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A SIMULATION METHODOLOGY TO INVESTIGATE THE IMPACT OF MEDICATION ALTERNATIVES FROM A COST PERSPECTIVE: A CASE STUDY

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ABSTRACT

This paper demonstrates how a simulation model can be utilized to help determine whether a given medication is justified from a cost perspective. The model is illustrated with data from three seasons of a children disease. The model considers the costs and benefits of using immunoprophylactic treatment from a health insurance perspective. The major value of this research is to demonstrate a generic model which can be modified into a decision making tool to investigate the feasibility of any other treatment-disease combination. Specifically, the proposed simulation methodology can be used to: (a) calculate the overall cost of a prevention and treatment program for any proposed medication rate and (b) define an optimal rate of medication which will result in minimum overall cost for any prevention and treatment program.

This research offers a simulation methodology which can be used by practitioners as an effective decision making tool to identify an appropriate medication rate based on medical and cost-based considerations. Simulation uses a logical abstraction of the reality through a computer model that "mimics" the behavior of the disease as it arrives in separate child population segments. Once the computer based simulation model is validated, the decision maker can test a range of alternative solutions for different scenarios. In addition, the robustness of the alternative solutions can be tested by "tweaking" the model to reflect changes in the parameters of the system.

The simulation model is illustrated with an example from the perspective of an insurance provider which was interested to establish a cost effective copayment policy. The disease reaches almost all children under 3 years old. It is especially challenging for children 6 months or younger and can potentially leave some children with life long heart or lung disease. On the other side, the disease treatment is very costly, and insurance groups are striving to design optimal policies to prevent the disease and/or reduce the cost of treatment.

USING SYSTEMS THINKING TO ANALYZE HEALTH CARE IN THE UNITED STATES: SHOULD WE MOVE TO A GOVERNMENT SPONSORED HEALTH CARE SYSTEM?

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ABSTRACT

This paper will focus on how applying Systems Thinking to the problems of implementing a Government Managed Health Care System in the United States. We will apply systemically thinking to the main entities affected and the trickle-down effect such an implementation will have on the various variable entities affected. When applying system thinking to the problem, many subsets of systems are affected. Although we could never identify all effects the implementation of a Managed Health Care System would have, we have focused on the areas that will incur the greatest impact. We will focus on the effects that a free National Health Care plan would have on the population, the government's involvement, advancement of research and the economic factor within the United States.

Keywords: Health Care, Systems Thinking, Government Managed

CUSTOMER SERVICE, EXPATRIATION AND VALUES AMONG EXPATRIATE ENTREPRENEURS

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ABSTRACT

In the current paper we examine the importance of Rokeach's Values Survey and its relationship with leadership, customer service orientation, and time as an expatriate for 264 expatriate entrepreneurs from the MiddleEast. The Coefficient of Determinations vary from .317 (Leadership) to .519 (Time as An Expatriate) when using Rokeach's value inventory.

REFERENCES

Buckley, M., Fedor, D., Carraher, S., Frink, D., & Marvin, D. (1997). The ethical obligation to provide recruits realistic job previews. *Journal of Managerial Issues*, 9 (4), 468-484.

Budd, J. & Carraher, S. (1998). Validation of an inventory to measure attributes of strategic management. *Psychological Reports*, 82 (3 Pt 2), 1220-1222.

Carland, J. & Carland, J. (1993). The role of personality in new venture creation. *Entrepreneurship, Innovation and Change*, 2(2), 129-141.

Carland, J & Carland, J. (1995). The case of the reluctant client. *Journal of the International Academy for Case Studies*, 1(2), 76-79.

Carland, J. & Carland, J. (1997). A model of potential entrepreneurship: Profiles and educational implications. *Journal of Small Business Strategy*, 8 (1), 1-13.

Carland, J. & Carland, J. (2003). Pawn takes queen: The strategic gameboard in entrepreneurial firms. *Academy of Strategic Management Journal*, 2, 93-104.

Carland, J. & Carland, J. (2004). Economic development: Changing the policy to support entrepreneurship. *Academy of Entrepreneurship Journal*, 10(2), 104-114.

Carland, J. & Carland, J. (2006). Eminent domain: What happens when the state takes part of your land? *The Entrepreneurial Executive*, 11, 95-113.

Carland, J.A.C., & Carland, J.W. (1991). An empirical investigation into the distinctions between male and female entrepreneurs managers. *International Small Business Journal*, 9 (3), 62-72.

Carland, J.A., Carland, J.W., & Stewart, W.H. (1996). Seeing what's not there: The enigma of entrepreneurship. *Journal of Small Business Strategy* 7 (1), 1-20.

