more personalized and flexible services, they have lower turnover rates which result in more consistent care, and are more innovative because of their ability to tailor services to a patient. Whatever the structure, these social business models create an avenue for improving accessibility to care, which can be further improved by using mobile technologies to support sustainability of healthcare services.

Effective mHealth designs and applications share similar ideals with social business models. Just as the Yunus' Social Business model looks at people first and profit last, mHealth applications that focus on people and health interventions, instead of the technology, are better equipped to establish goals that focus on the patient's health and outcomes. This approach results in successful mHealth applications that are able to provide suitable evidence that lend credence to its effectiveness as a healthcare intervention and justification for financial investments and reimbursement for health services.

Dr. Henry Greenspan identified four key components required for mHealth effectiveness: people, places, purpose and payment (Comstock, 2014). *People*, refers to tailoring technologies to a particular community or demographic and take into account how they will access the technology and their technological preferences. *Places*, looks at what infrastructures are in place for wireless and cellular services, rather than an actual physical location. *Purpose,* looks at what particular disease, disability, or health issues the mHealth technologies will be used for and what supports will be needed to manage the condition. *Payment,* is the business component that looks at payment, reimbursements and insurance. While these four components are not the only criteria used to measure effectiveness, they do provide a viable foundation on which to design a suitable mHealth application. But there is still the question of how to leverage mHealth within the social business model. What strategies and best practices would aid in successfully implemented mHealth interventions? Based on a study by Andrews (2016) there are several factors that influence implementation and adoption of mHealth technologies.

EXAMINING BEST PRACTICES
To gain better understanding of how to leverage mHealth within Yunus' Social Business, we explored basic concepts of mHealth practices, looked at successful mHealth launches across the

Andrews, K., Fraizer, L., Shah, F., Deckers, C., Madjidi, F., Miramontes, G., Schmieder-Ramirez, J. (2016). Transforming Conventional Curative Care into Holistic Wellbeing using mHealth Social Business Models. Presented at the Social Business Academia Conference, Paris, France: November 9-10.

globe, and other factors which influenced implementation. Andrews (2016) examined best practices for future successful adoption of mHealth practices. The purpose of the study was to identify the practices used and challenges faced by chief information officers in implementing mHealth technologies. The study specifically looked at strategies and practices used during implementation, challenges faced during implementation, how success of mHealth implementation was measured, and recommendations for future mHealth implementation.

Chief Information Officers (CIOs) from seven health care organizations were interviewed using a semi-structured interview technique. The three women (43%) and four men (57%) who participated represented four regions (West, Midwest, Northeast and South) of the United States. Four (57%) participants managed mHealth practices for multiple medical locations within their state, two (29%) participants managed mHealth practices for medical centers in multiples states, and one (14%) participant managed mHealth practices for one central location. Andrews (2016) found that several factors influenced the adoption of mHealth practices, which included financial support, policy support & standardization, stakeholder engagement, and inter-operability.

CONCLUSION

Human health is central to sustainable development, according to Principle 1 of the 1992 Rio Declaration on Environment and Development. All human beings are entitled to a healthy and productive life. Research (Andrews, 2016) already offers insight into the human side of mobile health services, the ethical practices associated with the mission of healthcare facilities, and the importance of keeping things simple regarding technology. Andrews (2016) emphasizes how critical it is to understand 1) the needs and preference of the people, 2) the organization's need for value-based pricing to maximize incentives and reimbursements, 3) the

infrastructure, specifically the connectivity and availability of cellular services, and 4) the purpose or focus behind the implementation of mHealth services. These are the very factors viable social businesses must address.

The Mobile Alliance for Maternal Action (MAMA) mHealth application is a perfect example of using technology to help people achieve a healthy and productive life. MAMA, winner of the 2012 Fast Company Innovation by Design award, aims to teach and reinforce healthy behaviors in expectant women during pregnancy and post-delivery in an effort to reduce maternal and infant HIV related mortality. Weekly health information and stage-based medical reminders are sent via text messaging to women living in Johannesburg, South Africa. Since its launch in 2013, it has reached more than 700,000 women and their families and now includes mobile social networks and a community portals for additional support and learning opportunities (MAMA, 2015). It has since expanded into a cooperative effort with Vodacom, one of the largest cellular phone provides in the African region, who will cover the cost of MAMA messages sent directly to 6000 women as well as provide free access to MAMA content for the more than 25 million Vodafone customers.

