

## Communications of the Association for Information Systems

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Volume 14

Article 17

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September 2004

# Interdisciplinary Research and Publication Opportunities in Information Systems and Health Care

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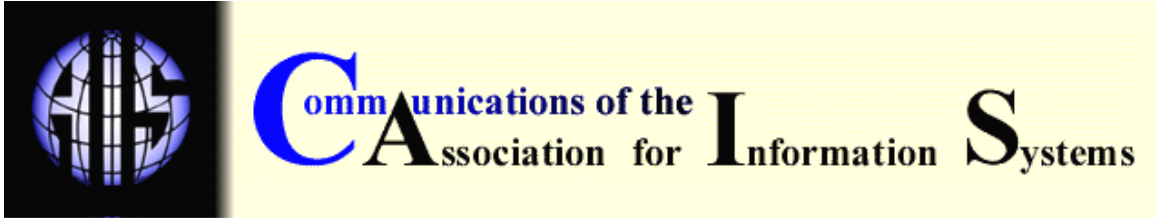
### Recommended Citation

Wilson, E. Vance and Lankton, Nancy K. (2004) "Interdisciplinary Research and Publication Opportunities in Information Systems and Health Care," *Communications of the Association for Information Systems*: Vol. 14 , Article 17.

DOI: 10.17705/1CAIS.01417

Available at: <https://aisel.aisnet.org/cais/vol14/iss1/17>

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## INTERDISCIPLINARY RESEARCH AND PUBLICATION OPPORTUNITIES IN INFORMATION SYSTEMS AND HEALTHCARE

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### ABSTRACT

Healthcare is a large and growing industry that is experiencing major transformation in its information technology base. IS confronted similar transformations in other industries and developed theories and methods that should prove useful in healthcare applications. In turn, IS may benefit from incorporating knowledge from health informatics, a discipline that studies IT within medical and healthcare contexts. Despite the benefits, it is often a struggle for interdisciplinary researchers in IS and healthcare to publish their work, especially in journals directed toward IS audiences. In this paper, we outline strategies and resources to help ease this publication bottleneck. As a part of our discussion, we identify and categorize journal outlets for interdisciplinary research in IS and healthcare.

**Keywords:** Interdisciplinary research, reference discipline, publication strategies, health informatics.

### I. INTRODUCTION

Healthcare is a massive industry. In 2000, healthcare industries accounted for 14% of the US GDP (\$1.31 trillion). By 2010 this figure is projected to rise to \$2.6 trillion [Plunkett, 2003]. Now, major forces are transforming the ways that healthcare industries apply information technology (IT). For example:

- The Health Insurance Portability and Accountability Act of 1996 (HIPAA) and similar laws and regulations are motivating development of standardized healthcare systems and are increasing attention paid to privacy and security of electronic data in healthcare.
- Financial motivations and organizational acquisitions and mergers are prompting healthcare administrators to implement large-scale IT integration projects.

- Reductions in insurance coverage require people to spend more of their own money for healthcare. As a consequence, patients are gaining increased leverage in motivating healthcare providers to support technology that meets patient needs, including electronic access to health records, appointment scheduling, and health-related communication.
- Widespread availability of online healthcare information (e-health) is creating a population of informed consumers who want their own healthcare providers to supply more resources electronically, including healthcare information, medical consultation, and instrumentation for diagnosis, monitoring, and treatment of medical conditions.

The combination of a large industry and sweeping transformation is creating unprecedented demands on IT workers in healthcare to design, implement, and manage new systems. At the same time, opportunities are opening for researchers, especially those who can supply relevant expertise from outside healthcare.

The large size of the healthcare industry allowed it to create a distinct IT profession. We refer to this discipline as health informatics, an umbrella term that describes medical informatics, bio-informatics, and other related areas. Health informatics researchers and practitioners direct their efforts to studying the unique IT needs of the industry, such as hospital admissions, insurance billing, and medical imaging.

IT change has been more rapid outside healthcare than within healthcare. Only recently, for example, did healthcare organizations begin to develop e-health sites for access by their patients. IS researchers can benefit healthcare by applying expertise gained in other domains to address challenges that are still new to the health informatics discipline. The IS discipline can benefit as well, both by testing its theories and methods in healthcare settings and through cross-pollination with health informatics expertise.

