

Health Information Technology: Overview and Forecast

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**Medicaid Commission
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US HEALTH SPENDING COMPARED TO SELECTED COUNTRY GDPs 2004 (*\$BILLIONS*)



Source: OECD
* Est.

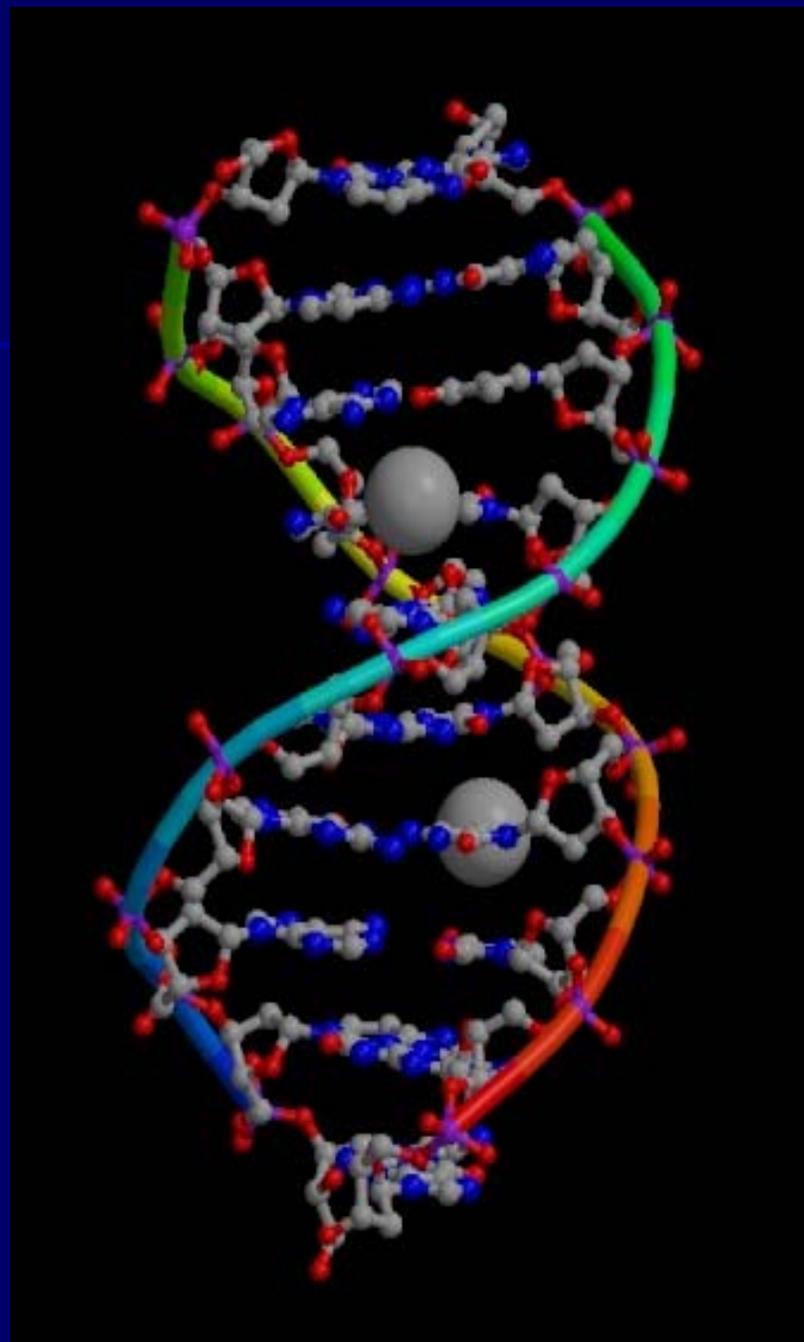




"Fill out this tag and attach it to your big toe."