Mobile health services provide a unique opportunity for people to take an active role in their health care. Thus mHealth social business offers alternatives that can be vital to sustainable health and wellness, and as a consequence lead to a positive impact on social development. These behaviors are especially true for individuals living in low-resource, rural and remote regions.

REFERENCES
ABI Research. (2015). *8.8 Billion smart cards shipped in 2014 driven by growth in the banking and SIM card markets.* Retrieved from https://www. abiresearch.com/press/88-billion-smart-cards-shipped-in-2014-driven-by-g/

Andrews, K., Fraizer, L., Shah, F., Deckers, C., Madjidi, F., Miramontes, G., Schmieder-Ramirez, J. (2016). Transforming Conventional Curative Care into Holistic Wellbeing using mHealth Social Business Models. Presented at the Social Business Academia Conference, Paris, France: November 9-10.

The World Bank. (2016). *Aging in Thailand - Addressing unmet health needs of the elderly poor.* Retrieved from http://www.worldbank.org/en/news/press-release/2016/04/08/aging-in-thailand---addressing-unmet-health-needs-of-the-elderly-poor

Ahmed, A. (n. d.). *Portable health clinics: Preventative healthcare service at your doorstep*. Retrieved from http://doc.future-city.jp/pdf/H25Internationalforum_3rd/sub2_ahmed_en.pdf

Andrews, K. (2016). *Best Practices to Establish Successful Mobile Health Service in a Healthcare Setting.* (Unpublished doctoral dissertation). Pepperdine University, Los Angeles, CA.

Andrews, K. Madjidi, F., Fraizer, L., Miramontes, G. & Schmieder-Ramirez, J. (2016). Advancing health: Exploring mobile health innovations. Published in *The proceedings of the International Organization of Social Sciences and Behavioral Research*, Atlantic City, NJ.

Broadhead, L. (2015). *John Hopkins, Microsoft to develop technology to improve patient safety in ICU: Project will connect medical devices in effort to reduce preventable harm.* Retrieved from http://hub.jhu.edu/2015/10/19/hopkins-microsoft-patient-safety-technology/

CDC - Centers for Disease Control and Prevention. (2013). *Gateway to health communication & social marketing practice*. Retrieved from http://www.cdc.gov/healthcommunication/toolstemplates/entertainment/tips/preventive health.html

Changamka Health Innovations. (2016). *Microhealth m-Kadi maternit*y. Retrieved from http://changamka.co.ke/m-kadi-maternity

Chase, D. (2012). *Rethinking care delivery and payment models with nimble medicine*. Rerieved from http://www.kevinmd.com/blog/2012/03/rethinking-care-delivery-payment-models-nimble-medicine.html

Comstock, J. (2014). Deloitte's four P's for mobile health best practices. *MobiHealth News.* Retrieved from http://mobihealthnews.com/28844/deloittes-four-ps-for-mobile-health-best-practices/

Cziko, G. (2000). *The Things We Do.* Retrieved from http://faculty.education.illinois.edu/g-cziko/twd/pdf/

Darkins, A., Ryan, P., Kobb, R., et al "Care Coordination/Home Telehealth: The systematic implementation of health informatics, home telehealth and disease management to support the care of veteran patients with chronic conditions, Telemedicine and e-Health", in press, in *Health Care at the Crossroads: Guiding Principles for the Development of the Hospital of the Future* (2008), The Joint Commission.

Fraizer, L. (2009). *21st Century Social Changemakers and Next Generation Social Entrepreneurs*. Synergies in Sync: Folsom, CA.

Fraizer, L., & Shah, F. (2015). Partnership brokering as a driver of social business. *International Journal of Humanities and Social Sciences*, *2*(12).