Despite the opportunities that healthcare offers, IS researchers who conduct interdisciplinary studies in this area (hereafter referenced as *health IT* research) frequently face an uphill climb to publish their work, especially in IS journals [Chiasson and Davidson, 2002]. Fortunately, we believe this situation is beginning to improve, both through introduction of new publication opportunities in IS and through a greater openness to interdisciplinary research by the IS and health informatics communities.

In this paper, we draw from examples of successfully-published papers to outline three strategies that can help researchers publish health IT research. We then discuss publication outlets that are available for health IT research.

## II. STRATEGIES FOR PUBLISHING IS AND HEALTHCARE RESEARCH

Our discussion of research strategy in this section is predicated on the reference discipline which the research draws from and the audience for which it is intended. The term reference discipline refers to the source of theories, methods, and practices that are applied in the research. Audience refers to the intended primary and secondary consumers of research findings; in our discussion, the audience will necessarily refer to readership of specific classes of scholarly journals.

We argue that reference discipline and audience are essential components of effective strategies for publishing research in interdisciplinary fields. We believe that journal editors and referees necessarily function as gatekeepers guarding admission to the journal<sup>1</sup>. In their gatekeeper role, one objective is to turn away manuscripts which are not based upon sound principles. Principles

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<sup>1</sup>Note that this statement is not intended to diminish other roles of editors and referees, such as improving papers and mentoring authors.

drawn from one's own reference discipline are presumed to be sound, whereas others' principles may require greater justification and could be discounted. A second objective is to turn away manuscripts that are not directed toward readers of the journal, i.e., its audience. If journal editors and reviewers are not comfortable with the reference discipline and audience orientation of a manuscript, they are unlikely to accept the work.

Figure 1 illustrates three proven strategies in publishing health IT research. The strategies draw from three reference discipline categories:

- IS,
- health informatics, and
- shared disciplines that both IS and health informatics use.

Because this discussion focuses on interdisciplinary research between IS and health informatics, we do not include reference disciplines that are not applicable to both fields, such as medicine, and do not include strategies where the reference discipline and audience discipline are the same.

The arrows in Figure 1 represent strategies for successful publication that draw from a specific reference discipline and are oriented toward a specific audience. In the following subsections, we describe each strategy (designated by its numeric tag in Figure 1) and briefly recount a case in which we applied the strategy in publishing a health IT paper in an IS or health informatics journal. We illustrate this discussion with our own papers because we are familiar with how they were developed, where they were submitted for publication, and what editorial decisions resulted from their review. The papers we discuss are intended to serve as example cases of successful publication strategies, and not as exemplars of topic selection, research methodologies, or writing.

