The New Millennium

- Quality Chasm Exposed
- Cost Inflation Resumes
- Consumer Driven Health Care
- Primary Care Under Stress
- The Decade of Health Information Technology and Transformation in the Process of Care
- The Transformation of Family Medicine?

What the gods want to destroy, they give 40 years of success

Peter Drucker

Current Ambulatory Care

- Based on an Acute Care Model and Physician Centered Care
- Does not work well for Prevention and Chronic Illness management
- Brief episodic visits must be part of a continuous system of care
- Longer visits needed for complex patients
- Multidisciplinary teams working as a quality system of care
A Growing Problem

- “I can’t do what I came to do – help people through a variety of difficult problems. I don’t have the time to do the job right.”
- “We are not doing a good job, and it’s not our fault. Our care model is faulty.”

Outcomes in Hypertension

<table>
<thead>
<tr>
<th></th>
<th>NHANES 1991</th>
<th>JNC VI 1997</th>
<th>Olmstead County 1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aware</td>
<td>73%</td>
<td>68%</td>
<td>61%</td>
</tr>
<tr>
<td>Treated</td>
<td>55%</td>
<td>54%</td>
<td>45%</td>
</tr>
<tr>
<td>Controlled</td>
<td>29%</td>
<td>27%</td>
<td>17%</td>
</tr>
</tbody>
</table>

Only 27% of hypertension is adequately controlled.
Only 26% of people with diabetes have blood pressures well controlled.
50% of patients hospitalized with congestive heart failure (CHF) are readmitted within 90 days.
Only 25% of people with depression receive treatment.
Americans receive about 55% of the recommended medical care they need, regardless of their race, sex, income, or where they live

McGlynn, NEJM, 2003;348:2635

The Mistakes Doctors Make

Misdiagnosis occurs in 15 to 20 percent of all cases, according to some research. It turns out that the mistakes are rarely due to technical factors, nor is misdiagnosis usually due to a doctor's lack of knowledge about what later is found to be the underlying disease. Rather, most errors in diagnosis arise because of mistakes in thinking.

Boston Globe - March 19, 2007

So What is Wrong?

Not What We Do, But How We Do It
Our Process of Care is Ineffective and Obsolete
Why?
The Brief Visit Model is an Acute Care Model
We Now Do Preventive Care, Chronic Illness Management, a Biopsychosocial and Family Systems Orientation

The Ticking Clock in the Doctor's Office

“Patients on routine visits to their primary doctors often have lots of questions but not enough time to get good answers.”

“Hamster Healthcare: Time to stop running faster and redesign health.”
Hamster Healthcare

“Across the globe, doctors are miserable because they feel like hamsters on a treadmill. They must run faster just to stand still … The result of the wheel going faster is not only a reduction in the quality of care but also a reduction in professional satisfaction and burnout among doctors.”

Hamster Care

“Time spent with the physician is the strongest predictor of patient satisfaction.”

- Anderson RT, et al.
BMC Health Services Research
The Time Problem

- Time Needed for Chronic Illness Care: 10.6 hours a day for 2500 patients
- Time Needed for Preventive Care: 7.4 hours a day
- Time Needed for Acute Care: 4.6 hours a day
- Total face to face time for 2500 patients: 22.6 hours/day

Ann Fam Med 2005;3:209
Am J Pub Health 2003;93:635

Care Does Not Equal Visits

- Optimal care is based on deep, trustful relationships between practice and patients
- Great relationship demands that we go far beyond visits in delivering care to patients

An outmoded way of managing patients

Patient
Preventive Care Needs
Health Problems/Comorbidities
Biopsychosocial Dimensions
Family Contact

Family Physician
Knowledge and Experience
Relationship with Patient
Coordination of Comprehensive Care Resources

15-minute Visit

Figure 1. The Bottleneck of Brief Episodic Visits
The medical office is a bottleneck of episodic care that does a poor job of managing chronic illness and providing preventive services.