INFORMATION TECHNOLOGY IMPACT ON HEALTH SYSTEM

- 1) Genomics
- 2) Electronic Medical Record (EMR)
- 3) Turbocharged Diagnosis
- 4) Remote Medicine
- 5) Connectivity

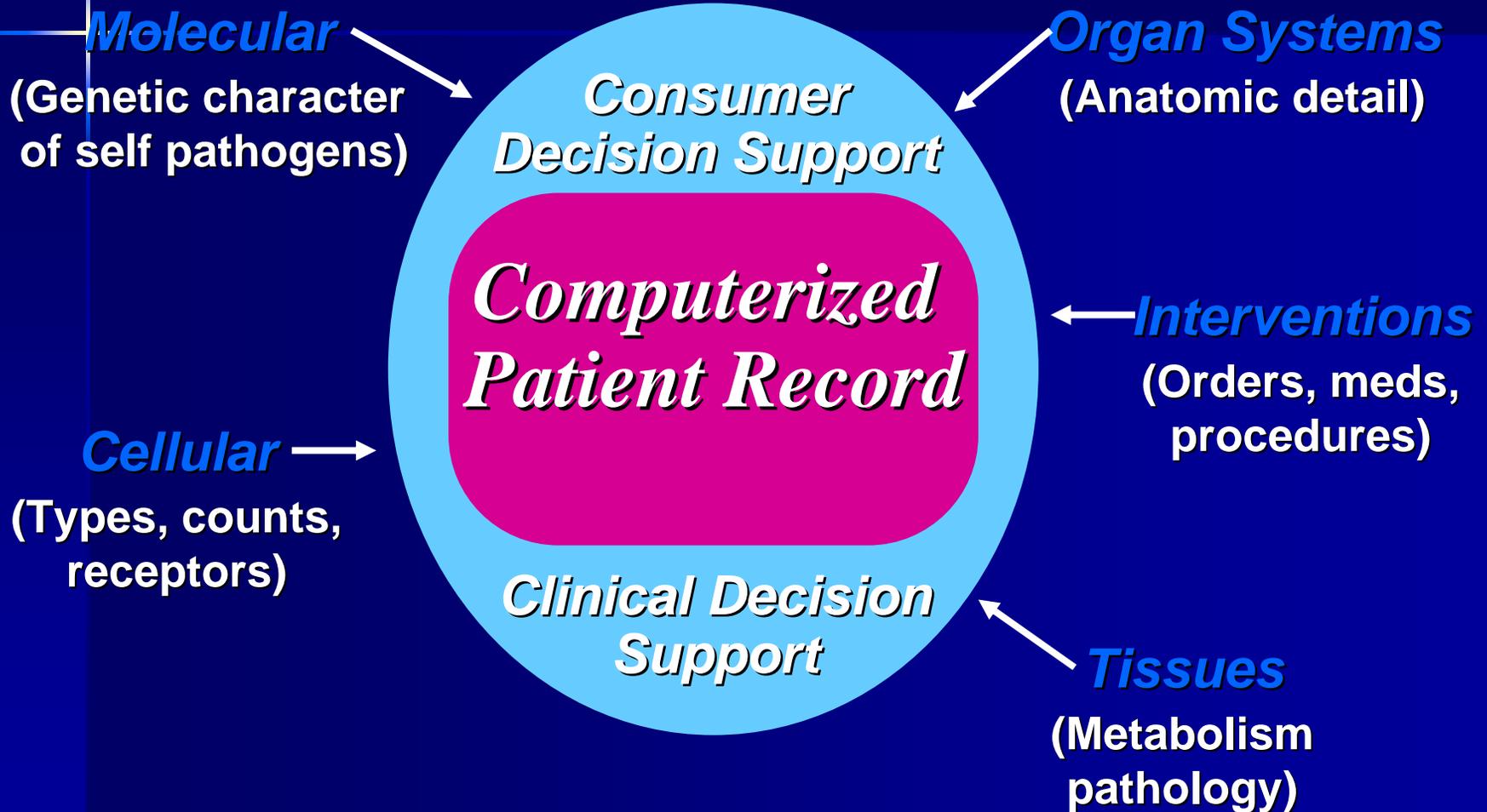


Genomics: Clinical Implications

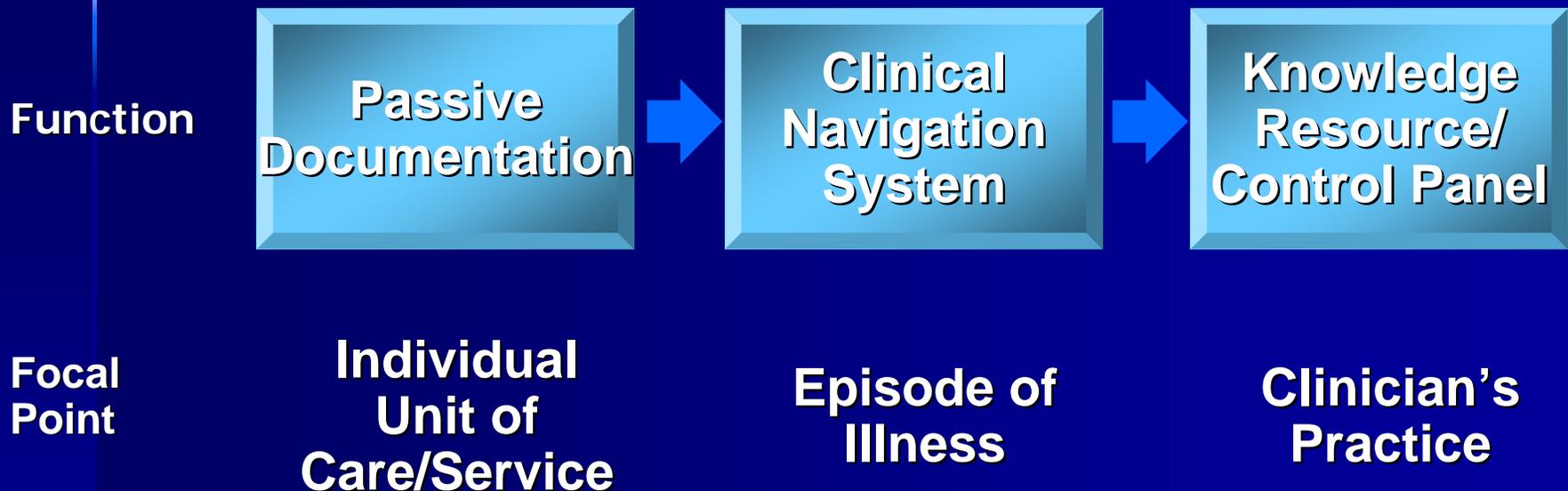
- **Emerging New Business Model for Drug Discovery and Development**
- **Understanding genetic contribution to ADR's**
- **Resistance profiling of pathogens in oncology and infectious disease**
- **Long term potential in personalized therapies**

Source: Health Futures, Inc.

DIGITAL MEDICINE: CONVERGING STREAMS



EVOLUTION OF THE “EMR”



FROM “CPR” TO “NAV SYSTEM”: CONSTRAINTS

- **Practice Autonomy**
- **Evolving State of Medical Knowledge**
- **Usability/User Interfaces “need work”**
- **Funding: Haves and Have Nots**
- **Liability**
 - **Institutions**
 - **Practitioners**
 - **Vendors**
- **The “Blood/Brain barrier” hospital vs. physician**
 - **Separate hospital vs. physician records**
- **Patient/Family Access to Records, Decision Support**