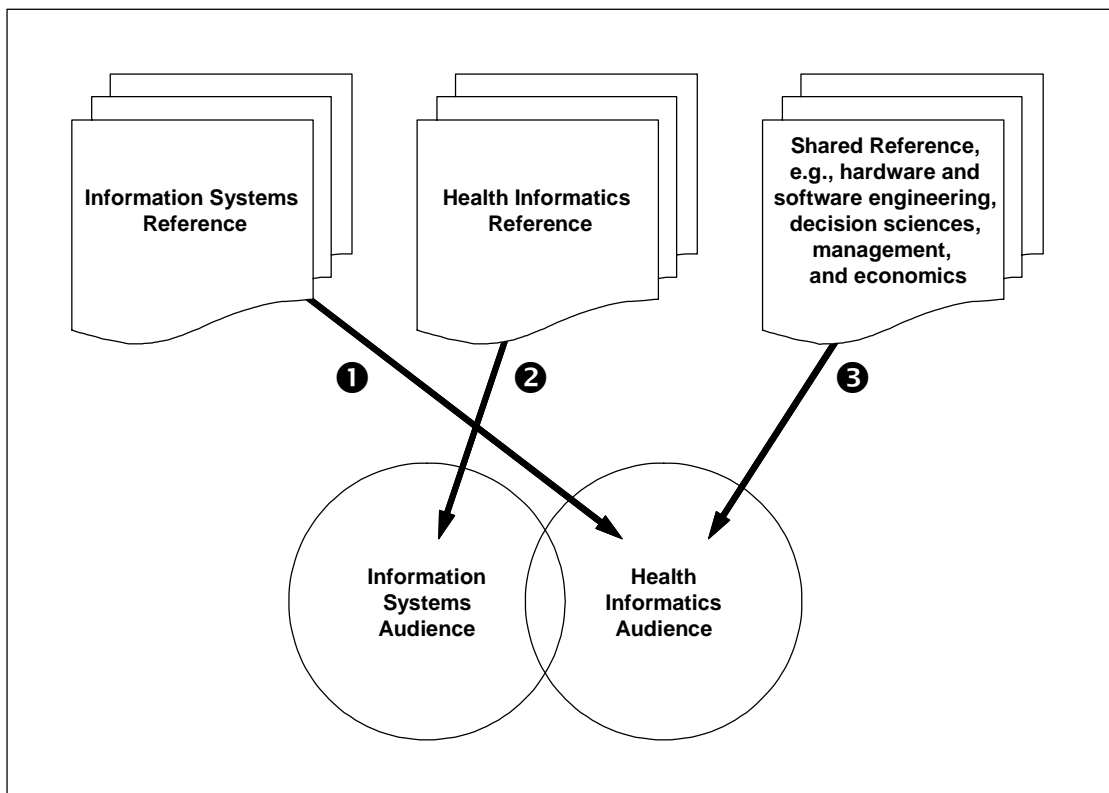


Figure 1. Practical Strategies in Publishing Research in IS and Healthcare

## **STRATEGY 1: USING AN IS REFERENCE TO INFORM A HEALTH INFORMATICS AUDIENCE**

IS developed a number of theories and methods that are applicable to other disciplines, e.g., work on resistance to IT implementation and business process reengineering techniques [Baskerville and Myers, 2002]. Some areas of IS research expertise are particularly relevant to problems currently facing healthcare, e.g., security assurance in e-commerce, system integration, and end-user computing.

Drawing from the IS reference discipline is a natural approach for IS researchers, who are presumably knowledgeable in the discipline and capable of justifying the soundness of IS principles to reviewers outside the IS field. To apply this strategy effectively, it is primarily necessary to address topics that are current and relevant to health informatics audiences. Such topics may be identified by reviewing recent conference proceedings and journals and extrapolating healthcare industry trends.

### **Case Paper: Modeling Patients' Acceptance of Provider-Delivered E-Health**

In 2002, we looked at industry trends involving e-health. By that time, e-health websites had proliferated across the Internet, and many already failed in the dot-com implosion. E-health was conceived initially as a for-profit enterprise, and many early e-health websites were developed by investors with no formal ties to established healthcare organizations. We saw an emerging trend in which healthcare providers were beginning to develop e-health websites to meet needs of their own patients. Drawing from our experience as IS researchers, we predicted that getting patients to accept and use provider-delivered e-health would soon emerge as a topic of interest for the health informatics audience.

We contacted a large healthcare provider in the U.S. Midwest that was readying an e-health application for pilot testing and were given permission to survey individuals who registered for access. From this survey data we were able to compare the fit and predictiveness of three technology acceptance models drawn from the IS literature and assess importance of five patient characteristics (satisfaction with medical care, health knowledge, information-seeking preference, healthcare need, and Internet dependence) as antecedents to the models.

Although parts of the findings such as model comparisons may be interesting to an IS audience, the entire design is interesting to health informatics professionals. They want to know whether acceptance models are applicable in the healthcare domain, and they can envision applying findings regarding antecedents as means to predict patients' tendencies toward accepting e-health before the applications are actually implemented. A high level of reviewer interest led to a conditional acceptance of our paper [Wilson and Lankton, 2004] on first review by the *Journal of the American Medical Informatics Association (JAMIA)*, a top journal in the health informatics discipline [Rowlands, 2002]. Reviewers asked primarily that we expand our explanations of model components, e.g., why we measured behavioral intention as our dependent variable instead of actual use, and our use of structural equation modeling (SEM) methods, e.g., by distinguishing among the various fit metrics.