Office Practice – Core Functions

- We Manage Relationships
- We Manage Knowledge
- We Manage Resources
- We Provide Skills

Quality Ambulatory Care For The 21st Century

- Freedom From Error
- Consistent Best Practice
- Great Service
Key Findings

- Errors occur because of system failures

- Preventing errors means designing safer systems of care
New Imperatives

- Use IT Tools and Quality Methods to Improve Patient Safety
- Redesign Office Practice for Safety, Effectiveness and Satisfaction
- Become Patient Centered, Modern and the New Market Leader!

Common Mistakes in Office Practice

- Prescribing
- Missed Diagnoses
- Missed Lab/X-ray data
- Wrong Treatment
- Procedures

A Sea of Changing Information

10,000 drugs ... 125,000 diseases ...
15,000 clinical guidelines ...

- Drug X
- Do not use in breastfeeding mother.
- Avoid in patients with coronary artery disease.
- Use after heart attack, decreases mortality by 40%
**Content Overwhelms No Time to Read it All**

**Drug After Drug, Warnings Ignored**

**An Unsustainable Trend**

1 million serious medication errors in 1999 – IOM Report

![Graph showing serious adverse drug events reported to the FDA from 1990 to 1999.](image)

SSB Industry Report 2001

**The Complexity Of Modern Medicine Exceeds The Inherent Limitations Of An Unaided Human Mind**

David Eddy, M.D.
Evolution of Knowledge Management Tools

- The Office Library
- Online Reference Materials
- Handheld Tools in the Exam Room
- Knowledge Management Embedded in the Patient Data

Real Time Knowledge Architecture

The New Communication Platform

- Interactive Web Site
- Electronic Communication For:
  - Lab Results And Other Data
  - Chronic Illness Care
  - Behavioral Coaching
  - Minor Acute Problems
  - Online Family Meetings
Shifting Paradigm?

- Information asymmetry
  - Physician as knowledge master
  - Physician in charge
  - A burden?
- Information symmetry
  - Physician as knowledge advisor
  - Threatening vs. liberating
  - Physician as coach & healer

Patients on the Internet

- 80% of Americans are online more than once a week accessing services
- Almost 50% of internet use is health related
- All education and socioeconomic groups
- Over half on the internet are looking for someone else!

"Just a minute, Doc, I'm getting a second opinion."
E-mail management is the most common computer activity people pursue.

E-mail is more convenient than “phone tag”
E-mail can be managed asynchronously

Young Can’t Imagine
Life Without Online Access

Martha Irvine
Associate Press
December 5, 2004
What’s Wrong?

- Providers
  - Are frustrated with between-visit communication
  - Current modes are fragmented and inefficient
  - Great opportunity to improve efficiency and effectiveness of medical care delivery

Why Web Based Communication?

- It is asynchronous
- It has enormous reach
- It is robust. You can:
  - exchange and store information
  - provide services
  - connect people
- Communication can be tracked, managed, documented, and evaluated
- It is secure

Patient-related challenges

- The digital divide
- Variation in clinical context of communication
  - Early adopters: younger, less sick, lower use of phone and visits, communication more episodic
  - Later adopters: older, more chronic disease, higher use of phone and visits, communication less episodic
Provider-related challenges

- Addressing workflow concerns
- Understanding the diversity of provider communication
  - Scope of content
  - Duration of patient relationships

Organizational challenges

- How do we pay for online communication?
  - Generate revenue: payers, employers, patients
  - Reduce costs: improve efficiency
- What are the outcomes?
  - Patient/provider satisfaction
  - Clinical processes and health outcomes

E-mail Options

- Regular E-mail with patient acceptance of the privacy and a confidentiality statement with each message.
- Secure E-mail through a Web Based application protected by firewalls and encryption
- Patient Portal imbedded into a secure EHR
Why Use E-Mail?

