

Clinical Benchmarking for the Office Practitioner Enabled by the Online Health Record

Thomas N. Ricciardi, PhD, F.E. "Chip" Masarie, MD, Tom Landholt, MD,
Blackford Middleton, MD, MPH, MSc

MedicaLogic/Medscape, Hillsboro, Oregon

Problem: Payer organizations, regulatory entities, and delivery networks are placing increasing pressure on physicians to report aggregate information about their patients and practice of medicine. Historically, clinicians have been ill-equipped to respond to these pressures when their practices have relied upon payer records for clinical information management.

Key Industry Drivers: Physicians need specific information from their practices for the purposes of contract management, preventive care, office productivity, and utilization reviews.

Value Statement: Clinical data captured at the point of care can support reporting requirements, and supplement or replace laboriously-collected data derived from billing and other administrative systems. Information from the Online Health Record can empower the individual physician to assess what is going on in their practice of medicine, as opposed to being "profiled" by an external entity.

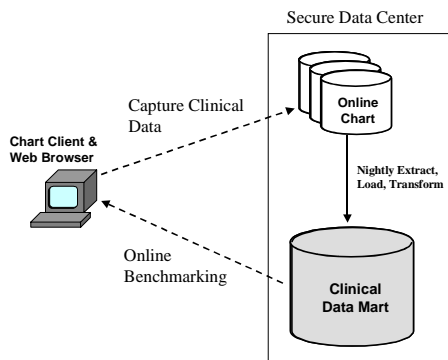


Figure 1. Providers use the charting client to document the clinical encounter. Online benchmark reports are provided via a standard web browser.

System Solution: We created a secure web-based system that provides access to a clinical data mart, to allow online benchmarking for the individual or office practitioner (Fig. 1).

Architecture: Providers used a web-enabled documentation system to document the clinical facts of the encounter. A set of routines extract data nightly from the online chart into the clinical data mart built in a relational database. The system uses a clinical vocabulary server to map provider-entered strings to normalized clinical concepts (Table 1). The system loads chart data into a dimensional data model, to simplify data representation and ensure fast query performance¹. Providers can access their own profiles from a secure web browser.

Context	String	ICD-9 Code
Default name	Diabetes mellitus, type II	250.00
Alternate name	AODM	250.00
Entry name	Type 2 diabetes	250.00

Table 1. Concept normalization.

Current capabilities: Individual users of online health records can assess their own clinical benchmarks. The system currently provides standard web-based reports for problem/case mix, procedures ordered, patient medications, visit types, and patient demographics. The system also provides integrated medical knowledge sources including disease management capabilities, drug indications, and links to web resources in context. This theater demonstration will display the current capabilities of the web-enabled clinical data mart.

Future Capabilities: The system will soon allow ad-hoc parameterized queries, increased support for HEDIS-style health management reports, support for group practices, and integration with the enterprise EMR.

References

1. Kimball, R.. The data warehouse toolkit. 2nd ed. New York (NY): John Wiley & Sons; 1996.