## **STRATEGY 2: USING A HEALTH INFORMATICS REFERENCE TO INFORM AN IS AUDIENCE**

The IS discipline is quite open to research that draws from reference disciplines, especially through application of theory originally developed outside IS. Theory may simply be appropriated, as in the case of social presence theory from the social psychology literature [Short et al., 1976] which frequently is used in studies of computer-mediated communication and group support systems, or it may be adapted and extended, as in the role the theory of reasoned action [Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980] played in underlying development of the technology acceptance model [Davis, 1989].

Research methods developed in other disciplines also are applied in IS research, such as the SERVQUAL instrument which was originally developed by marketing researchers [Jian et al., 2002]. In addition, applications and practices from outside IS can be drawn into the discipline, such as developing business software with object-oriented methodologies, a practice that originally emerged from operations research [Nygaard and Dahl, 1981].

Although this strategy is a straightforward route to publishing interdisciplinary papers in IS journals, some obstacles must be overcome for the strategy to be effective. Because health informatics is an applied discipline, we would expect it to be more valuable to IS as a source for applications and practices than as a theory base. However, using health informatics as a reference discipline may require extensive justification, and the research must be undertaken with the advance knowledge that top IS journals in general are reluctant to accept atheoretical papers. Further, not all practical innovations from outside IS will capture the interest of an IS audience. Therefore it is important to choose topics that have currency and are relevant to important IS issues.

#### **Case Paper: Asynchronous Healthcare Communication**

By 2001, Internet email was ubiquitous in the U.S. and other developed nations and was increasingly being considered a commodity application. Email vendors supplied similar functionality, and no vendor could charge premium pricing for its product. At that time, it was hard to envision that a major force toward customization of email or related forms of asynchronous computer-mediated communication (CMC) would emerge from the general marketplace. However, one of the authors observed that email had not yet proliferated in a key area of healthcare. Physicians used email to communicate with colleagues and patients used email for business and pleasure, but few physicians and patients used email to communicate with one another. This observation prompted research into the underlying practices of the medical profession and physician-patient relationships. The research resulted in a paper calling on the IS discipline to innovate CMC in ways that can overcome physician resistance to email and meet the specialized needs of physicians, medical staff, and patients through application customization. In this case, the status of health informatics development and surrounding practices provided key input that could be directed toward an IS audience. The resulting paper [Wilson, 2003] was accepted by *Communications of the ACM (CACM)* without substantive changes.

#### **STRATEGY 3: USING A SHARED REFERENCE TO INFORM A HEALTH INFORMATICS AUDIENCE**

Because of the openness of IS to outside reference disciplines, IS researchers are often familiar with theories, methods, and practices that are not rooted in IS. In many cases, these reference disciplines are shared between IS and health informatics. Yet many aspects of such shared reference disciplines have not been studied within health informatics. As in Strategy 1, this gap creates the potential to apply a new technique that will be interesting to health informatics audiences, assuming the technique and research findings are relevant to current issues.

#### **Case Paper: Strategic Implications of Asynchronous Healthcare Communication**

Following on the heels of the *CACM* paper (described in Strategy 2) we wanted to analyze the advent of asynchronous healthcare communication (AHC) within a theoretical framework and present the strategic implications of this analysis to a managerial audience who could put our technical recommendations into effect. Ideally, we would reach a combined audience of health informatics and health technology management professionals. The resulting paper applies the theoretical framework of disruptive innovation [Christensen, 1997], originally developed in technology and operations management, to explain how AHC may enter the very low end of the healthcare marketplace and then move up-market through a series of sustaining innovations, e.g., feature enhancements. It then describes a set of strategic opportunities for innovating AHC and presents a prototype AHC system design that incorporates some of these feature enhancements to conventional email. This paper was targeted as a chapter in a book that was

withdrawn prior to publication. Subsequently, the paper [Wilson and Lankton, 2003] was submitted and accepted with minimal changes by the *International Journal of Health Technology and Management*, one of a growing number of peer-reviewed publications that focus on specific areas of the health informatics discipline.

## LESSONS LEARNED

As is often the case, both good news and bad news are associated with publishing health IT research. The good news we find is that our papers in this area are received with unusual enthusiasm, and two placed in top journals within their respective disciplines. Although some luck is certainly involved, we believe the positive reception we encountered is due, in large part, to planning the research to draw from an appropriate reference discipline and to be interesting to the intended audience. Although our experiences are necessarily anecdotal, the outcomes suggest good news for other authors who replicate the strategies that we recommend in the prior discussion.