Carland, J., Carland, J.A., & Abhy, C. (1989). An assessment of the psychological determinants of planning in small businesses. *International Small Business Journal*, 23-34.

Carland, J., Carland, J., & Carland, J. (1995). Self-actualization: The zenith of entrepreneurship. *Journal of Small Business Strategy*, 30-39.

Carland, J.W., Carland, J.A., & Hoy, F. (1992). An entrepreneurship index: An empirical validation. Babson Entrepreneurship Conference, Fontainebleau, France.

Carland, J.W., Carland, J.A., Hoy, F., & Boulton, W.R. (1988). Distinctions between entrepreneurial and small business ventures. *International Journal of Management*, 5 (1), 98-103.

Carland, J.W. III, Carland, J.W., Carland, J.A., & Pearce, J.W. (1995). Risk taking propensity among entrepreneurs, small business owners and managers. *Journal of Business and Entrepreneurship*, 7 (1), 12-23.

Carland, J.W., Hoy, F., Boulton, W.R., & Carland, J.A.C. (1984). Differentiating entrepreneurs from small business owners: A conceptualization. *Academy of Management Review*, 9 (2), 354-359.

Carland, J.W., Hoy, F., & Carland, J.A.C. (1988). Who is an entrepreneur? is the wrong question. *American Journal of Small Business*, 12 (4), 33-39.

Carraher, S.M. (1991). A validity study of the pay satisfaction questionnaire (PSQ). *Educational and Psychological Measurement*, 51, 491-495.

Carraher, S.M. (1991). On the dimensionality of the pay satisfaction questionnaire. *Psychological Reports*, 69, 887-890.

Carraher, S. (1993). Another look at the dimensionality of a learning style questionnaire. *Educational and Psychological Measurement*, 53 (2), 411-415.

Carraher, S. (1995). On the dimensionality of a learning style questionnaire. *Psychological Reports*, 77 (1), 19-23.

Carraher, S.M. (2003). The father of cross-cultural research: An interview with Geert Hofstede. *Journal of Applied Management & Entrepreneurship*, 8 (2), 97-106.

Carraher, S.M. (2005). An Examination of entrepreneurial orientation: A validation study in 68 countries in Africa, Asia, Europe, and North America. *International Journal of Family Business*, 2 (1), 95-100.

Carraher, S.M. (2006). Attitude towards benefits among SME owners in Eastern Europe: A 30-month study. *Global Business and Finance Review*, 11 (1), 41-48.

Carraher, S.M. (2008). Using E-Bay to teach global and technological entrepreneurship. *International Journal of Family Business*, 5 (1), 63-64.

Carraher, S.M. (2011). Turnover prediction using attitudes towards benefits, pay, and pay satisfaction among employees and entrepreneurs in Estonia, Latvia, & Lithuania. *Baltic Journal of Management*, 6 (1), 25-52.

Carraher, S.M., Buchanan, J.K., & Puia, G. (2010). Entrepreneurial Need for Achievement in China, Latvia, and the USA. *Baltic Journal of Management*, 5 (3), 378-396.

Carraher, S.M. & Buckley, M. R. (1996). Cognitive complexity and the perceived dimensionality of pay satisfaction. *Journal of Applied Psychology*, 81 (1), 102-109.

Carraher, S.M. & Buckley, M.R. (2008). Attitudes towards benefits and behavioral intentions and their relationship to Absenteeism, Performance, and Turnover among nurses. *Academy of Health Care Management Journal*, 4 (2), 89-109.

Carraher, S.M., Buckley, M.R., & Carraher, C. (2002). Cognitive complexity with employees from entrepreneurial financial information service organizations and educational institutions: An extension & replication looking at pay, benefits, and leadership. *Academy of Strategic Management Journal*, 1, 43-56.

Carraher, S.M., Buckley, M. & Cote, J. (1999). Multitrait-multimethod information management: Global strategic analysis issues. *Global Business & Finance Review*, 4 (2), 29-36.

Carraher, S.M., Buckley, M., & Cote, J. (2000). Strategic entrepreneurialism in analysis: Global problems in research. *Global Business & Finance Review*, 5 (2), 77-86.

Carraher, S.M., Buckley, M., Scott., C., Parnell, J., & Carraher, C. (2002). Customer service selection in a global entrepreneurial information services organization. *Journal of Applied Management and Entrepreneurship*, 7 (2), 45-55.

Carraher, S.M. & Carraher, C. (1996). ISO environmental management standards: ISO 14,000. *Polymer News*, 21, 167-169.

Carraher, S.M. & Carraher, C. (1996). ISO 9000. *Polymer News*, 21, 21-24.