Fraizer, L. & Madjidi, F. (2011). ICT and social entrepreneurship: implications of change making for the future ICT workforce. *Research in IT*, *8*(2).

GCC - Grameen Communications. (2016). Portable Health Clinic website: http://www.grameen communications .org/research__developments/electronic-health-record-system.html.

Gosling, P. (2003). *Social cooperatives in Italy: Lessons for the UK*. Retrieved from http://socialeconomyaz.org/wp-

Andrews, K., Fraizer, L., Shah, F., Deckers, C., Madjidi, F., Miramontes, G., Schmieder-Ramirez, J. (2016). Transforming Conventional Curative Care into Holistic Wellbeing using mHealth Social Business Models. Presented at the Social Business Academia Conference, Paris, France: November 9-10.

content/uploads/2011/06/SocialCooperativesInItaly.pdf

Hansen, F. (2008) A revolution in healthcare: medicine meets the marketplace. *Institute of Public Affairs*. Pp. 43-45.

Kaplan, R. S., & Porter, M. E. (2011). How to solve the cost crisis in health care. *Harvard Business Review*, *89*(9), 46-52.

Look, G. (2015). *Expanding healthcare in emerging markets: Improving cost, access and quality for the people without basic healthcare*. Retrieved from http://gelookahead.economist.com/expanding-health-care/

MacDonald, J. A., McGahan, A. M, Mitchell, W., & The T-Hope Team. (2013, Fall). *The future of health care access.* Retrieved from https://ssir.org/articles/entry/the_future_of_health_care_access

Millar, R., Hall, K. & Miller, R. (2016). *Increasing the role of social business models in health and social care: an evidence review.* Retrieved from http://ppiw.org.uk/files/2016/06/Social-Business-Models-in-health-and-social-care.pdf

OECD - Organization for Economic Co-operation and Development (2016), *Household disposable income* (indicator). doi: 10.1787/dd50eddd-en, (Accessed on 24 September 2016).

Porter, M.E, & Kramer, M.R., (2011) Creating Shared Value. *Harvard Business Review,89*(1/2), 62-77.

PWC. (2015). *Prosperity for the masses by 2020: China's 13th Five-Year Plan and its business implication*s. Retrieved from http://www.pwccn.com/webmedia/doc/635835257136032309_prosperity_masses_2020.pdf

Rosenberg, Charles E., (1987) The Care of Strangers: The Rise of America's Hospital System, Basic Books, New York, in *Health Care at the Crossroads: Guiding Principles for the Development of the Hospital of the Future* (2008), The Joint Commission. Retrieved from https://www.jointcommission.org/assets/1/18/Hosptal_Future.pdf

MIT CTL (n.d.). Supply chain innovation in emerging markets. Retrieved from http://ctl.mit.edu/research/past-projects/supply-chain-innovation-emerging-markets

TJC - The Joint Commission (2008) *Health Care at the Crossroads: Guiding Principles for the Development of the Hospital of the Future*, [p8, p16] The Joint Commission.

Townsend, J.C. (2013, June 7). *6 Business models that are transforming health systems around the world.* Forbes Magazine. Retrieved from http://www.forbes.com/sites/ashoka/2013/06/07/6-business-models-that-are-transforming-health-systems-around-the-world/#5ff3f9867e75

Virtue Ventures LLC. (2010). *Social Enterprise Typology: Cooperative Model.* Retrieved from http://ppiw.org.uk/files/2016/06/Social-Business-Models-in-health-and-social-care.pdf

World Economic Forum. (2014). Health systems leapfrogging in emerging economies. Retrieved from http://www3.weforum.org/docs/WEF_HealthSystem_LeapfroggingEmergingEconomies_ProjectPaper_2014.pdf

Yunus, M., (2008, November). Creating a World Without Poverty: Social Business and the Future of Capitalism. *Global Urban Development*, *4*(2).

Yunus, M. (2010). *Building Social Business*. New York, NY: Perseus Books Group.