Health 3.0

Moving Past Static EMRs (1.0) and Social Networking (2.0) to Interactive Patient/Provider Technology (3.0)

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Web / Health 1.0

Web 1.0: brand-name websites with static content – written by the owner for information only; data repository; products for sale.

CONTENT

- Pharmaceutical / Biotech company information
- Hospitals' lists of Centers of Excellence; Maps and Access
- Physician Directories; specialty lists, hours of operation
- Health Insurance Plans' information and brokerage sites
- Employer HR Department's Employee Benefits forms
- Digitized / Electronic Medical Records

Information-push … Health 1.0

"That's not what it says on the Web."

Web 2.0

- User-created content and interaction between users. The content *creation* has become less centralized, outsourced to whomever registers an account and posts, but sites are still managing, storing, and serving content that's centralized.

CONTENT + COMMUNITY

  - BUT, centralization leads to:
    - Concentration of power
    - Loss of privacy
    - Walled repositories
    - Popularity = Crashes
    - Closed-source

"It's free, but they sell your information."

Health 2.0

Participatory healthcare tools characterized by the ability to share, classify, and summarize individual, group, institutional and scientific health information.

- Patient group networking, discussion boards, shared science
- Benefits-tracking, appointment scheduling, drug renewal
- Digital exchange between provider – patient – payer
- Quality information [dashboards] for improved outcomes?

- Physicians are the slowest to embrace
  - Cost / Skill
  - Loss of control / change
  - Fear of lost connection to patients

“Pushing” and “Pulling”…Health 2.0?

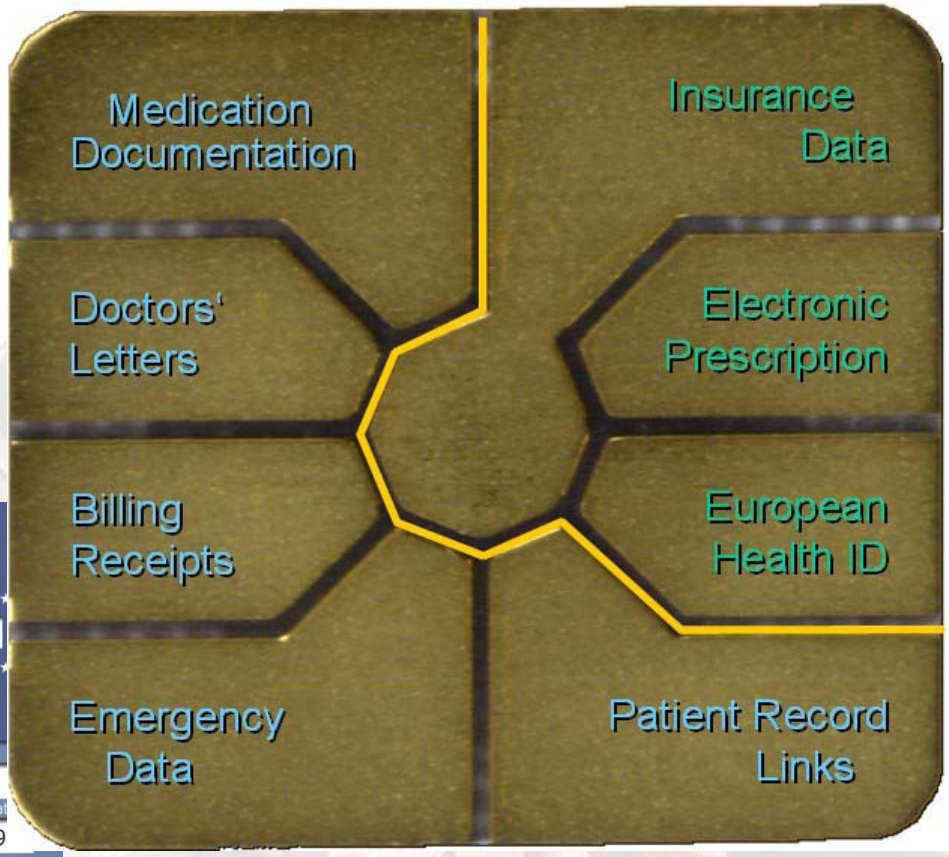
" I use Facebook to share my thoughts about my unsightly liver spots and hard stools. "

Technology for Health 2.0

Technology for Health 2.0: PHRs

www.zaptag.com www.google.com/health www.myPHR.com

Technology for Health 2.0: eGK



Three “C”s of Web 3.0

- The decentralization of software and storage that will allow web apps currently run by huge server farms - Facebook, WebMD, listservs, etc - to be, in part, supplanted by apps that users run locally, target data semantically, and share data among each other.