Carraher, S.M. & Carraher, S.C. (2006). Human resource issues among SME's in Eastern Europe: A 30 month study in Belarus, Poland, and Ukraine. *International Journal of Entrepreneurship*. 10, 97-108.

Carraher, S.M., Carraher, S.C., & Mintu-Wimsatt, A. (2005). Customer service management in Western and Central Europe: A concurrent validation strategy in entrepreneurial financial information services organizations. *Journal of Business Strategies*, 22, 41-54.

Carraher, S.M., Carraher, S.C., & Whitely, W. (2003). Global entrepreneurship, income, and work norms: A seven country study. *Academy of Entrepreneurship Journal*, 9, 31-42.

Carraher, S.M., Hart, D., & Carraher, C. (2003). Attitudes towards benefits among entrepreneurial employees. *Personnel Review*, 32 (6), 683-693.

Carraher, S.M., Gibson, J. W., & Buckley, M.R. (2006). Compensation satisfaction in the Baltics and the USA. *Baltic Journal of Management*, 1 (1), 7-23.

Carraher, S.M., Mendoza, J, Buckley, M, Schoenfeldt, L & Carraher, C. (1998). Validation of an instrument to measure service orientation. *Journal of Quality Management*, 3, 211-224.

Carraher, S.M. & Michael, K. (1999). An examination of the dimensionality of the Vengeance Scale in an entrepreneurial multinational organization. *Psychological Reports*, 85 (2), 687-688.

Carraher, S.M. & Parnell, J. (2008). Customer service during peak (in season) and non-peak (off season) times: A multi-country (Austria, Switzerland, United Kingdom and United States) examination of entrepreneurial tourist focused core personnel. *International Journal of Entrepreneurship*, 12, 39-56.

Carraher, S.M., Parnell, J., Carraher, S.C., Carraher, C., & Sullivan, S. (2006). Customer service, entrepreneurial orientation, and performance: A study in health care organizations in Hong Kong, Italy, New Zealand, the United Kingdom, and the USA. *Journal of Applied Management & Entrepreneurship*, 11 (4), 33-48.

Carraher, S.M., Parnell, J., & Spillan, J. (2009). Customer service-orientation of small retail business owners in Austria, the Czech Republic, Hungary, Latvia, Slovakia, and Slovenia. *Baltic Journal of Management*, 4 (3), 251-268.

Carraher, S.M. & Paridon, T. (2008/2009). Entrepreneurship journal rankings across the discipline. *Journal of Small Business Strategy*, 19 (2), 89-98.

Carraher, S.M., Scott, C., & Carraher, S.C. (2004). A comparison of polychronicity levels among small business owners and non business owners in the U.S., China, Ukraine, Poland, Hungary, Bulgaria, and Mexico. *International Journal of Family Business*, 1 (1), 97-101.

Carraher, S.M. & Sullivan, S. (2003). Employees' contributions to quality: An examination of the Service Orientation Index within entrepreneurial organizations. *Global Business & Finance Review*, 8 (1) 103-110.

Carraher, S.M., Sullivan, S. & Carraher, S.C. (2005). An examination of the stress experience by entrepreneurial expatriate health care professionals working in Benin, Bolivia, Burkina Faso, Ethiopia, Ghana, Niger, Nigeria, Paraguay, South Africa, and Zambia. *International Journal of Entrepreneurship*, 9 , 45-66.

Carraher, S.M., Sullivan, S.E., & Crocitto, M. (2008). Mentoring across global boundaries: An empirical examination of home- and host-country mentors on expatriate career outcomes. *Journal of International Business Studies*, 39 (8), 1310-1326.

Carraher, S.M. & Welsh, D.H.B. (2009). *Global Entrepreneurship*. Dubuque, IA: Kendall Hunt.

Carraher, S.M. & Whitely, W.T. (1998). Motivations for work and their influence on pay across six countries. *Global Business and Finance Review*, 3, 49-56.

Carraher, S.M., Yuyuenyongwatana, R., Sadler, T., & Baird, T. (2009). Polychronicity, leadership, and language influences among European nurses: Social differences in accounting and finances, *International Journal of Family Business*, 6 (1), 35-43.

Chait, H., Carraher, S.M., & Buckley, M. (2000). Measuring service orientation with biodata. *Journal of Managerial Issues*, 12, 109-120.

Crocitto, M., Sullivan, S.E. & Carraher, S.M. (2005). Global mentoring as a means of career development and knowledge creation: A learning based framework and agenda for future research. *Career Development International*, 10 (6/7), 522-535.

Deng, F.J., Huang, L.Y., Carraher, S.M., & Duan, J. (2009). International expansion of family firms: An integrative framework using Taiwanese manufacturers. *Academy of Entrepreneurship Journal*, 15 (1), 25-42.

