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## Intelligent Systems for Patient Empowerment: A Focus on Trust

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## TREO

Technology, Research, Education, Opinion

### Intelligent Systems for Patient Empowerment: A Focus on Trust

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Patients diagnosed with chronic diseases face the dilemma of making treatment decisions in conjunction with their physician, despite lacking medical knowledge and expertise. Simultaneously patients experience emotional and psychological stressors that tax their mental states, resulting in impaired reasoning and judgement (Mazzocco et al., 2019). To overcome these obstacles, patients must be empowered. Patient empowerment can be achieved by providing them with the knowledge, information, and the ability to actively participate in their treatment decision-making (Funnell et al., 1991). Empowering patients is often impeded by issues of trust in the multiple entities and sources that inform and weigh in on the patient decision-making process. These sources include the primary care provider, internet sources, friends, family, and other healthcare professionals (Carlsson et al., 2009). With recent advances in machine learning and artificial intelligence, we propose that a trusted intelligent information system can help to empower patient by assisting in their: information filtering, education, and decision-making abilities. Central to development of such an information system is a better understanding of the relationship dynamics among the various entities that influence patient decision making. This project begins a research program that examines: (1) how patients trust, weigh and utilize information sources in the care plan decision-making process; (2) what roles would an intelligent system play to counteract information source over-trust, distrust, and misinformation to support better decision-making; and (3) what factors can increase trust and utilization of the intelligent system in these roles to increase patient empowerment. To answer the aforementioned questions, we propose a series of experiments that systemically examine the influence of various information sources in treatment decision-making and trust in these entities.

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