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# Bio-Socio-Technical Underpinnings of Participatory Medicine

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### Abstract

**Summary:** Participatory medicine (PM) is facilitated by technology, but a purely technical analysis of their interaction provides only a partial picture. Drawing on a rich body of social science research, this article examines how both socio-cultural and biological perspectives lend additional context and a deeper understanding of the role of technology in PM.

**Keywords:** Participatory medicine, technology, socio-cultural, transdisciplinary.

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Given the current buzz about so-called Health 2.0 and Internet-enabled participatory medicine (PM), it seems natural to explore the intersection of technology and PM. In doing so, this article will first consider the *technical* infrastructure requirements of PM, then broaden the analysis to a *socio-technical* perspective, and lastly locate the discussion in a *bio-socio-technical* framework.

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### Technical Infrastructure of PM

To a first approximation, the technical enablers of PM are fairly simple to describe. To the extent that form should follow function, let's adopt for a moment the viewpoint of the patient and start with the "jobs that need to be done"—easy access to trustworthy and relevant health information, assistance in interpreting that information,[1] help with health literacy,[2] secure and private communication with other patients, caregivers and health professionals, ability to make appointments and check test results, connection to peer or patient support groups,[3] sharing of advice, discoveries and work-arounds, and amplification of the often-muted patient "voice" (see *New York Times*, August 7, 2009: [Patient Voices: Type 2 Diabetes](#)),[4] among other needs.

Given these jobs, the consequent functional and technical requirements pretty much suggest themselves. Many of these are related to information technology, and many already exist, which is of course why PM is beginning to come into its own—increasingly broadband Internet connections; highly usable search engines; hack-resistant security and privacy safeguards; and infrastructure for chat rooms, wikis, blogs and other manifestations of user-generated content and the new social media. Some are just emerging, which lends excitement and a sense of anticipation to PM—easier mechanisms for patient data input to reduce the data entry bottleneck; content management services to help patients filter, prioritize, vet, personalize, and make sense of the often bewildering jumble of search engine hits; and tools that assist with medical decision making that help people find "patients like me" or that customize health coaching, among others. And to the extent that patients are beginning to co-create their own care plans, expect to see better tools to enter, manage, and instantiate patients' preferences, health goals, barriers to achieving those goals, risk tolerance, opt-ins or opt-outs, preferred learning styles, and similar information—all of which may change with age, disease stage, or other factors.

But a moment's reflection reveals that things may not be so simple. Although PM is largely patient-centered, many other people may have useful and not always obvious contributions to