Hart, D. & Carraher, S. (1995). The development of an instrument to measure attitudes towards benefits. *Educational and Psychological Measurement*, 55 (3), 498-502.

Huang, L.Y. & Carraher, S. (2004). How effective are expatriate management and guanxi networks: Evidence from Chinese Industries. *International Journal of Family Business*, 1 (1), 1-23 .

Lester, D., Parnell, J.A. & Carraher, S.M. (2010). Assessing the desktop manager. *Journal of Management Development*, 29 (3), 246-264.

Lockwood, F., Teasley, R., Carland, J.A.C., & Carland, J.W. (2006). An examination of the power of the dark side of entrepreneurship. *International Journal of Family Business*, 3, 1-20.

Paridon, T. & Carraher, S.M. (2009). Entrepreneurial marketing: Customer shopping value and patronage behavior. *Journal of Applied Management & Entrepreneurship*, 14 (2), 3-28.

Paridon, T., Carraher, S.M., & Carraher, S.C. (2006). The income effect in personal shopping value, consumer selfconfidence, and information sharing (word of mouth communication) research. *Academy of Marketing Studies Journal*, 10 (2), 107-124.

Parnell, J. & Carraher, S. (2003). The Management Education by Internet Readiness (MEBIR) scale: Developing a scale to assess one's propensity for Internet-mediated management education. *Journal of Management Education*, 27, 431-446.

Scarpello, V. & Carraher, S. M. (2008). Are pay satisfaction and pay fairness the same construct? A cross country examination among the self-employed in Latvia, Germany, the U.K., and the U.S.A. *Baltic Journal of Management*, 3 (1), 23-39.

Sethi, V. & Carraher, S.M. (1993). Developing measures for assessing the organizational impact of information technology: A comment on Mahmood & Soon's paper. *Decision Science*, 24, 867-877.

Stewart, W., Watson, W., Carland, J.C., & Carland, J.W. (1999). A proclivity for entrepreneurship: A comparison of entrepreneurs, small business owners, and corporate managers. *Journal of Business Venturing*, 14, 189-214.

Sturman, M.C. & Carraher, S.M. (2007). Using a Random-effects model to test differing conceptualizations of multidimensional constructs. *Organizational Research Methods*, 10 (1), 108-135.

Sullivan, S.E., Forret, M., Carraher, S.M., & Mainiero, L. (2009). Using the kaleidoscope career model to examine generational differences in work attitudes. *Career Development International*, 14 (3), 284-302.

Welsh, D. & Carraher, S.M. (2011). *Case Studies in Global Entrepreneurship*. Kendall Hunt P.

Williams, M.L., Brower, H.H., Ford, L.R., Williams, L.J., & Carraher, S.M. (2008). A comprehensive model and measure of compensation satisfaction. *Journal of Occupational and Organizational Psychology*, 81 (4), 639-668.

TELEMEDICINE FOR RURAL SUB-SAHARAN AFRICA – BENEFITS AND DRAWBACKS

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ABSRACT

In rural sub-sarahan Africa there is shortage of highly trained medical staff which can limit the quality of care given to patients. A potential solution to this problem is to use telemedicine where specialist staff in another location can provide remote assistance to rural staff using a telecommunications network. In this paper we will discuss the benefits and drawbacks associated with a deploying telemedicine to enhance clinical decision support in rural sub-Saharan Africa.

Key Words: Telemedicine, Benefits, Drawbacks, Sub-Saharan Africa

INTRODUCTION

In rural sub-sarahan Africa there is shortage of highly trained medical staff which can limit the quality of care given to patients**.** In particular, there is a shortage of staff providing specialist services such as Intensive Care for critically ill patients. A potential solution to this problem is to use telemedicine where specialist staff in another location can provide remote assistance to rural staff using a telecommunications network.

Telemedicine utilizes modern technology and telecommunications from a distance to seek general and specialist health care from medical professionals. Telemedicine encompasses a wide range of telecommunications and information technologies and many clinical applications (Grigsby & Saunders, 1998). Today the prefix 'tele' is used to describe specific services within the medical field such as telenursing, telerehabilitation, telepharmacy, teleradiology, telecardiology and so on.

Telemedicine has been successfully deployed around the world including India (Pal et al, 2005), Bosnia (Daar & Koerner, 1997), and America (Krizner, 2002). Unfortunately there is little documented on the success or failure of telemedicine systems deployed in rural sub-Saharan Africa.

Deploying telemedicine in rural sub-Saharan Africa can have a great impact on the economic, political and social climate to both those that receive the service and to those that

render it. Little can be disputed in terms of the immense health benefits to a rural community; however, it is whether the benefits overcome the drawbacks that will launch this initiative.