The bad news is two-part.

1. No recommended strategy was found for publishing papers in the overlap between IS and health informatics audiences shown in Figure 1. Up to this point, no journal outlet is directed toward an interdisciplinary IS and health informatics audience, although tracks with this focus emerged at major IS conferences, including HICSS, AMCIS, and IRMA.
2. Little consensus exists across academic institutions on how health informatics journal publications should be rated. In our cases, we are both IS faculty members in business schools. *CACM* is well-known and well-regarded in IS departments; in some it is ranked as a top-tier publication. However, *JAMIA* is barely known in IS, although it is a highly-rated research journal in health informatics. Therefore, it will be necessary for us to provide solid documentation that *JAMIA* is a “good” journal, and the risk remains that our documentation will be discounted by promotion and tenure (P&T) committees.

## III. JOURNAL OUTLETS FOR IS AND HEALTHCARE RESEARCH

### CHOOSING HEALTH INFORMATICS JOURNALS

Two of the strategies we suggested in Section II require authors to select an appropriate journal from the health informatics field. For IS authors, this approach can present difficulties.

1. Although a substantial number of journals address information technology in healthcare, it can be difficult to identify which journals specialize in the authors’ research areas. It may be tempting to send every manuscript off to the most visible health informatics journals, however, our experience suggests that manuscripts are much more likely to be accepted where they are correctly matched to reviewer expectations and audience interests.
2. Unlike the research tradition in IS, where reports of journal rankings appear regularly (e.g., Mylonopoulos and Theoharakis, [2001]; Peffers and Ya, [2003]), health informatics does not currently rank journals in its field based on subjective evaluations. As a result it is difficult to justify the value of publications in health informatics journals to business- or technology-oriented P&T committees.

As a means to address these difficulties we present an overview of health informatics journals in the following subsections, including the research specializations and qualitative citation metrics of each journal.

Morris and McCain [1998] used citation analysis to identify a core set of 20 health informatics journals crossing several research specializations. Their analysis is incorporated into Table 1. The *Journal Title* column of Table 1 contains the core journals Morris and McCain identified from the 1997 Institute for Scientific Information (ISI®) *Journal Citation Reports (JCR®)* and several

additional journals that appear in the 2003 *JCR* health informatics category. Where journal names changed or journals merged, the change is noted in the list. Journals that are no longer published were dropped from the list. The *Research Specialization* column of Table 1 describes which type(s) of research the journal tends to publish. Morris and McCain identified five research specializations using principal components analysis of *JCR Social Science Citation Index (SSCI)* co-citation data. These are: General Medical Informatics, Education, Patient Monitoring; Biomedical Computing and Engineering Research, and Biomedical Computing and Engineering Application. Journals for which research specializations are not shown were added from the 2003 *JCR* and are not a part of the Morris and McCain study. We suggest authors use the first two columns of Table 1 to increase their own awareness of potential publication outlets and to guide them in identifying where specific types of research are likely to be well-received.

Subsequent columns in Table 1 describe three citation metrics that can be used to compare quality and currency among listed journals. The *impact factor*, *immediacy index*, and *cited half-life* metrics were developed by ISI to measure citation patterns among scholarly journals, with individual journals as the specified unit of analysis. Charted over time, citations tend to occur in the form of a positively-skewed curve, as illustrated in Figure 2 [Amin and Mabe, 2000]. Each of the three metrics addresses a distinct aspect of the citation pattern:

