

Abstracts for Recent Papers (1Q- 2Q 2006)
on the Spread, Adoption & Diffusion of Good Practice

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Comments

“Of the papers in this period the majority of them are still referring to Rogers Diffusion of Innovations work. One notable exception is the Harvard Business Review paper which is notable for its innovative viewpoint. There is a predominance of IT and EHR subjects. Also there is a high frequency of nursing related topics and publications.”

Nurs Adm Q 2006 July-Sep;30(3):252-65

Evidence-based Practice: How Nurse Leaders can Facilitate Innovation.

[Shirev MR.](#)

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Evidence-based nursing practice (EBNP) is the wave of the future. Increasingly, EBNP is being identified as a key to quality and excellence in nursing services. Incorporating evidence into practice is necessary to deliver scientifically sound patient care. In addition, understanding the importance of evidence is crucial for meeting the excellence requirements of Magnet designation. Despite the growing popularity of EBNP and its documented significant benefits, the literature demonstrates that only 15% of the nursing workforce consistently practices within an EBNP framework. If EBNP adoption is to increase in the profession, it will require the active efforts of nurse leaders to pursue an aggressive innovation diffusion strategy. The purpose of this article is to discuss the nurse leader's role in facilitating EBNP in nursing using a theoretical framework grounded in innovation diffusion theory. The article develops 4 areas of focus. First, the components of innovation diffusion theory are discussed. Second, a pertinent empirical review of the EBNP adoption literature is presented. Third, strategies for applying innovation diffusion theory to facilitate EBNP adoption are proposed. Lastly, the article ends with a leadership call to action.

Nurs Adm Q 2006 Jul-Sep;30(3):2003-10

Using Diffusion of Innovation Concepts to Enhance Implementation of an Electronic Health Record to Support Evidence-based Practice.

[Geibert RC.](#)

The article identifies the explosion of clinical data that are available and how difficult it is for clinicians to find answers to clinical questions. Electronic healthcare records (EHRs) are increasingly used to assist clinicians in this process; however, resistance to the implementation of technology-assisted care is not uncommon. The article reviews the diffusion of innovation research and provides the nurse manager with suggestions for applying these concepts to enhance the implementation of an EHR that can support evidence-based practice. Five characteristics of innovations, as perceived by individuals, are discussed as they help explain different rates of adoption. The innovation-decision process is studied as it relates to EHR implementations.

Home Health Care Serv Q 2006;25(1/2):149-165

Barriers and Facilitators to Replicating an Evidence-Based Palliative Care Model.

[Davis EM](#), [Jamison P](#), [Brumley R](#), [Engu 0237 Danos S.](#)

Recognition of the difficulties involved in replicating evidence-based interventions is well documented in the literature within the medical field. Promising research findings are often not translated into practice, and if they are, there is a significant time gap between study conclusion and practice adoption. The purpose of this article is to describe the barriers and facilitators encountered by two managed care organizations while replicating an evidence-based end of life in-home palliative care model. Using Diffusion of Innovation Theory as a theoretical framework, results from focus groups and interviews with the project's clinical, administrative and research teams are presented and recommendations made for improving translational efforts. The process of replicating the end of life in-home palliative care model clearly illustrated the key elements required for successfully diffusing innovation. These key elements include marketing and communication, leadership, organizational support and training and mentorship. This qualitative process study provides clear, real world perspectives of the myriad of challenges encountered in replicating an evidence-based project.

Harv Bus Rev 2006 Jun;84(6):98-106,145

Eager sellers and stony buyers: understanding the psychology of new-product adoption.