In this paper we will describe the benefits and drawbacks of deploying telemedicine in sub-Saharan Africa. The structure of this paper is as follows. In section 2 we describe the benefits of deploying telemedicine in sub-Saharan Africa. Conversely, in section 3 we describe the drawbacks of deploying telemedicine in sub-Saharan Africa. Final conclusions are given in section 4.

BENEFITS OF TELE-MEDICINE

There are many benefits of deploying telemedicine in rural sub-Saharan Africa including: reduced health-care costs; improved society and economy: availability of a wide variety of specialist medical services which are not normally offered to a rural community; creation and retention of jobs; and improved professional education for medical staff and patients.

Telemedicine services offer reduced health-care costs for hospitals in rural sub-Saharan Africa. It is common for medical specialists to commute to rural hospitals once or twice a week so telemedicine consultations can alleviate transport costs for the specialty physicians. With telemedicine medical specialists can benefit from the flexibility of working in different locations and hours. It has been shown that rural areas have a lower average cost for telemedicine consultations in comparison to conventional consultations (Fullingim, 2007). Indeed, as more patients utilize the telemedicine services, the cost per visit will decrease because the rural hospital is achieving economies of scale (Jennett et al, 2003). The cost savings to the host (base) tele-medical center, where the specialist resides, is measureable in terms of the resources such as beds, medical equipment, specialist care, transportation; logistics is minimized by tele services.

Telemedicine offers benefits at federal, state and community level. It cuts across all political parties, religious dogmas, village councils and tribal and ethnic groups. These affiliations have an opportunity to offer its nation a health-care scheme that is relatively inexpensive, and does not discriminate. With such government support through legislation, policies, funding, and regulation, the political gain is insurmountable. The social impact that telemedicine can offer penetrates across all social levels: family, community, and society. Improving the health standards of individuals will result in a healthier micro-macroeconomic environment. Moreover, maintaining and facilitating a healthy community will improve the life expectancy, increase labor productivity, raise output and increases business profitability and production in agriculture (OECD, 2003), which in turn will contribute to individual good health.

Telemedicine can make accessible and available a wide variety of specialist medical services to a rural hospital which are not normally offered – this may be perhaps due to rural hospitals not having the funding or patient volumes to justify hiring full or part-time specialists (Brown, 2005). When rural hospitals begin to offer these enhanced telemedicine services, the rural community's access to health services will significantly increase (Daniels et al, 2007).

Telemedicine should create and retain jobs. When telemedicine is deployed jobs will be created to set up the various infrastructure and equipment to make telemedicine function. The local area will also benefit by retaining any additional health work required from the initial visit of patients because patients tend to have laboratory or pharmacy work done in the same area where their health service was performed (Dhillon & Forducey, 2006).

Telemedicine should improve professional education for medical staff and patients. It has been shown that telemedicine offers educational opportunities for medical staff since they have access to specialists and their knowledge (Ricci et al, 2003). Telemedicine also allows patients and their rural communities to access information over the internet to empower them and encourage self-help.

DRAWBACKS OF TELE-MEDICINE

There are a number of drawbacks associated with deploying telemedicine in sub-Saharan Africa. These include the following: costs and associated issues of deploying telemedicine equipment; potential breakdown of the doctor-patient relationship; a lack of agreed standards; lack of knowledge of telemedicine; lack of constant electricity; and culture and religion

To deploy telemedicine involves infrastructure costs such as telecommunication equipment and computers. Remote telemedicine practice is facilitated by tools such as conference calls, video conferencing, groupware, virtual networks, broadband, internet, hardware (computers, printer, and camera) and Voice over IP (VOIP). The data to be transmitted as part of a telemedicine system must be of the highest standard. Any disruption to the data could lead to a misdiagnosis. For data to be of high quality, it requires good bandwidth and equipment that is reliable - this will inevitably be expensive. As we start to demand for better efficiency, increased speed and connectivity reliability, there is bound to be a cost associated with these improvements. Moreover there is the issue reliability of equipment and vendors, political and budgetary issues and the involvement of stakeholders and the stability of management structures (Hailey & Crowe, 2003). Telemedicine may therefore be too costly and may not be sustainable as it entails expensive equipment and constant monitoring of the service. For the telemedicine to be viable for rural dwellers it needs to be subsidized by the government or made a free service. Telemedicine therefore requires a strong management and leadership style as well as a dedicated team of health care workers to see that telemedicine is effective.

