

How can my doctor make sense of all the data in my medical record during a short office visit?



Longitudinal clinical records generally involve significant quantities of diverse data: diagnostic images, lab results, consult reports from specialists, faxed forms, data from medical devices used at home, etc.

Given the constraints of time clinicians can practically spend reviewing and absorbing patient data, it is virtually impossible for clinicians to manually review these large, complex clinical datasets and recognize if and when a patient is in need of a an intervention.

In a manner analogous to “big data” approaches in the intelligence community, we use two fundamental types of computer tools to help clinicians deal with large data sets: 1) medical *data visualization* tools such as innovative icons, Sparklines[1], dynamic graphing and flow charts; and 2) *clinical decision support* generated by our semantic modeling tools and artificial intelligence. Viva-Care’s innovative approach to leveraging medical record data can help clinicians quickly filter through large volumes of data, and also monitor real-time data streams for subtle, yet important physiological changes. These tools help clinicians and patients and make sense of the rapidly changing constellation of patient information.

It should be noted that powerful bioinformatics tools such as these can only be achieved with an EMR fundamentally based on computable data, yet many EMRs and Health Information Exchanges lack this critical functionality.

[1]

http://www.researchgate.net/publication/23162843_Cognitive_debiasing_through_sparklines_in_clinical_data_displays