Table 1. 2003 Citation Ratings of a Core Set of Health Informatics Journals

Journal Title	Research Spec*	Impact Factor	Immed Index	Cited 1/2-Life
<i>Academic Medicine</i>	2	1.104	0.340	5.7
<i>Artificial Intelligence in Medicine</i>	—	1.222	0.022	4.4
<i>Biomedizinische Technik</i>	—	0.622	0.103	5.9
<i>CIN: Computers, Informatics, Nursing</i> (formerly <i>Computers in Nursing</i> )	1,4,5	0.217	0.037	—
<i>Computer Methods and Programs in Biomedicine</i>	4,5	0.724	0.068	7.8
<i>Computers in Biology and Medicine</i>	1,4	0.973	0.189	8.0
<i>IEEE Engineering in Medicine &amp; Biology</i>	—	0.649	0.270	6.6
<i>IEEE Transactions on Information Technology in Biomedicine</i>	—	1.274	0.160	3.5
<i>International Journal of Technology Assessment in Health Care</i>	—	0.754	0.137	6.3
<i>International Journal of Medical Informatics</i> (formerly <i>International Journal of Bio-Medical Computing</i> )	4,5	1.178	0.635	3.8
<i>Journal of Evaluation in Clinical Practice</i>	—	1.205	1.324	3.4
<i>Journal of Biomedical Informatics</i> (formerly <i>Computers and Biomedical Research</i> )	1,4	0.855	0.865	—
<i>Journal of Clinical Monitoring and Computing</i> (incorporating <i>International Journal of Clinical Monitoring and Computing</i> and <i>Journal of Clinical Monitoring</i> )	3	Not rated in 2003 JCR		
<i>Journal of Medical Systems</i>	1,4,5	Not rated in 2003 JCR		
<i>Journal of the American Medical Informatics Association (JAMIA)</i>	1,4,5	2.510	0.794	4.6
<i>Journal of the Medical Library Association</i> (formerly <i>Bulletin of the Medical Library Association</i> )	2,4	0.408	0.263	—
<i>Medical Informatics and the Internet in Medicine</i> (formerly <i>Medical Informatics</i> )	1,4,5	0.915	0.000	6.2
<i>Medical and Biological Engineering and Computing</i>		0.744	0.146	9.2
<i>Medical Decision Making</i>	1,2,4	1.718	0.146	8.2



<i>Medical Education</i>	2	1.188	0.785	4.8
<i>Methods of Information in Medicine</i>	1,4	1.417	0.524	5.4
<i>Statistical Methods in Medical Research</i>	—	1.857	0.133	9.0
<i>Statistics in Medicine</i>	3,4	1.134	0.176	7.4

\* Research specializations identified through principal components analysis of SSCI citation data [Morris and McCain, 1998]: 1 = General Medical Informatics; 2 = Education; 3 = Patient Monitoring; 4 = Biomedical Computing and Engineering Research; 5 = Biomedical Computing and Engineering Application