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Companies that introduce new innovations are the most likely to flourish, so they spend billions of dollars making better products. But studies show that new innovations fail at a staggering rate. While many blame these misses on lackluster products, the reality isn't so simple. The goods that consumers dismiss often do offer improvements over existing ones. So why don't people purchase them? And why do companies keep peddling products that buyers are likely to reject? The answer, says the author, can be found in the brain. New products force consumers to change their behavior, and that has a psychological cost. Many products fail because people irrationally over-value the benefits of the goods they own over those they don't possess. Executives, meanwhile, overvalue their own innovations. This leads to a serious clash. Studies show, in fact, that there is a mismatch of nine to one, or 9x, between what innovators think consumers want and what consumers truly desire. Fortunately, companies can overcome this disconnect. To start, they can determine where their products fall in a matrix with four categories: easy sells, sure failures, long hauls, and smash hits. Each has a different ratio of product improvement to change required from the consumer. Once businesses know where their products fit into this grid, they can manage the resistance to change. For some innovations, major behavior change is a given. In those cases, companies can either wait for consumers to warm to the product, make the improvement so great that buyers get past their apprehension, or try to eliminate the incumbent product. Firms can also try to minimize buyer resistance by making products that are compatible with incumbent goods, seeking out those who are not yet users of the existing product, or finding true believers.

Public Health Nurs 2006 Mar-Apr;23(2):99-107

Comparison of the dissemination and implementation of standardized public health nursing competencies in academic and practice settings.

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OBJECTIVES: To assess the use of the "Core Competencies for Public Health Professionals" standards in practice and academic work settings by public health nurses (PHNs), and to determine differences between practitioners and faculty. **DESIGN:** Nonexperimental, descriptive study using a cross-sectional survey. **Sample:** Three public health nursing (PHN) organizations sent invitations to all members. A total of 334 (18.7%) from an estimated 1,786 members completed the survey. **MEASUREMENTS:** The investigators developed a 17-item web-based survey with open- and closed-ended responses, using Rogers' diffusion of innovations as a theoretical framework. **RESULTS:** Respondents are equally familiar with the competencies for public health professionals disseminated by the Council on Linkages and for PHNs by the Quad Council of Public Health Nursing Organizations (Quad Council). Two thirds of PHNs are aware of the competencies after only 2 years, primarily from professional PHN organizations. Faculty are adopting and using the competencies at a significantly faster rate than practitioners. **CONCLUSIONS:** Faculty and practitioners who use the competencies value them, and rarely discontinued their use after adoption. Efforts to promote diffusion among faculty and especially practitioners need to continue. Professional organizations can actively provide and share examples of useable formats and best practices associated with the competencies.

J Healthc Inf Manag 2006 Spring;20(2):12-4

Early experiences with E-prescribing.

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Most physicians understand that e-prescribing will reduce medical errors and will be perceived by patients as making the prescription process easier. However, they are skeptical about a number of things. They worry whether their office processes will be improved or streamlined; e-prescribing will interface seamlessly with their existing practice management software; training and support will be available; e-prescribing data will be seamlessly transferable to an electronic health record when they implement a more advanced clinical record system for their practice; and if they will achieve a return on investment. Early adopting clinicians in Massachusetts can convince the majority of clinicians to adopt e-prescribing by sharing their motivations for adopting e-prescribing, the challenges that they needed to overcome, the hardware and software requirements, and integration into their office workflow. Finally, interaction with the physicians and practice managers in the audience makes the adoption of e-prescribing seem both reasonable and exciting. Resources such as vendor lists, questions to ask, and hardware and software requirements also need to be readily available and in a form that non-technical staff can read and understand. Physicians who know the "why" would also like to know

J Public Health Manag Pract 2006 May-Jun;12(3):262-9

Diffusion of local restaurant smoking regulations in Massachusetts: identifying disparities in health protection for population subgroups.