Telemedicine could affect the doctor and patient relationship because the consultation is over a telecommunications network which can make the experience depersonalized. Moreover, both parties have to deal with equipment which they are not used to and this may aggravate any cultural differences that may exist between the doctor and patient. Since the remote specialist cannot perform tactile examinations, the rural medical staff may feel they are assistants to the specialists which can threaten their perceived role and status. Consulting doctors rendering the telemedicine services might not be able to maintain the quality of care and truly diagnose a

disease because there is lack of physical and interpersonal communication with patients. Language may also pose as an obstacle in the use of telemedicine as many rural dwellers are illiterate.

Stanberry (2006) states that another problem of telemedicine is that there is a lack of agreed standards about the use of telemedicine. This can result in procedures which can compromise patient safety and confidentially and result in disagreements between health professionals and between health professionals and patients. Profession regulation and policies may also limit the success of telemedicine as some countries may require doctors to be licensed to use telemedicine in practice.

Another setback to telemedicine in sub-Saharan Africa will be the knowledge of the system; telemedicine is a relative new term in Africa so the health care providers in rural areas might lack the expertise of the system and how to effectively and efficiently use it to treat a patient.

Lack of constant electricity is also a drawback for the implementation of telemedicine, as the system would rely heavily on electricity to function. Power cuts and interruptions to electricity supply are common place in sub-Saharan Africa.

Culture will also be an obstacle to the success of telemedicine as rural dwellers might not be comfortable talking or been observed over a webcam to diagnose their diseases. Religion may restricts females patients using only female doctors which may pose a challenge when there are no female consulting doctors, especially if the female patient requires a specialist doctor.

CONCLUSIONS

With declining health care, poor infrastructure, no medical insurance plan nor disability pension initiatives, it seems hopeless for many of the millions of people that live in poverty in rural sub-Saharan Africa. Telemedicine will offer a glimmer of relief to those that need it most by offering some means of recovering from ill health and disease and returning to the workforce. Indeed to have the means of providing health care at a distance in sub-Saharan Africa conjures a great breakthrough in technology and service. Nevertheless, before this breakthrough is disseminated to the whole world, researchers and leaders need to carefully evaluate the benefits along with the drawbacks of this alternative health care service.

In this paper we have described the benefits and drawbacks of deploying telemedicine in rural sub-Saharan Africa. On balance, the benefits of telemedicine in rural sub-Saharan Africa significantly outweigh the drawbacks but more work has to be done to minimise or eliminate the drawbacks.

REFERENCES

Brown, N. (2005). Telemedicine 101: Telemedicine Coming of Age, Telemedicine Information Exchange. Retrieved from http://tie.telemed.org/ on 6 February 2012.

Daar, J.F., Koerner, S. (1997). Telemedicine: Legal and Practical Implications, Whittier Law Review, Vol. 19, pp. 3-28.

Daniels, Z., VanLeit, B., Skipper, B., Sanders, M., Rhyne, R. (2007). Factors in Recruiting and Retaining Health Professionals for Rural Practice, The Journal of Rural Health 23(1), pp 62-71.

Dhillon, H., Forducey, P., (2006). Implementation and Evaluation of Information Technology in Telemedicine, Proceedings of the 39th Annual Hawaii International Conference on System Sciences, Track 5, 2006

Fullingim, D., (2007). Teleradiology: Radiology Services to Rural Oklahoma, presentation at 5th Annual Oklahoma Rural Hospital Conference, Oklahoma City, OK, April 17-18, 2007.

Grigsby, J., Sanders, J.H. (1998). Telemedicine: Where It Is and Where It's Going, Annals of Internal Medicine, 129(2), 123-127.

Hailey, D., Crowe, B. (2003). A profile of success and failure in telehealth—evidence and opinion from the Successes and Failures in Telehealth conferences, Journal of Telemedicine and Telecare, 9(2), 22-24.

Jennett, P., Affleck Hall, A. L., Hailey, D., Ohinmaa, A., Anderson, C., Thomas, R., Young, B., Lorenzetti, D., Scott, R. (2003). The socio-economic impact of telehealth: a systematic review, Journal of Telemedicine and Telecare, 9 (6), 311-320.

Krizner, K., (2002). Telemedicine still looks for inroads to total acceptability, Managed Healthcase Executive, May 2002

OECD (2003). Poverty and Health in Developing Countries: Key Actions, Organisation for Economic Co-operation and Development, November 2003. Retrieved from http://www.oecd.org/dataoecd/39/62/18514159.pdf on 6 February 2012.

Pal, A., Mbarika, V.W.A., Cobb-Payton, F., Datta, P., McCoy, S. (2005). Telemedicine diffusion in a developing Country: The case of India (March 2004), IEEE Transactions on Information Technology in Biomedicine, 9(1), 59 – 65.