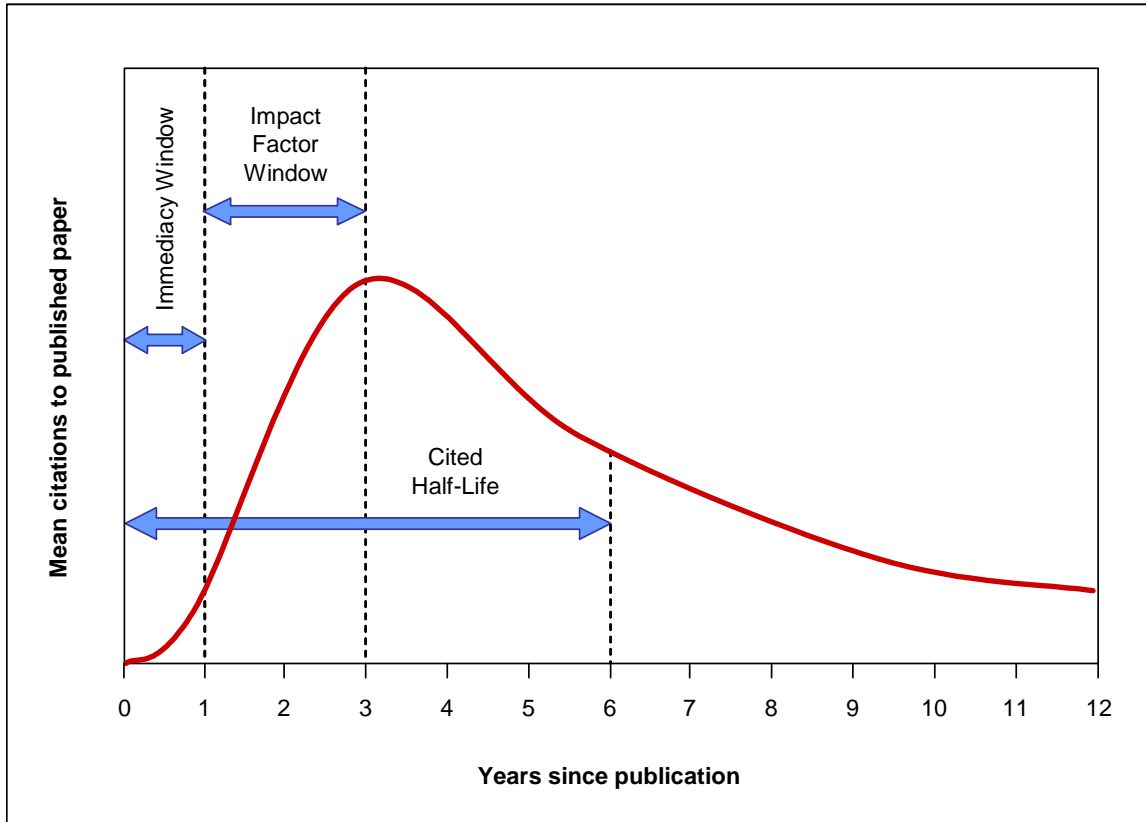


Figure 2. Generalized Citation Curve and Citation Metrics [Amin and Mabe, 2000].

- The impact factor is derived by dividing the total number of citations made to journal articles in the second and third year by the total number of articles printed by the journal during that time. Arguably, journals with higher impact factors are read more frequently and valued more highly than others in the same field.
- The immediacy index is calculated by dividing the number of citations that are made to journal articles during the year of publication by the total number of articles published in the journal that year. This metric provides evidence that journals are publishing articles that are immediately useful to other authors.
- The cited half-life measures number of years, going back from the current year, that cumulatively account for 50% of current citations received. A high cited half-life may suggest the journal publishes articles that are seminal in the field or that it primarily

focuses on slow-changing topics.

The three metrics reveal that the citation characteristics of health informatics journals listed in Table 1 vary substantially. Impact factors range from 0.217 for *CIN: Computers, Informatics, Nursing* to 2.510 for *JAMIA*, meaning that on average only one in four articles in *CIN* were cited during 2001-2002 vs. 2.5 citations for each article published in *JAMIA*. Immediacy index ranges from zero for *Medical Informatics and the Internet in Medicine* to 1.324 for *Journal of Evaluation in Clinical Practices*. Cited half-life ranges from 3.4 years for *Journal of Evaluation in Clinical Practices* to 9.0 years for *Statistical Methods in Medical Research*.

It is clear that citation metrics provide insight into the relative publication characteristics of scholarly journals, but authors should be aware that the metrics measure only certain facets of quality and can vary substantially under some conditions. Amin and Mabe [2000] note several problems that can arise in applying impact factors, the most commonly used of the three metrics. First, impact factors are known to vary among subject areas; life science journals average over 3.0 where math and computer science journals average only 0.5. Second, impact factors tend to be higher for journals that publish short articles with high immediacy and journals that publish review articles than is the case for journals that publish standard research papers. Third, in journals that publish relatively small numbers of papers, impact factors may be expected to fluctuate as much as 40% from year to year. Finally, metrics are available for only about 7,000 journals, and many well-regarded IS and health informatics journals are not rated by *JCR*.

For those journals where citation metrics are reported, we propose that citation metrics can be useful in documenting journal quality within a discipline as well as between closely allied disciplines, such as health informatics and IS, as long as limitations of the metrics are clearly understood and the ratings are not oversold. For comparison, Table 2 presents *JCR* citation metrics for the top 10 IS research journals identified by a recent study [Peffer and Ya, 2003]. This list does not include highly ranked research journals from allied fields, such as *Management Science* and *Decision Sciences*, or practitioner-oriented magazines, such as *Communications of the ACM*.

Table 2. 2003 citation ratings of highly-ranked\* Information Systems journals.