- Improve patient access
- Enhance patient education
- Increase patient satisfaction
- Reduce telephone time and costs
- Can balance risks and benefits
- Competitive advantage
- Transform work schedule

Benefits of E-Mail

- Visit extender - increased communication
- Patients forget questions
- Intimidated face-to-face
- Enhance participatory relationship
- Change service utilization
- Behavioral coaching

Online Communications Between Doctors and Patients Can Save Money and Time, and Promote Satisfaction if the System is Structured Properly

Potential Problems with E-Mail

- Confidentiality and security
- Time demands
- Misinterpretation
- Inappropriate uses
- Digital divide

Deciding to E-mail Patients

- Discuss patient's desire
- Agree on appropriate topics
- Establish guidelines

Sands et al, 1998

dsands@caregroup.harvard.edu

Please Follow These Rules to Improve Communication
1. Use alternative forms of communication for:
   - emergencies and other time-sensitive issues
   - sensitive information (do not assume e-mail is confidential)
   - situations in which my response is delayed (I may be away)
2. Be concise
3. Put your name and BID number in the subject line
4. Keep copies of e-mail you receive from me
5. I may save e-mail I send and receive in your record
6. I may share your messages with my office staff or with consultants (if necessary)
Myths About Patient E-Mail

- Myth #1: Hackers could read my patient's confidential messages.
- Myth #2: It will take more time from my day, and I won't get reimbursed for it.
- Myth #3: If I allow patients to e-mail me, I will receive a flood of e-mail messages.
- Myth #4: Patients will ramble.
- Myth #5: I may get sued, and a lawyer will discover my e-mail messages.

RelayHealth study

- California study with Blue Cross of California
- Controlled trial with 5727 patients
- Physicians reimbursed $25 per visits with patients having a $0-10 co pay
- Results:
  - Overall decrease in spending of $1.92 per patient per month for office visits, $3.69 overall
  - Improved patient satisfaction

What Happens When Patients can Communicate with their Doctors Online?

Eric M. Liederman, MD MPH

Results from the UC Davis Virtual Care Study

Eric.Liederman@ucdmc.ucdavis.edu
Provider & Staff Satisfaction

Time spent on patient email is predictable...

Considerations in e-Communication:

Email
- Open access
- Unstructured
- Cannot prescribe
- Filed in medical record?
- Reimbursed?

Web Messaging
- Security & authentication
- Structured
- E-prescribing
- Documented and auditable
- Reimbursed!
Conclusions
Secure Online Communication Is Coming and Can…

- Satisfy patient demand to e-communicate
- Boost practice productivity
- Lower message volume
- Reduce risk
- Improve record-keeping
- Generate new revenue

The Path to Success

- Develop business model
- Build or buy technology
- Develop roll-out strategy
  - Map relationships and workflow
  - Develop rules of engagement and exchange
  - Develop education and promotion strategy
  - Allocate provider effort during rollout

My Web Site Transformed My Practice

“My website transformed my practice.”
- Howard Stark, MD
  Medical Economics
  June 1, 2007
  www.memag.org
Increased Chronic Care Needs

- About 100 million people (40% of population) have one or more chronic conditions
- Chronic conditions account for more than two-thirds of health care expenditures (Robert Wood Johnson Foundation, 1996)
- 80/20 Rule: Limited number of conditions account for most of these health care expenditures (Ray et al., 2000)

Planned Care

- Care is based on evidence
- Decision support is built into the work flow
- Nothing drops through the cracks
  - Patient and Disease Registries
  - Individual and Population based care
- Patient and care team are on the same page
- Patients are activated to better manage their conditions
- Stepped-up care/resources tied to patient need
Care Team

- A care team exists when all staff members use all of their skills together in a concerted effort to deliver evidence-based clinical management self-management support.

Taplan S, JABFP 1998;11;116

Empowered Medical Assistants
Change the Dynamic of the Visit for Physicians From “What is the Matter” to “What Matters”

Future Ambulatory Care

- Management of a Population of Patients
- Patient-Centered Care
- Personal Medical Home
- Best Knowledge at the Point of Care
- Continuous Access to Multimodal Communication
Future Ambulatory Care

- A New Platform of Care
- Fewer Time Intensive Visits
- Group Visits
- Teamwork and Interpersonal Skills
- Financial Practice Management

Concierge Care for Everyone?

