



The Future of Healthcare and How Lumetra Healthcare Solutions Leads Redesign for Health Systems

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November 5, 2008

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



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

--Peter Drucker



Current Clinical Practice

- **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**



What's Driving the Change?

Country Rankings	
	1.00–2.66
	2.67–4.33
	4.34–6.00

	Australia	Canada	Germany	New Zealand	United Kingdom	United States
Overall Ranking (2007)	3.5	5	2	3.5	1	6
Quality Care	4	6	2.5	2.5	1	5
Right Care	5	6	3	4	2	1
Safe Care	4	5	1	3	2	6
Coordinated Care	3	6	4	2	1	5
Patient-Centered Care	3	6	2	1	4	5
Access	3	5	1	2	4	6
Efficiency	4	5	3	2	1	6
Equity	2	5	4	3	1	6
Healthy Lives	1	3	2	4.5	4.5	6
Health Expenditures per Capita, 2004	\$2,876*	\$3,165	\$3,005*	\$2,083	\$2,546	\$6,102

* 2003 data

Source: Calculated by The Commonwealth Fund based on the Commonwealth Fund 2004 International Health Policy Survey, the Commonwealth Fund 2005 International Health Policy Survey of Sicker Adults, the 2006 Commonwealth Fund International Health Policy Survey of Primary Care Physicians, and the Commonwealth Fund Commission on a High Performance Health System National Scorecard.

Reprinted with permission from Davis et al for the Commonwealth Fund; May 2007. [permission pending.]



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.”

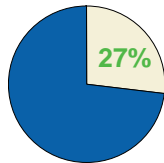


Outcomes in Hypertension

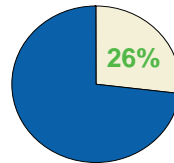
	NHANES 1991	JNC VI 1997	Olmstead County 1999
Aware	73%	68%	61%
Treated	55%	54%	45%
Controlled	29%	27%	17%



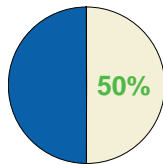
Room for Improvement



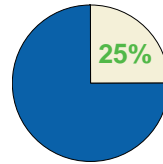
Only 27% of hypertension is adequately controlled.



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.



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 bio-psychosocial 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.”

- New York Times, February 6, 2007



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

- Ian Morrison & Richard Smith. BMJ. 2000;321:1541-1542



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 Healthcare



“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/day for 2500 patients
Time needed for preventive care:	→ 7.4 hours/day
Time needed for acute care:	→ 4.6 hours/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



The brief visit busy office schedule model of ambulatory care must be replaced by a new process.