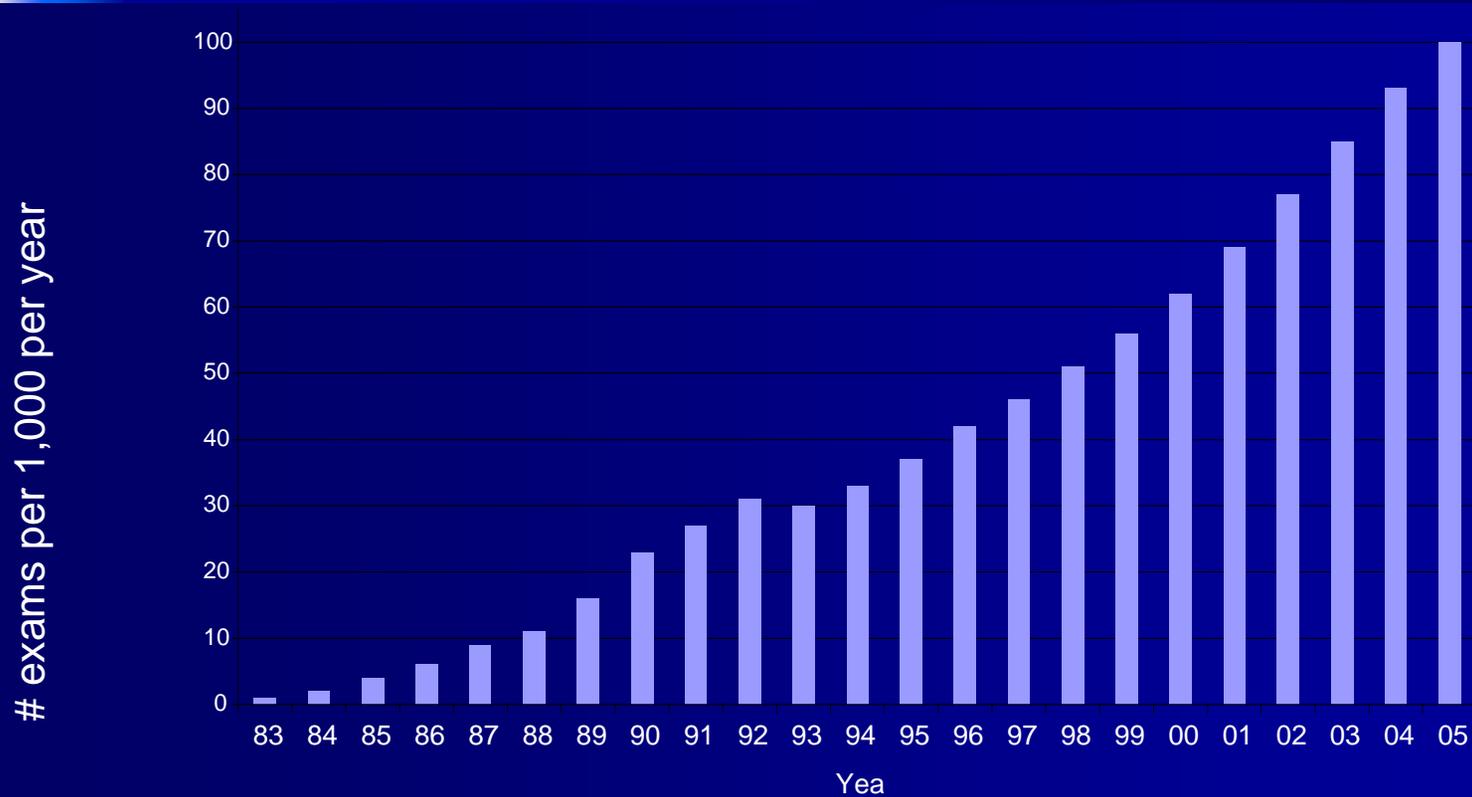
Source: Health Futures, Inc.

Turbo Charged Diagnosis

- **Computer Assisted Diagnosis of Images**
- **Worldwide Diagnostic Networks**
- **Molecular Imaging**
- **“Personal” Ultrasound**

Source: Health Futures, Inc.