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OBJECTIVES: The objectives of this study were to examine the diffusion of smoke-free restaurant regulations and identify socioeconomic and racial/ethnic disparities in health protection from secondhand smoke exposure in restaurants. **METHODS:** We examined the relationship between adoption of local smoking regulations by restaurants for each of the 351 cities and towns in Massachusetts and a number of individual variables over nine time points, starting when there were no 100% smoke-free restaurant regulations and ending with the eventual imposition of the statewide ban on smoking in restaurants and bars. **RESULTS:** We found that over the 10 years before the statewide ban went into effect, only 36 percent of the total population was covered by local regulations that protected them from secondhand smoke exposure in restaurants. We also observed a substantial disparity in protection based on educational status, with up to 7 percentage points fewer nongraduates protected by local smoke-free restaurant regulations.

Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2006 Mar; 101(3):395-495

The diffusion of innovation in dentistry: a review using rotary nickel-titanium technology as an example.

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Technological innovations are crucial for the advancement of the art and science of clinical dentistry. While some innovations suffer a lack of support, resulting in general nonacceptance, others are gradually adopted and supersede previous techniques and/or materials. Very little has been published in the dental literature concerning the reasons for the adoption, nonadoption, or rejection of new technology in dentistry. This paper reviews the diffusion of innovation in dentistry, with an emphasis on the adoption of rotary nickel-titanium endodontic instruments. Factors affecting adoption of new technology include a complex interplay of perceived benefits and advantages, and psychosocial and behavioral factors, in decision making. The importance of both dental school teaching and continuing education in dentistry is highlighted, emphasizing that such courses must be of a very high caliber.

Int J Med Inform 2006 Feb 11

Knowledge barriers to PACS adoption and implementation in hospitals.

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PURPOSE: Drawing on the classical theory of diffusion of innovations advanced by Rogers [E.M. Rogers, Diffusion of Innovations, 4th ed., Free Press, New York, NY, 1995] and on the theory of barriers to innovation [P. Attewell, Technology diffusion and organizational learning: the case of business computing. Organ. Sci. 3 (1992) 1-19; H. Tanriverdi, C.S. Iacono, Knowledge barriers to diffusion of telemedicine. Proceedings of the 20th International Conference on Information Systems, Charlotte, NC, 1999, pp. 39-50; S. Nambisan, Y.-M. Wang, Roadblocks to web technology adoption? Commun. ACM, 42 (1) (1999) 98-101], this study seeks a better understanding of challenges faced in PACS implementations in hospitals and of the strategies required to ensure their success. **METHODS:** To attain this objective, we describe and analyze the process used to adopt and implement PACS at two Canadian hospitals. **RESULTS:** Our findings clearly demonstrate the importance of treating any PACS deployment not simply as a rollout of new technology but as a project that will transform the organization. Proponents of these projects must not lose sight of the fact that, even if technological complexity represents a significant issue, it must not garner all the project team's attention. This situation is even more dangerous, inasmuch as the greatest risk to the implementation often lies elsewhere. It would also appear to be crucial to anticipate and address organizational and behavioral challenges from the very first phase of the innovation process, in order to ensure that all participants will be committed to the project. **CONCLUSIONS:** In order to maximize the likelihood of PACS success, it appears crucial to adopt a proactive implementation strategy, one that takes into consideration all the technical, economic, organizational, and human factors, and does so from the first phase of the innovation process.

Comput Inform Nurs 2006 Jan-Feb;24(1):44-52

Electronic health record: implementation across the Michigan Academic Consortium.

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The Michigan Academic Consortium of academic nurse-managed primary care centers supported member sites to venture into computer-based advances with the potential to improve quality of health services and students' educational experiences. The experiences of this consortium as it incorporated electronic health records in tandem with an electronic patient management system at several of its member sites reveal the benefits and challenges of such an endeavor. The processes of selection, adoption, and implementation of the electronic health record are discussed in this article. Many lessons learned in the process are discussed.

J Healthc Inf Manag 2006 Winter; 20(1):53-60

Benefiting from ambulatory EHR implementation: solidarity, six sigma, and willingness to strive.