Ricci, M.A., Caputo, M., Amour, J., Rogers, F.B., Sartorelli, K., Callas, P.W.& Malone, P.T., (2003). Telemedicine reduces discrepancies in rural trauma care, Telemedicine Journal and e-Health, Spring 9(1), 3-11.

Stanberry, B. (2006). Legal and ethical aspects of telemedicine. In: Wootton, R. et al. (2006). Introduction to Telemedicine. London: Royal Society of Medicine Press.

A MEDICAL MALPRACTICE APPROACH TO QUALITY ASSESSMENT OF FLORIDA'S ACUTE CARE HOSPITALS

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ABSTRACT

This study inquires about the quality of health care delivery by way of acute care hospitals within the state of Florida, and assesses relative health care services quality using data from the Florida Department of Insurance's closed medical malpractice claim files. Closed medical malpractice claims were used as the primary performance metric, with risk-adjustment for case-mix applied where appropriate. The healthcare systems (i.e. hospitals) in the state of Florida were partitioned into eleven districts. The data analysis revealed that from 1994 through 2001, the number of medical malpractice claims increased. However, from 2001 through 2007, there was a downward trend. If the number of (a) malpractice claims, (b) deaths from malpractice, and (c) claim ratios can be used to represent healthcare quality, it can be inferred that healthcare quality in the state of Florida has significantly improved over the years 2001 through 2007.

INTRODUCTION

Though the issues of patient safety and medical malpractice have been extensively studied, the use of such studies to inform health care organizational management has received much less attention. The development of quantifiable outcome indicators of health care quality are vital additions to existing knowledge and necessary implements for the pursuit of improved quality in health care (Bij & Vissers, 1999). This study undertakes an examination of closed medical malpractice claims from the state of Florida for the years 1994-2007 (inclusive) in order to establish benchmarks and examine potential trends. Virshup and Oppenberg opine that "Many malpractice suits are brought not because of malpractice nor even because of complaints about the quality of medical care but as an expression of anger about some aspect of patient-doctor relationships and communications" (Virshup, Oppenberg, & Coleman, 1999). Providing quantitative risk-adjusted measures, and quantitative peer based data-driven comparative benchmarks is an principal and accepted tool in the study of health care outcomes and performance. Such a measures and benchmarks provide constructive information to health care managers in the effort to realize organizational objectives.

In this paper, this study focused on the assessment of healthcare quality over the past decade. The objective was to determine if healthcare had improved based on the number of medical malpractice claims; the focus was limited to the state of Florida. Hospitals should be able to explore relationships between their performance as developed by this study and other internally and externally developed performance measures (Bell, Delbanco, Anderson-Shaw, McDonald, & Gallagher, 2011); such studies would help inform management's strategic planning, goal setting, and resource allocation decisions.

BACKGROUND

The state of Florida is one of the largest populated states in the United States behind California, Texas, and New York. Based on the 2010 census, the population of Florida is around 18.8 million, a growth rate of over 30% from 1990. The healthcare delivery system of Florida consisted of 211 acute-care hospitals with 49,676 beds. Except for maternity related issues, the top problems for patients admitted to the hospitals included heart failures and shocks, chest pains, pulmonary diseases, digestive disorders, and strokes.

METHODOLOGY

In this study, the data set from the Florida Department of Insurance's Medical Professional Liability Closed Claims was used. The sample consisted of general, non-federally owned, acute care hospitals in the state of Florida. The original data set contained over 60,000 records. Several of the records came from the same medical malpractice claim (a single claim could have more than one record for more than one party of the claim). A sample of the data set was generated. Medical malpractice claims were counted only once, for a total of 14,644 medical malpractice claims to include in the study.

The use of administrative data has proven to be revealing in previous studies and is an accepted practice in health care research. Administrative data has the notable advantages of lower cost, easier acquisition, large data sets, and in this instance where statutorily mandated data is reported, consistency of reported information ((Pine, Norusis, Jones, & Rosenthal, 1997), and has been the subject of significant development for use in the study of health care and adverse events (Miller, Elixhauser, Zhan, & Meyer, 2001).

DISCUSSION AND CONCLUSIONS

This study makes several contributions to the literature, and to the knowledge base of health care administration and management scholars. The study's results corroborated the belief that there was heterogeneity between the malpractice claims performance of the subject healthcare districts. The study established a scientifically-based methodology for the

measurement and benchmarking of Florida healthcare districts' malpractice claims performance, and utilizing both cross-sectional and longitudinal analysis to shed light on variations between healthcare districts. Further research is needed to better explain the characteristics of these variations. The study results do give a plausible explanation for the underlying resource-based view assumption that Florida hospitals and healthcare districts possess distinctive characteristics and capabilities and that further studies of the relationship between hospital characteristics and outcomes is warranted.