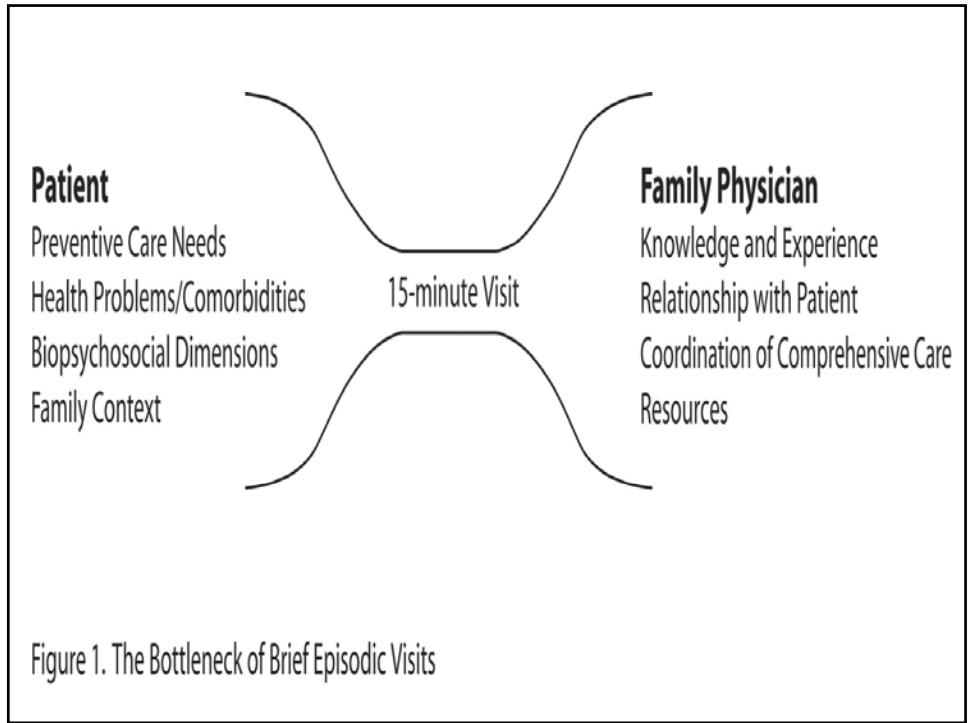


Care Does Not Equal Visits


- **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





The medical office is a bottleneck of episodic care that does a poor job of managing chronic illness and providing preventive services.






Two Institute of Medicine reports (1999 & 2001) address the critical issues of inadequate safety and quality in American healthcare.



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**



Common Mistakes in Office Practice

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



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Deaths

Heart problems were mentioned in fine print, but not key dosage data.

When the antibiotic Raxar was approved on Nov. 6, 1997, FDA officials knew that it too might cause irregular rhythm and stop a patient's heart.

An agency medical officer,

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REDUX

Unheeded Warnings on Lethal Diet Pill

Heart damage causes billions of dollars in potential legal liability.

Before coming to the FDA as a medical officer in 1996, Dr. Leo

Content Overwhelms! No Time to Read it All!

■ **Serzone:** The FDA didn't endorse use among youths, but doctors could prescribe it. Teenager needed a liver transplant.

By DAVID WILLMAN

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Muted Warning

Taking Posicor with certain other drugs posed a danger of heart rhythm disturbances. On the 278th line, Posicor's label begins to warn of this risk.

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viewed by The Times made am-
lar observations.
"The pressure to meet dead-
lines is enormous," said Dr.

"The devil is in the details, and detail is something we no longer have the time to go into."

Solomon Sobel, 60, director of the FDA's metabolic and endocrine drug division through-

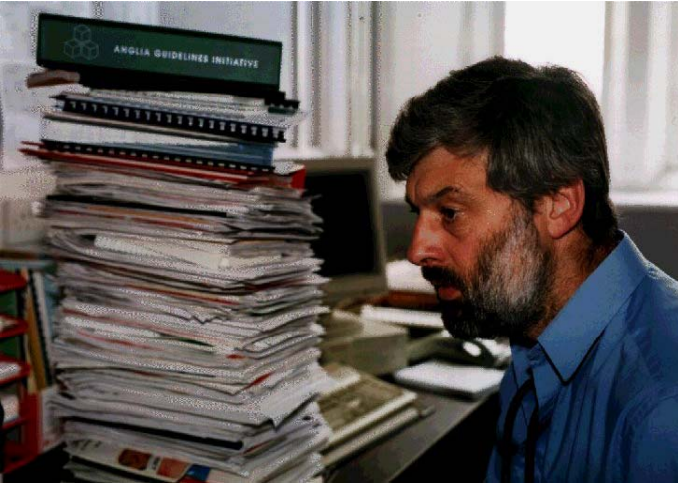
224 WASHINGTON, DECEMBER 20, 2006

Drug After Drug, Warnings Ignored


1051 104



Information Overload



ANGLIA GUIDELINES INITIATIVE



Future Office Practice

- **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 Office Practice

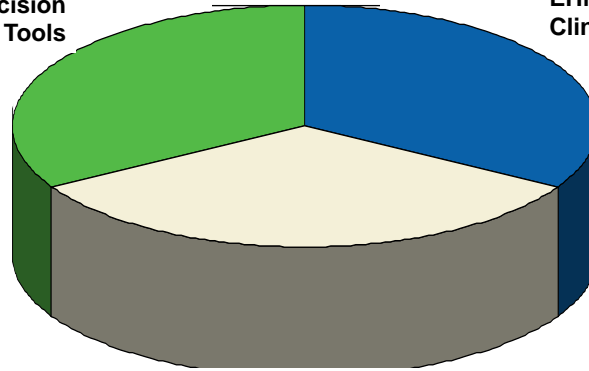
- **A New Platform of Care**
- **Fewer Time Intensive Visits**
- **Group Visits**
- **Teamwork and Interpersonal Skills**
- **Financial Practice Management**