CONTENT + COMMUNITY + [CONSUMER-CENTRIC] COMMERCE

- Semantic technologies exist (i.e., CouchDB) to use traditional web services and combine “instances” of the server together to increase scalability while running instances independently and having them pull data from each other.
  - Apps run from local machines while still on the same network.
  - Data is local and private
  - Loading *my* add-ins only scales *my* hardware

Three “C”s of Health 3.0

- Embedding of semantics into medical and research information will offer better access to information needed to find cures for diseases, make drugs safer and more affordable, and enable health care providers to offer individualized clinical management.

CONTENT + COMMUNITY + [HUMAN-TO-HUMAN] CARE

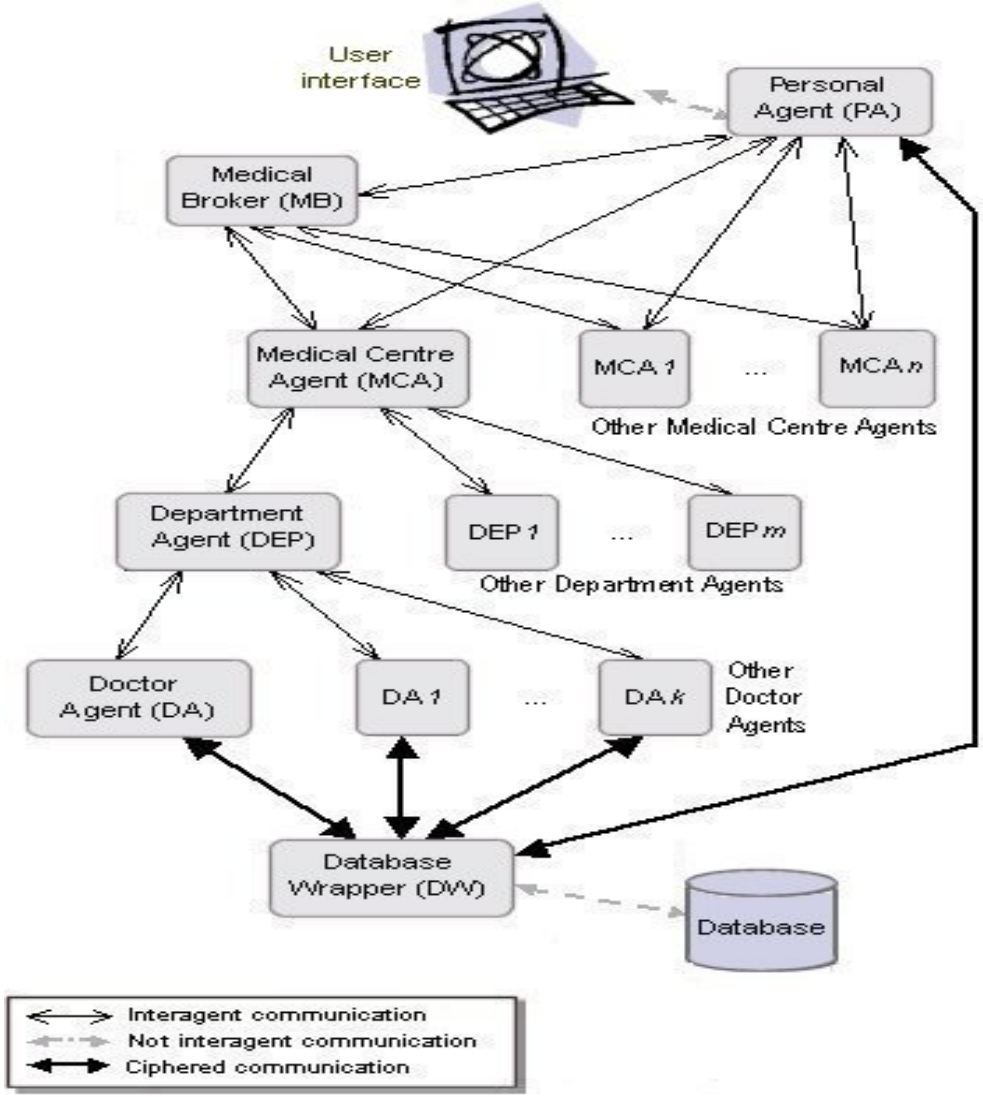
- The aim of the multi-agent system [MAS] is to provide access to the basic health-care services in a given area to the users.

- Enable the individual, provider, medical institutions to interact with each other at a high enough level to ensure that they can all interoperate with shared outcomes.

Enabling technologies … Health 3.0

- Semantic searches
- Interactive databases
- Privately held information
- Scheduling, maintenance of preventive and chronic care management

Enabling technologies … Health 3.0



- Semantic searches
- Interactive databases
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I saw the angel in the marble and carved until I set him free.

Michelangelo