This research sought to assess the quality of the healthcare delivery systems within the state of Florida using data from the Florida Department of Insurance's closed medical malpractice claim files. Medical malpractice claims were used as the primary performance metric, with risk-adjustment for case-mix applied where appropriate. The healthcare system in the state of Florida was partition into eleven districts. The data analysis showed that from 1994 through 2001, the number of medical malpractice claims increased. However, from 2001 through 2007, there was a downward trend. If the number of (a) malpractice claims, (b) deaths from malpractice, and (c) claims ratios can be used to represent healthcare quality, it can be concluded that healthcare quality in the state of Florida has significantly improved over the years 2001 through 2007.

REFERENCES

Barry, R. D., & Smith, A. C. (2005). *The manager's guide to Six Sigma in healthcare: practical tips and tools for improvement*: American Society for Qualit.

Bates, D. W., Cullen, D. J., Laird, N., Petersen, L. A., Small, S. D., Servi, D., et al. (1995). Incidence of adverse drug events and potential adverse drug events. *JAMA: the journal of the American Medical Association, 274*(1), 29.

Bell, S. K., Delbanco, T., Anderson-Shaw, L., McDonald, T. B., & Gallagher, T. H. (2011). Accountability for Medical Error. *Chest, 140*(2), 519-526.

Bij, J. D. V. D., & Vissers, J. M. H. (1999). Monitoring health-care processes: a framework for performance indicators. *International Journal of Health Care Quality Assurance, 12*(5), 214.

Brennan, T. A., Hebert, L. E., & al, e. (1991). Hospital Characteristics Associated with Adverse Events and Substandard Care. *JAMA, 265*(24), 3265.

Herzlinger, R. E. (2010). Healthcare reform and its implications for the US economy. *Business Horizons, 53*(2), 105-117.

Hickson, G. B., Federspiel, C. F., Pichert, J. W., Miller, C. S., Gauld-Jaeger, J., & Bost, P. (2002). Patient complaints and malpractice risk. *JAMA: the journal of the American Medical Association, 287*(22), 2951.

Institute of Medicine. (1999). *To Err is Human: Building a Safer Health System*. Washington, D.C.: National Academy Press.

Leape, L. L., & Brennan, T. A. (1991). The Nature of Adverse Events in Hospitalized Patients: Results of the Harvard Medical Practice Study II. *The New England Journal of Medicine, 324*(6), 377.

Leape, L. L., Brennan, T. A., Laird, N. M., & al., e. (1991). The Nature of Adverse Events in Hospitalized Patients: Results of the Harvard Medical Practice Study II. *N Engl. J Med, 324*(6), 377-384.

Mello, M. M., & Gallagher, T. H. (2010). Malpractice reform—opportunities for leadership by health care institutions and liability insurers. *New England Journal of Medicine, 362*(15), 1353-1356.

Miller, M. R., Elixhauser, A., Zhan, C., & Meyer, G. S. (2001). Patient Safety Indicators: using administrative data to identify potential patient safety concerns. *Health Services Research, 36*(December), 110-132.

Nordgren, L. D., Johnson, T., Kirschbaum, M., & Peterson, M. L. (2004). Medical errors: Excess hospital costs and lengths of stay. *Journal for Healthcare Quality, 26*(2), 42-49.

Pine, M., Norusis, M., Jones, B., & Rosenthal, G. E. (1997). Predictions of hospital mortality rates: a comparison of data sources. *Annals of internal medicine, 126*(5), 347-354.

Reason, J. T. (1990). *Human error*. New York: Cambridge University Press.

Stock, G. N., McFadden, K. L., & Gowen, C. R. (2007). Organizational culture, critical success factors, and the reduction of hospital errors. *International Journal of Production Economics, 106*(2), 368-392.

Virshup, B. B., Oppenberg, A. A., & Coleman, M. M. (1999). Strategic risk management: reducing malpractice claims through more effective patient-doctor communication. *American Journal of Medical Quality, 14*(4), 153-159.

Williams, J. (2008). Accidents, claiming, and regional subcultures: Are medical errors and malpractice lawsuits related to social capital? *Journal of Safety Research, 39*(3), 287-294.

Young, C. C. (2005). *Primum Non Nocere: Measuring and Benchmarking Hospital Malpractice Performance.* Unpublished Dissertation, University of Alabama at Birmingham, Birmingham, AL.

Young, C. C., & Williams, D. R. (2010). Influences of Hospital Structure on Medical Malpractice Claims Costs. *Academy of Health Care Management Journal*.

Zhan, C., & Miller, M. R. (2003). Excess length of stay, charges, and mortality attributable to medical injuries during hospitalization. *JAMA: the journal of the American Medical Association, 290*(14), 1868.