Information Technology Changing Medicine

**Knowledge
Management
and Decision
Support Tools**

**Patient
Information
EHR , All
Clinical Data**



**Communication
Digital Connection of
Patients with Caregivers**



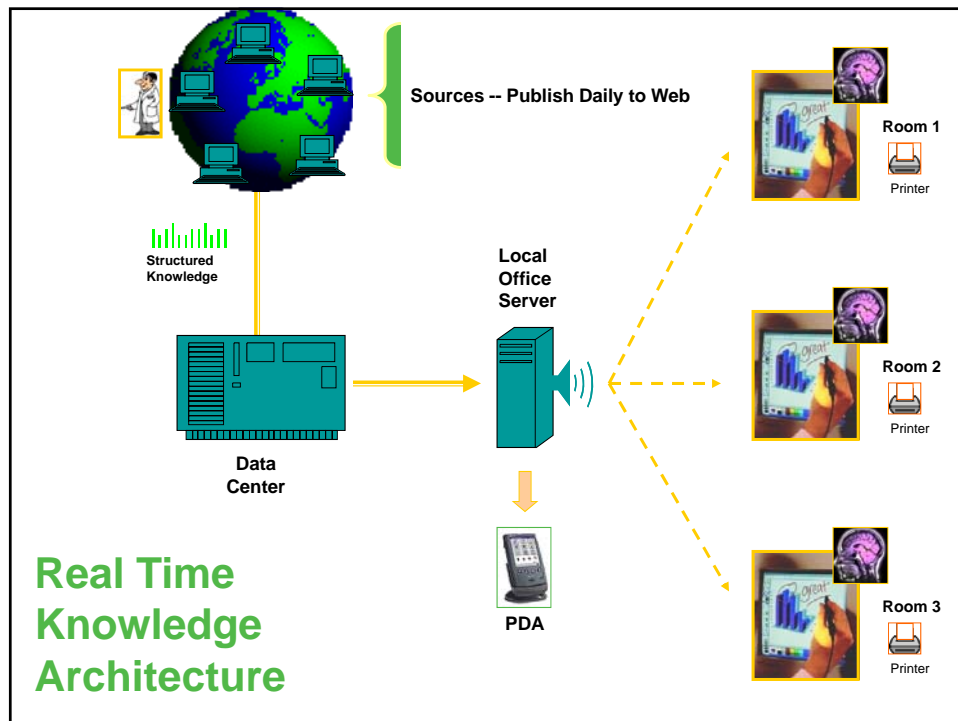
**The complexity of modern
medicine exceeds the inherent limitations of
an unaided human mind.**