- Fewer Patients per Family Physician
- Continuous Availability
- Focus on Comprehensive Care Including Prevention
- Enhanced Professional and Patient Satisfaction
- Is Concierge Practice the Custom Invention that will lead to the Model of the Future?
- American Society of Concierge Physicians is now the Society for Innovative Medical Practice Design
- Make it Affordable

A New Vision of Ambulatory Care

- Responsibility for a Population of Patients
- Manage Needs and Demands on a New Platform of Services (Web Based)
- Prioritize Conditions and use a Team Approach
- Take the Time to be Effective (Time to Heal)
- Change the Concept and Application of Productivity
“The more you can move demand away from office visits, the more time you’ll have to deal with patients who really need personal interaction.”

--Donald Berwick, M.D.

<table>
<thead>
<tr>
<th>Time</th>
<th>Patient</th>
<th>Age/Sex</th>
<th>Chief Complaint</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM</td>
<td>Hospital Care</td>
<td>39 yo/F</td>
<td>f/u fibromyalgia</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>Washington</td>
<td>65 yo/M</td>
<td>back pain</td>
</tr>
<tr>
<td>9:15 AM</td>
<td>Green, Jim</td>
<td>44 yo/M</td>
<td>f/u swollen ankles, HTN</td>
</tr>
<tr>
<td>9:30 AM</td>
<td>Armstrong</td>
<td>32 yo/M</td>
<td>f/u DM</td>
</tr>
<tr>
<td>10:00 AM</td>
<td>Jackson</td>
<td>58 yo/M</td>
<td>CPE</td>
</tr>
<tr>
<td>10:15 AM</td>
<td>xxxx xxxx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:30 AM</td>
<td>Jacoby</td>
<td>70 yo/M</td>
<td>Loose cough, chest pain, Pneumonia</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>Pickles</td>
<td>9 mo/M</td>
<td>Diarrhea, rash</td>
</tr>
<tr>
<td>11:15 AM</td>
<td>O'Connor</td>
<td>26 yo/M</td>
<td>headache, blurry vision, dizzy spells</td>
</tr>
<tr>
<td>11:30 AM</td>
<td>Vargas</td>
<td>4 yo/M</td>
<td>won't sleep, ears hurt</td>
</tr>
<tr>
<td>11:45 AM</td>
<td>Vargas, Carlita</td>
<td>5mo/F</td>
<td>chronic crying</td>
</tr>
<tr>
<td>12:00 PM</td>
<td>Pitacki</td>
<td>12 yo/F</td>
<td>miss'd school, malaise, won't talk to parents</td>
</tr>
<tr>
<td>1:00 PM</td>
<td>Oliver</td>
<td>2 yo/F</td>
<td>congestion, runny nose</td>
</tr>
<tr>
<td>1:15 PM</td>
<td>Vargas, Antonio</td>
<td>4 yo/M</td>
<td>won't sleep, ears hurt</td>
</tr>
<tr>
<td>1:30 PM</td>
<td>Vargas, Juan</td>
<td>4 yo/M</td>
<td>chronic cough, chest pain</td>
</tr>
<tr>
<td>1:45 PM</td>
<td>Crocker</td>
<td>48 yo/F</td>
<td>minor burn</td>
</tr>
<tr>
<td>2:00 PM</td>
<td>Brady</td>
<td>19 yo/F</td>
<td>pelvic pain</td>
</tr>
<tr>
<td>2:15 PM</td>
<td>Kosokovitch</td>
<td>90 yo/F</td>
<td>f/u breast CA, needs interpreter</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>Fairchild</td>
<td>5 y/o F</td>
<td>kindergarten school physical, needs shots</td>
</tr>
<tr>
<td>2:45 PM</td>
<td>Blackwell</td>
<td>57 yo/F</td>
<td>headache/depression</td>
</tr>
<tr>
<td>3:00 PM</td>
<td>Valdez</td>
<td>72 yo/M</td>
<td>smoker, f/u (on patch)</td>
</tr>
<tr>
<td>3:15 PM</td>
<td>Halperin</td>
<td>8 yo/F</td>
<td>cough 3 days, no cold</td>
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<tr>
<td>3:30 PM</td>
<td>Blocker</td>
<td>20 yo/M</td>
<td>rotator cuff pain, f/u requesting refill on Percocet</td>
</tr>
<tr>
<td>3:45 PM</td>
<td>Rodriguez</td>
<td>23 yo/F</td>
<td>2 wk postpartum f/u</td>
</tr>
<tr>
<td>4:00 PM</td>
<td>Rodriguez-DelRey</td>
<td>2 yo/F</td>
<td>2 wk WWC</td>
</tr>
<tr>
<td>4:15 PM</td>
<td>Rodriguez-DelRey</td>
<td>2 yo/F</td>
<td>2 wk WWC</td>
</tr>
</tbody>
</table>
# A New Model of Ambulatory Care