Journal Title	Ranking	Impact Factor	Immed Index	Cited 1/2-Life
<i>MIS Quarterly</i>	1	2.811	0.182	9.0
<i>Information Systems Research</i>	2	1.917	0.118	6.0
<i>Journal of Management Information Systems</i>	3	1.225	0.000	3.2
<i>European Journal of Information Systems</i>	4	0.897	0.400	5.7
<i>Communications of the AIS</i>	5-6	Not rated in 2003 JCR		
<i>Information &amp; Management</i>	5-6	1.768	0.123	6.0
<i>Decision Support Systems</i>	7	1.316	0.297	5.4
<i>Database</i>	8	Not rated in 2003 JCR		
<i>Journal of the AIS</i>	9	Not rated in 2003 JCR		
<i>Information Systems Journal</i>	10	0.516	0.118	5.3

\* IS Research Journal Rankings reported by Peffer and Ya [2003]. Impact data from JCR

Impact factors range from 2.811 for 1<sup>st</sup>-ranked *MIS Quarterly* to 0.516 for the 10<sup>th</sup>-ranked *Information Systems Journal*. The impact factors do not precisely parallel the rankings, however, impact factors for the top three journals in Table 2 (mean = 1.98) are clearly higher than the remainder (mean = 1.12), suggesting that impact factors constitute a functional surrogate

measure of subjective IS research journal rankings. Several health informatics journals have impact factors in the range of the top three IS journals, and it would be reasonable to make the case that articles published in any of these journals should be accorded high prestige and P&T weighting.

Having said this, we advise authors to augment their claims with other evidence of quality where it is available, e.g., subjective rankings. In addition, authors should clearly define and explain the measures when using citation metrics to support claims of journal quality, as many P&T committee members may not be familiar with them, especially in departments and schools where interdisciplinary research is uncommon.

## **CHOOSING IS JOURNALS**

In Strategy 2, we present an example of a conceptual paper published by *CACM*. It is important to recognize that the range of health IT research published in IS journals includes empirical studies, system development, and qualitative designs. Many types of health IT research are publishable in IS journals if submitted to the appropriate outlet. An excellent resource to historical trends in IS journal publication of health IT research is Chiasson and Davidson [2004]. Their paper discusses which journals historically publish health IT research and presents a categorical analysis of types of published research. Although IS journals traditionally are not especially welcoming to health IT research, such work is being accepted across the range of IS journals where editors and reviewers see it as providing value and interest to their readers. Thus, we encourage health IT authors not to be discouraged by past history from submitting their work to IS journals while emphasizing the need to make sure the manuscripts appeal to IS readers.

### **CAIS Information Systems and Healthcare Department**

One IS journal that authors may wish to consider is *Communications of the AIS (CAIS)*, which recently instituted a department focused toward health IT research. Two general types of papers are solicited.

1. High-quality health IT research papers addressing topics of interest to IS audiences. This type of paper could also be submitted to other IS journals with reasonable chance for acceptance.
2. A range of materials supporting the efforts of health IT researchers, including tutorials, essays, case studies and experiential reports, literature reviews, and system design. This format provides a unique outlet for papers directed toward the audience that occupies the overlap between the Information Systems and Health Informatics circles shown in Figure 1. Prospective contributors to the *CAIS* Information Systems and Healthcare department should review the complete editorial statement [Wilson, 2004].

## **IV. SUMMARY**

Our objectives in this paper were to outline reasons why IS researchers should consider conducting interdisciplinary research in healthcare, to describe the strategies that we have found effective in publishing this research, and to identify and categorize journal publication outlets for healthcare research. As IS researchers, we find that healthcare offers opportunities that are hard to match in other research domains. Although some find it difficult to publish research in this area, our experience is that the situation is improving overall and, where obstructions exist, they often can be overcome through strategic planning and awareness of appropriate publication outlets.

*Editor's note:* This article is an expansion of a tutorial presented by the authors at AMCIS 2004 in New York. The paper was received on July 30, 2004 and was published on September 13, 2004.

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EDITOR'S NOTE: The following reference list contains the address of World Wide Web pages. Readers who have the ability to access the Web directly from their computer or are reading the paper on the Web, can gain direct access to these references. Readers are warned, however, that

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  3. the authors of the Web pages, not CAIS, are responsible for the accuracy of their content.
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# Communications of the Association for Information Systems

ISSN: 1529-3181

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