--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



The New Communication Platform

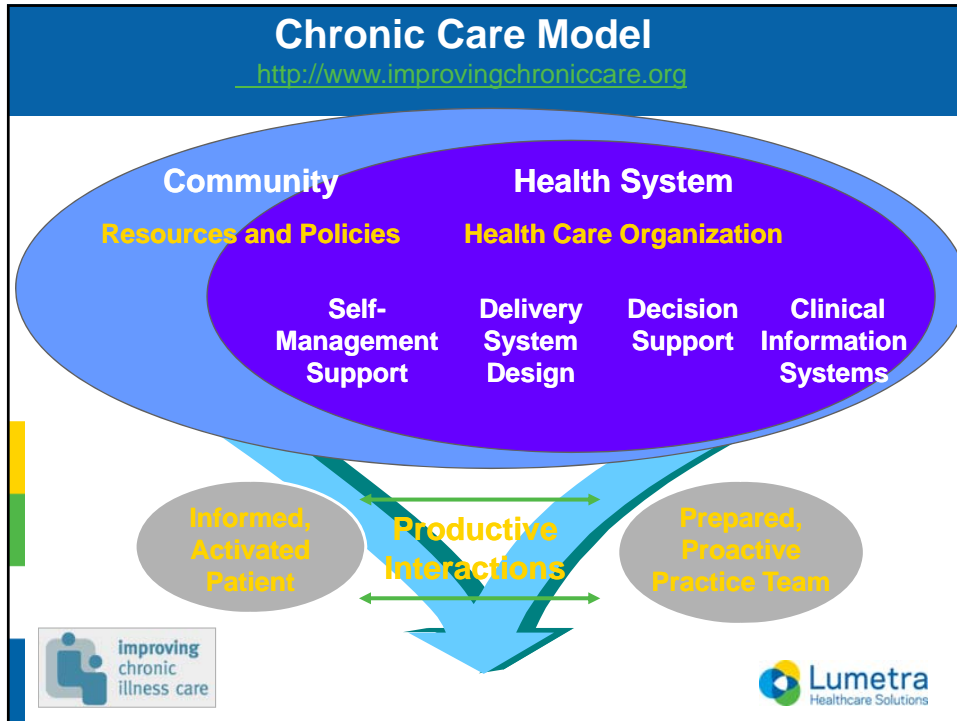
- **Interactive Web Site**
- **Electronic Communication For:**
 - **Lab Results And Other Data**
 - **Chronic Illness Care**
 - **Behavioral Coaching**
 - **Minor Acute Problems**
- **Online Family Meetings**



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**
-

What Is a Patient-Centered Medical Home?

- **A Patient-Centered Medical Home (PCMH) is an approach that provides comprehensive primary care across the lifecycle for children, youth, and adults.**
- **The PCMH team coordinates partnerships between individual patients and their physicians to meet all of the patients' healthcare needs.**

Adapted from Joint Principles of the Patient-Centered Medical Home, March 2007. Available at:
http://www.aafp.org/online/etc/medialib/aafp_org/documents/policy/fe/d/jointprinciplespcmh0207.Par.0001.File.dat/022107medicalhome.pdf.



Concierge Care for Everyone?

- **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 Office Practice

- **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.



DAILY SCHEDULE 2003

Thursday January 30, 2003		Daily Schedule		Dr. Wellbeter
Time	Patient	Age/Sex	Chief Complaint	
8:00-9:00 AM	HOSPITAL CARE			
9:00 AM	Sipowitz, Stephanie	39 yo/F	f/u fibromyalgia	
9:15 AM	Washington, Pete	65 yo/M	back pain	
9:30 AM	Green, Jim	44 yo/M	f/u swollen ankles, ?? HTN	
9:45 AM	Armstrong, Tile	32 yo/M	f/u DM	
10:00 AM	Jackson, Lawrence	58 yo/M	New pt. CPE	
10:15 AM	xxxx	xxx	xxx	
10:30 AM	Jackson, Aretha	59 yo/F	New pt. CPE	
10:45 AM	xxxx	xxx	xxx	
11:00 AM	Jacoby, Oswald	70 yo/M	Loose cough, chest pain, ?? Pneumonia	
11:15 AM	Pickles, Dill	9 mo/ M	Diarrhea, rash	
11:30 AM	O'Connor, Liam	26 yo/M	headache, blurry vision, dizzy spells	
11:45 AM	Peterson, Roosevelt	28 yo/M	ETOH stopped drinking 3 days ago	
12:00 PM	LUNCH			
1:00 PM	Pitacki, Helga	12 yo/F	miss'd sev d school, malaise, won't talk to parents	
1:15 PM	Oliver, Emma	2 yo/F	congestion, runny nose	
1:30 PM	Vargas Antonio	4 yo/M	won't sleep, ears hurt	
1:45 PM	Vargas, Juan	4 yo/M	won't sleep, ears hurt	
2:00 PM	Vargas, Carlita	5mo/F	chronic crying	
2:15 PM	Burnbaum, Bertha	60 yo/F	osteoarthritis	
2:30 PM	Smith, Tillula	19 yo/F	pelvic pain	
2:45 PM	Crocker, Betty	48 yo/F	minor burn	
3:00 PM	Brady, Marsha	17 yo/F	amenorrhea	
3:15 PM	Koskovitch, Edwina	90 yo/F	f/u breast CA, needs interpreter	
3:30 PM	Fairchild, Maddison	5 yo F	kindergarten school physical, needs shots	
3:45 PM	Blackwell, Sophia	57 yo/F	headache/depression	
4:00 PM	Valdez, Juan	72 yo/M	smoker, f/u (on patch)	
4:15 PM	Halperin, Hanna	8 yo/F	cough 3 days, no cold	
4:30 PM	Blocker, Mike	20 yo/M	rotator cuff pain, f/u requesting refill on Percocet	
4:45 PM	Rodriguez, Minnie	23 yo/F	2 wk ppatum f/u	
5:00 PM	Rodriguez-DelRey, Maria	2 wo/F	2 wk WWC	
5:30-7:00 PM	CHARTING & PAPERWORK			