- 50% more caring interactions each day
- 10-12 unhurried office visits each day
- Advanced access – do today’s work today
- Patients get all the time they need
- Patients receive the latest treatments

## How?

- An interactive practice website is a new platform of communication
- 40-60% of patient needs handled online
- Electronic medical record with imbedded knowledge management tools
- Great service
Financial Models for the New Model

- Shift of telephone to E-mail (time saver, $ neutral)
- Reduce unnecessary visits (more $ in high demand office, less $ in lower demand)
- Payment for virtual care (Web Visit Charges)
- Prepaid service fee, monthly ($30) or annual ($360)
- Prepaid Contracts
- Pay for Performance incentives
- Billing for Group Visits

Idealized Micropractice

- Pioneered by Gordon Moore
- Growing very fast in Family Medicine
- Convocation at AAFP
- Liberation and Great Enthusiasm
- Personalized Medical Practices
- Concierge Care for Everyone

Greenfield Health

- 5 Internist Practice in Portland, OR
- Chuck Kilo as Leader (IHI Experience)
- Interactive Website, Web Messaging, Telephone and Selective Use of Office Visits
- Physician Spends Half Day Seeing Patients – Visits 30 Minutes or Longer
- Half Day Messaging
- Volume is 20% Visits, 40% Telephone, 40% Web Messaging
- $395 Annual Fee, Discount for Families
Kaiser Permanente
HealthConnect
24 Hour Access to Accurate and Comprehensive Health Care Information and Services

MyChart Timeline

Health Partners Online User Growth

MyChart active users

37,776
Secure Messaging Adoption

By comparison, approx 28,000 billable physician phone visits since 5/05

Health Partners Secure Messaging
Initial Observations

- Slow trickle at start
- Pioneering MDs with online experience helped raise confidence and allay fears
- Patient adoption dependent on local promotion

New Models of Care Online

- eDocAmerica – for patients who use it, 24% of the time office visits are prevented
- Revolution Health – the AOL for health care
Finances Follow Innovation

The New Model is More Efficient
Better Faster Cheaper!

Wise Words from Dee Hock
Substance is enduring, form is ephemeral. Failure to distinguish clearly between the two is ruinous.

Success follows those adept at preserving the substance of the past by clothing it in the forms of the future.

Preserve substance; modify form; know the difference.

Change Is Disturbing When It Is Done To Us. Change Is Exhilarating When It Is Done By Us

Rosabeth Kantor
Harvard Business School
Change Principles

- Use strong leadership and create the environment for change.
- Focus on teaching and learning methods.
- Use mentoring and targeted interventions.
- Create the capacity for change.
- Use data to drive improvement.

“We can’t change the human condition, but we can change the conditions under which humans work.”

- James Reason

Human Nature Changes Little

Caring Remains Primary

What Changes Are The Tools And Methods We Use