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Ambulatory electronic health record systems have the potential to improve healthcare quality. Optimizing the value of EHR implementation requires that providers and staff become effective and efficient EHR users so paper charts are no longer required or desired. Transitioning from paper charts to EHR systems requires new learning, significant effort, and workflow changes associated with an initial adverse effect on provider efficiency. This case study describes how timely EHR implementation and regular use in a large academic internal medicine clinic was encouraged, achieved, and demonstrated. Critical success factors included readiness to change, solidarity in EHR use, a commitment to striving, and process improvement strategies that used the EHR system to repair suboptimal clinic workflows. Observed benefits include improvements in patient access, workflow efficiency, communication, decision support use, and financial performance. These success factors and implementation strategies may help others seeking to encourage greater adoption and use of EHRs.

Nurs Sci Q 2006 Jan;19(1):66-72

Innovation in healthcare: a systematic review of recent research.

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Research on innovations in healthcare organizations published between 1994 and 2004 are here reviewed and summarized. The majority of the 31 identified studies dealt with the adoption of innovations and new practices and were cross-sectional designs applying quantitative methods, or multiple case studies applying qualitative methods. Five pathways for future research are recommended: (a) Multilevel approaches studying innovation simultaneously on individual, group, and organizational levels; (b) a combination of quantitative and qualitative data; (c) use of longitudinal designs (innovation both as the dependent and independent variable); (d) application of experimental designs in interventions; and (e) exploration of innovation generation and structural innovations.

BMC Med Inform Decis Mak 2006 Jan 9:6.3

IT-adoption and the interaction of task, technology and individuals: a fit framework and a case study.

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BACKGROUND: Factors of IT adoption have largely been discussed in the literature. However, existing frameworks (such as TAM or TTF) are failing to include one important aspect, the interaction between user and task. **METHOD:** Based on a literature study and a case study, we developed the FITT framework to help analyse the socio-organisational-technical factors that influence IT adoption in a health care setting. **RESULTS:** Our FITT framework ("Fit between Individuals, Task and Technology") is based on the idea that IT adoption in a clinical environment depends on the fit between the attributes of the individual users (e.g. computer anxiety, motivation), attributes of the technology (e.g. usability, functionality, performance), and attributes of the clinical tasks and processes (e.g. organisation, task complexity). We used this framework in the retrospective analysis of a three-year case study, describing the adoption of a nursing documentation system in various departments in a German University Hospital. We will show how the FITT framework helped analyzing the process of IT adoption during an IT implementation: we were able to describe every found IT adoption problem with regard to the three fit dimensions, and any intervention on the fit can be described with regard to the three objects of the FITT framework (individual, task, technology). We also derive facilitators and barriers to IT adoption of clinical information systems. **CONCLUSION:** This work should support a better understanding of the reasons for IT adoption failures and therefore enable better prepared and more successful IT introduction projects. We will discuss, however, that from a more epistemological point of view, it may be difficult or even impossible to analyse the complex and interacting factors that predict success or failure of IT projects in a socio-technical environment.

BMC Med Inform Decis Mak 2006 Jan 5:6.1

Assessing the level of healthcare information technology adoption in the United States: a snapshot.

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BACKGROUND: Comprehensive knowledge about the level of healthcare information technology (HIT) adoption in the United States remains limited. We therefore performed a baseline assessment to address this knowledge gap. **METHODS:** We segmented HIT into eight major stakeholder groups and identified major functionalities that should ideally exist for each, focusing on applications most likely to improve patient safety, quality of care and organizational efficiency. We then conducted a multi-site qualitative study in Boston and Denver by interviewing key informants from each stakeholder group. Interview transcripts were analyzed to assess the level of adoption and to document the major barriers to further adoption. Findings for Boston and Denver were then presented to an expert panel, which was then asked to estimate the national level of adoption using the modified Delphi approach. We measured adoption level in Boston and Denver was graded on Rogers' technology adoption curve by co-investigators. National estimates from our expert panel were expressed as percentages. **RESULTS:** Adoption of functionalities with financial benefits far exceeds adoption of those with safety and quality benefits. Despite growing interest to adopt HIT to improve safety and quality, adoption remains limited, especially in the area of ambulatory electronic health records and physician-patient communication. Organizations, particularly physicians' practices, face enormous financial challenges in adopting HIT, and concerns remain about its impact on productivity. **CONCLUSION:** Adoption of HIT is limited and will likely remain slow unless significant financial resources are made available. Policy changes, such as financial incentives to clinicians to use HIT or pay-for-performance reimbursement, may help health care providers defray upfront investment costs and initial productivity loss.

