Rationale for the
ACM International Health Informatics Symposium

The volume of work on health informatics is quickly increasing, with contributions from a growing variety of groups in the computing and information fields. To date, health informatics research based on these disciplines has been published in a range of conferences and journals. Health informatics work is interdisciplinary and requires deep knowledge in computing, information science, medicine, nursing, and social/behavioral science. The goal of our conference is to bring these fields together, while emphasizing the unique contributions of computing, information science, and social/behavioral science to health informatics. In other words, our conference is *complementary* to existing venues, and its focus will center primarily on specific computing, information science, social/behavioral science, and systems engineering contributions to the field of health informatics. The conference organizers will look for application-driven contributions that are technically innovative.

Some of the particular contributions that this unique research field can offer include expanded attention to developing sophisticated mathematical and information analysis techniques that can help to synthesize pre-existing data; development of syntheses of clinical evidence that integrate the fields of computing, information science, medicine, and nursing; and assessment of the human, social, and ethical dimensions of emerging health information technologies. At the same time, we remain committed to applications of insights from research in these areas to technology development and design. A key component of this commitment is found in our effort to support publication of exploratory and developmental research in health informatics.

Taking these factors into considerations, the initial ACM venue we would like to start should have the following characteristics in terms of the research contributions that will eventually appear:

(1) Both short papers (at most five pages) and regular papers (six to ten pages) should be reviewed according to the same criteria regardless of length. Criteria for acceptance will not depend much on the paper category. Regular papers can have longer oral presentation times than short papers.

(2) To foster innovation, conjecture papers should be allowed by showing the supporting reasons and evidence behind the conjectures. In this case, the review process should be more accepting so that important foundational ideas can find an audience. The reviewers should look for interesting new facts, new applications, new frameworks, new lessons learned from building a medical software system, or new techniques. The evaluation of a new piece of work does not have to be very formal or complete. Evaluation by giving examples should be acceptable, to allow other people to follow with improvements or more formal evaluations in future publications. A paper does not have to be comprehensive and can focus on a single aspect, such as describing a new application without giving detailed implementation algorithms, proposing a new technique for an existing application, or giving a formal, complete, new study. The proposed methods or suggested algorithms, however, must have a practical clinical application, which may be nascent or developed.

(3) The program committee must be multidisciplinary, including a substantial number of computer scientists, information scientists, clinicians, and social or behavioral scientists. The papers will be reviewed by a multi-disciplinary team. We acknowledge that very few individuals may have deep understanding of all included disciplines. In the early stages, we may not be able to enlist enough people in the program committee with a broad understanding of all fields. Consequently, many committee members will have expertise in computing, information science, health sciences, or social/behavioral sciences, but not necessarily experience in all of these fields. To accommodate the multi-disciplinary review process, each paper will be evaluated by three reviewers and an additional meta-reviewer. To ensure enough multi-disciplinary validation, every program committee member will have a chance to act as meta-reviewer for some papers. Authors will provide a cover page suggesting how the three reviewers should be allocated: the number of computing reviewers, the number of information science reviewers, the number of physician reviewers, the number of nurse reviewers, the number of social/behavioral science reviewers, and which reviewer should focus on which parts of the paper.

To facilitate the program committee chair's task of assigning papers to reviewers, for each field, every program committee member will specify in advance whether he or she has advanced, limited, or almost no knowledge in that field. Each reviewer will read the entire paper. We expect that clinician reviewers will focus primarily on the clinically oriented aspects; computer science reviewers will focus primarily on the computing techniques, information science reviewers will focus primarily on the information science approaches, and social/behavioral scientists will focus on studies geared towards the social/behavioral disciplines. Reviewers who lack expertise in an area would not be expected to provide

valid comments or judgment on the merits of that aspect of the paper. Assembled reviews that combine viewpoints will consider the balance of clinical and computing-oriented value, so that unilateral decisions are not hastily made. After generating his or her own review, each reviewer may review the other two reviewers' reviews and make adjustments if needed. The meta-reviewer then makes a final judgment on the paper, by considering the feedback received from all reviewers. The meta-reviewer might not have deep knowledge in all the fields of computing, information science, medicine, nursing, and social/behavioral sciences, but can make an informed decision by reading the primary reviewers' comments and by contacting reviewers for clarification if necessary.

(4) The review process must be expedient so that authors can get reviews in about two months' time after submission, allowing authors ample time to make needed revisions to the papers.

(5) Certain topics, such as medical image processing and bioinformatics, are not targeted by our conference. We believe that they might be better suited to more mature conferences that target those areas more specifically. All other kinds of health informatics papers, whether about new health information technology, computing techniques, information behavior, social/behavioral aspects of health information technologies, or a hybrid of these, are within scope.

(6) The published papers will be indexed in both ACM and PubMed (PubMed approval is pending), following the style that IEEE EMBC conference papers are indexed to allow for broad dissemination and the quick establishment of a critical mass of researchers. The open access requirements of NIH-funded research (http://publicaccess.nih.gov/) should be honored.

(7) Thirty minutes will be allocated for each paper presentation. In case time does not allow presentation of all accepted papers, the conference organizers will employ one or more of the following strategies. First, the number of concurrent sessions will be increased by grouping specific sub-areas. Second, the oral presentation time will be decreased to 20 minutes. Third, papers with lower scores will be presented as posters instead of orally. All types of papers will be treated equally in the conference proceedings. In the peer review process, reviewers can see authors' names but not vice versa.

(8) All conference officers can submit papers, but officers cannot review or make decisions about their own papers.

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