MRI Utilization Rates



Source: RA Bell and Associates, 2004

RPM: Thesis

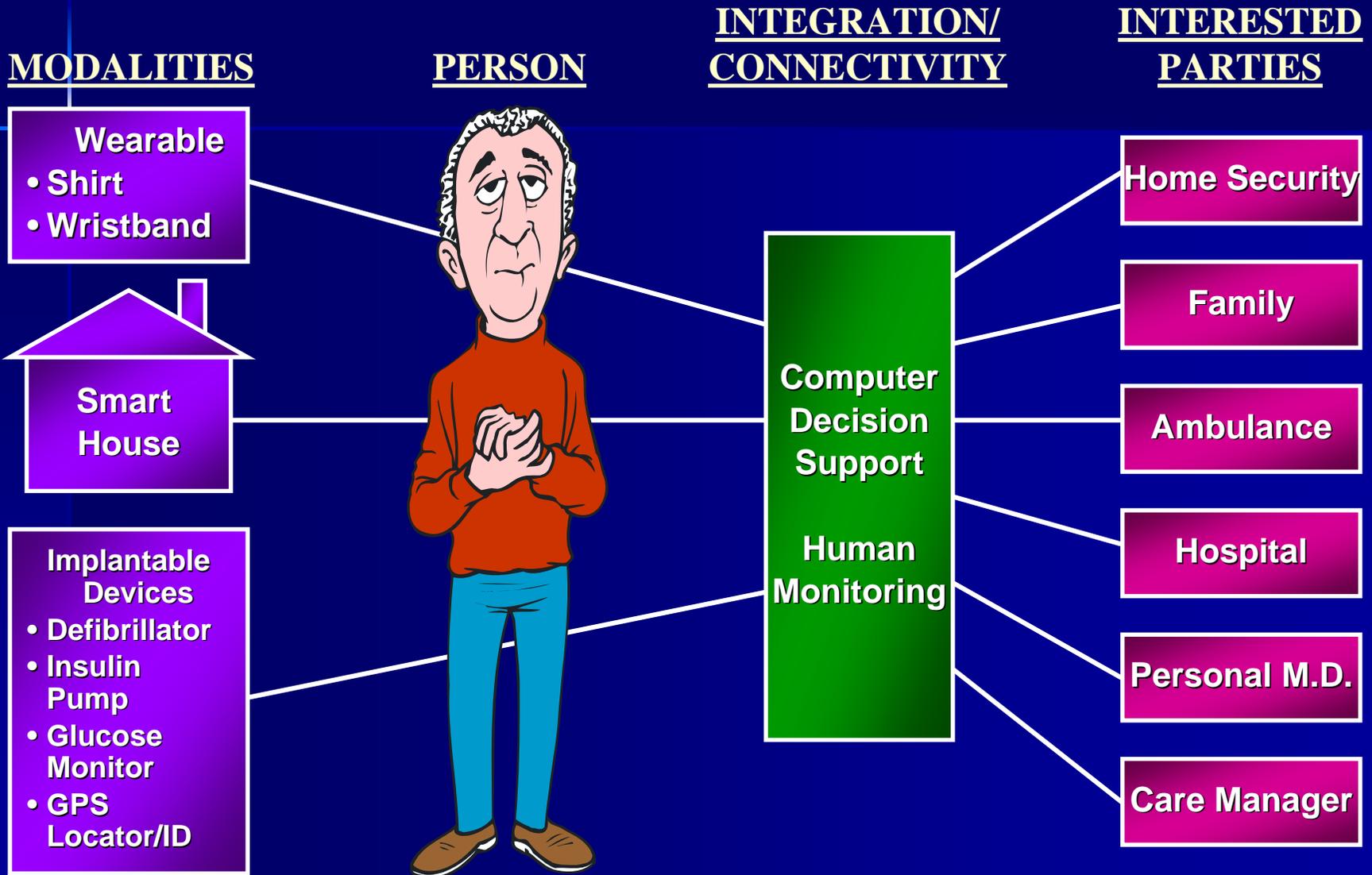
Convergence of Remote Sensing Technologies with Intelligent Clinical Software will enable Large Numbers of People at Risk for Hospitalization for Life Threatening Chronic Conditions to Live Normal Lives AS well as enable monitoring the Sickest patients presently in hospitals from hundreds of miles away.

What Can be Sensed Remotely (and Cheaply!)

- **Location (Infrared indoors, GPS outdoors)**
- **Motion/Orientation (Standing/Lying/Falling/Gait)**
- **EKG**
- **Temperature**
- **Blood Oxygen**
- **Respiration**
- **Sweat (Chemical content)**
- **Speech (Content, Voice Stress)**
- **Visual Imagery/Identity**

**Source: Medical Automation Research Center
University of Virginia**

REAL TIME DISEASE MANAGEMENT



DIGITAL MEDICINE: PAST AND FUTURE (With Apologies to D. Berwick)

PAST

- **Event-driven**
- **Fee-for-Service**
- **Separate Records**
- **Payor as Intermediary**
- **Provider-driven**
- **“Right stuff” based clinical decision support**

FUTURE

- **Continuous**
- **Subscription (broadband)**
- **Single record**
- **Payor as Sponsor**
- **Customer-driven**
- **Science-based clinical decision support**

Health Care Payment Reform: What Needs to be Done

- Change payment incentives to encourage relationship-based, rather than event-based, payment
- Carrots and sticks for quality improvement
- Single claims justification/mandatory electronic payment
- Fix responsibility through unified payment for care management for major illness, and provide flexibility to care team to meet needs.





DIGITAL MEDICINE

**IMPLICATIONS FOR
HEALTHCARE LEADERS**

ACHE Management Series
Health Administration Press

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