J Clin Child Adolesc Psychol 2006 Feb;35(1):2-12

Closing the research-practice gap: factors affecting adoption and implementation of a children's mental health program.

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Despite the availability of effective interventions, they are not widely used in community mental health centers. This study examined the adoption and implementation of The Arson Prevention Program for Children (TAPP-C), a program for juvenile firesetters developed at a teaching hospital and disseminated to community settings. Questionnaire data from mental health professionals were used to evaluate the roles of adopter, innovation, and dissemination characteristics in TAPP-C adoption and implementation. Results indicate that different factors are important at different diffusion stages. Moreover, they suggest that innovation characteristics may be particularly important to adoption, whereas adopter and dissemination characteristics may be more influential in implementation.

Med Care 2006 Jan;44(1):81-6

Are minority children the last to benefit from a new technology? Technology diffusion and inhaled corticosteroids for asthma.

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BACKGROUND: Racial and ethnic disparities in health and health care have been well documented, but few studies have addressed how disparities may change over time. **OBJECTIVE:** We sought to determine the change in relative rates over time of corticosteroid metered dose inhaler (MDI) use in minority and nonminority populations with asthma. **DESIGN AND SETTING:** We used a cross-sectional survey for 5 periods of 2 years' each (1989-1990, 1991-1992, 1993-1994, 1995-1996, 1997-1998) using the National Ambulatory Medical Care Surveys (NAMCS). **PARTICIPANTS:** A total of 3671 visits by adults and children with asthma to U.S. office-based physicians comprised our sample. **MAIN OUTCOME MEASURE:** We sought to measure differences in inhaled corticosteroid use for minority and nonminority adults and children controlling for gender, specialty, U.S. region, and type of insurance. **RESULTS:** Minority patients with asthma were less than half as likely as nonminority patients to have had a steroid MDI prescribed during 1989-1990. By 1995-1996, minority and nonminority patients with asthma were equally likely to have had a steroid MDI prescribed. Although differences between black and white patients resolved, differences between white and Hispanic patients persisted even after adjusting for insurance. Children initially were less likely than adults with asthma to have steroid MDI prescribed, and this difference persisted. Minority children had the greatest delay in adoption of steroid MDIs. **CONCLUSION:** Steroid MDIs diffused into minority and nonminority adult and child populations at different rates.

J Am Med Inform Assoc 2006 Mar-Apr;13(2):121-6

Personal health records: definitions, benefits, and strategies for overcoming barriers to adoption.

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Recently there has been a remarkable upsurge in activity surrounding the adoption of personal health record (PHR) systems for patients and consumers. The biomedical literature does not yet adequately describe the potential capabilities and utility of PHR systems. In addition, the lack of a proven business case for widespread deployment hinders PHR adoption. In a 2005 working symposium, the American Medical Informatics Association's College of Medical Informatics discussed the issues surrounding personal health record systems and developed recommendations for PHR-promoting activities. Personal health record systems are more than just static repositories for patient data; they combine data, knowledge, and software tools, which help patients to become active participants in their own care. When PHRs are integrated with electronic health record systems, they provide greater benefits than would stand-alone systems for consumers. This paper summarizes the College Symposium discussions on PHR systems and provides definitions, system characteristics, technical architectures, benefits, barriers to adoption, and strategies for increasing adoption.