Old Schedule

- **First patient at 8:00 am, and 12 patients each half day session**
- **24 patient visits**
- **12 patient telephone calls**
- **Finished at 6:30 pm**
- **Patients served: 36**

New Schedule

- **Begin e-mail at 8:00 am, and communicate with 15-20 patients**
- **First patient at 9:30 am; six patients/session**
- **12 patient visits – vary in length from brief to extended**
- **4 patient telephone calls**
- **34 patient e-mails in 2 sessions lasting 30- 45 minutes each**
- **Finished at 5:30 pm**
- **Patients served: 50**



A New Model of Office Practice

- **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 Web site 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 from 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**



Finances Follow Innovation

The New Model is More Efficient
Better Faster Cheaper!



Three Elements of Redesign

- **Cost Reduction**
- **Quality Improvement**
- **Service Improvement**

All lead to success over the great transition in healthcare to the information age with much greater efficiency and improved outcomes.



Cost Reduction

- Automate many routine service transactions, such as prescription refills and appointment scheduling
- Push transactions from synchronous telephone and face to face interactions to asynchronous online transactions
- Eliminate redundancy and save both time and personnel



Quality Improvement

- Care becomes proactive rather than reactive
- Use registries to develop population strategies for improved performance
- Use non-visit transactions, online and telephone, for routine services
- Imbedded knowledge management and clinical decision support, both for the patient and provider
- Expanded patient self management



Service Improvement

- Care becomes on demand and timely, same day access always available
- Care delivered in the patient's home whenever possible, including virtual house calls
- Patients have greater control over the coordination of their care
- Patients have access to their medical records, recommended knowledge, and clinical guidelines and can make informed care decisions, with all the support they want and need



GreenField Health

- 9 FPs and IMs Practice in Portland, OR: two offices
- Chuck Kilo, MD as Leader (IHI experience)
- Interactive Web site, 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
- Annual fees range from \$195 to \$495, depending on age

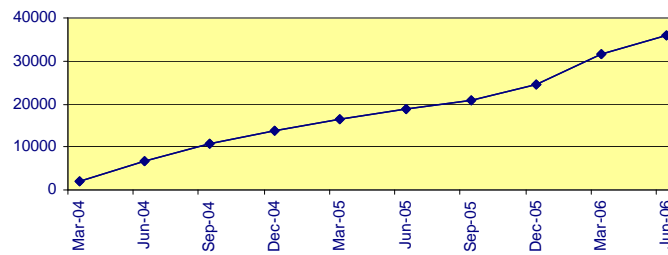


Kaiser Permanente HealthConnect

24 Hour Access to Accurate and Comprehensive Healthcare Information and Services



Health Partners Online User Growth



37,776
MyChart ACTIVE USERS



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



Birth Announcement

Google, Microsoft, and Dossia create the Personal Health Information Network.

--Healthcare Informatics: April 17, 2008



Relationship Centered Care

What is the 21st Century application?



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



- Human nature changes little.
- Caring remains primary.
- What changes are the tools and methods we use.

