

Clinical Decision Support System- Integrating Best Research Evidence with Patient & Physician Preferences at the Point of Care

Researchers at the University of South Florida’s College of Medicine have pioneered a state-of-the-art Clinical Decision Support System (CDSS). This advanced system helps bring physicians and patients together in the medical decision making process by providing a technology-mediated solution with which they can both interact.

To date no system exists enabling the integration of reliable research evidence with patient and physician preferences. The designed CDSS is the first system capable of such an integration focused on improving the decision making process. Decision-makers’ preferences are elicited using a novel DVAS (Dual Visual Analog Scale) instrument. Unlike other tools available in the literature, elicitation of preferences using DVAS is easy to comprehend and can be accomplished in the less than 2-3 minutes. As humans make their decisions using both logical, deliberative (so called system II) and emotional, experiential (system I) cognitive processes, the CDSS provides the recommendations by combining the best available evidence within both cognitive mechanisms of decision-making.

The technology can be applied to any medical condition and is currently being tested on patients with terminal disease to help improve referral to hospice. It integrates the best research evidence based on treatments, benefits and harms with the prognosis of a patient’s life expectancy to help improve decision-making of physicians and patients alike. The system design is modular and allows for the inclusion of additional components. Currently, the CDSS includes a module dedicated to the management of chronic pain.

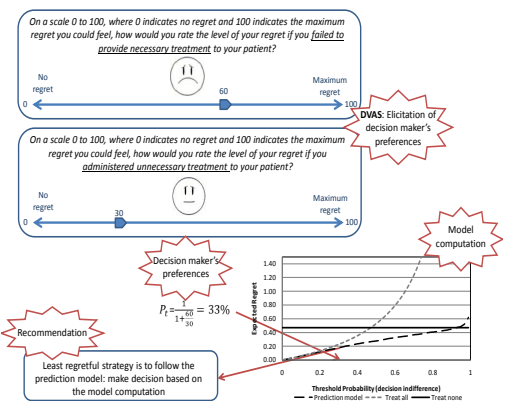
The CDSS utilizes a novel methodology that relies on regret theory to elicit the decision maker’s preferences towards alternative forms of treatment. This approach may be intuitively more appealing to a decision maker, particularly in those clinical situations when the best management option is the one associated with the least regret, especially when concerned with the diagnosis and treatment of serious illnesses.

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ADVANTAGES:

- First system to take into account logical, deliberative as well as emotional response and preferences in decision-making
- Applicable to any medical condition
- Integrates best research evidence to aid in the decision making process
- Includes module for the management of chronic pain

Helps Physicians and Patients Make Better Decisions with Less



Illustrations of the USF Clinical Decision Support System

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