

5-23-2002

# Creating Community-Centered Health Information Systems Architectures: Parterning with regional health planning groups

Patricia Brennan

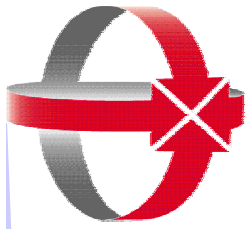
Follow this and additional works at: <https://digitalrepository.unm.edu/hslic-historical-administrative>

---

## Recommended Citation

Brennan, Patricia. "Creating Community-Centered Health Information Systems Architectures: Parterning with regional health planning groups." (2002). <https://digitalrepository.unm.edu/hslic-historical-administrative/24>

This Presentation is brought to you for free and open access by the Administration at UNM Digital Repository. It has been accepted for inclusion in Historical and Administrative Collection by an authorized administrator of UNM Digital Repository. For more information, please contact [disc@unm.edu](mailto:disc@unm.edu).



UNIVERSITY OF WISCONSIN  
**IAIMS**

# Creating Community-Centered Health Information Systems Architectures: *Partnering with regional health planning groups*

**Patricia Flatley Brennan, RN, PhD, FAAN**

Moehlman Bascom Professor

**Kelly Kwiatkowski, MA**

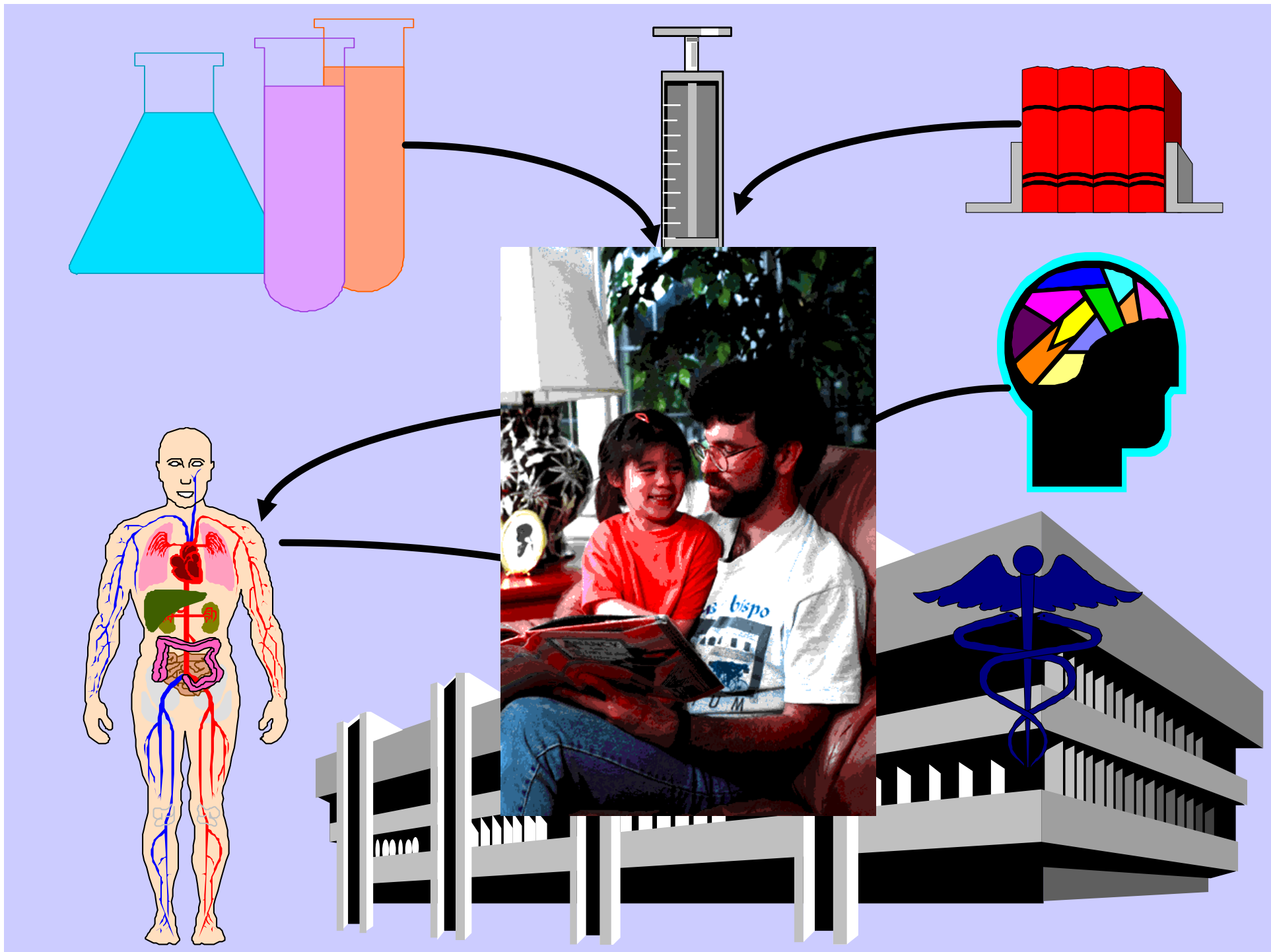
IAIMS Information Technology Architect

University of Wisconsin-Madison

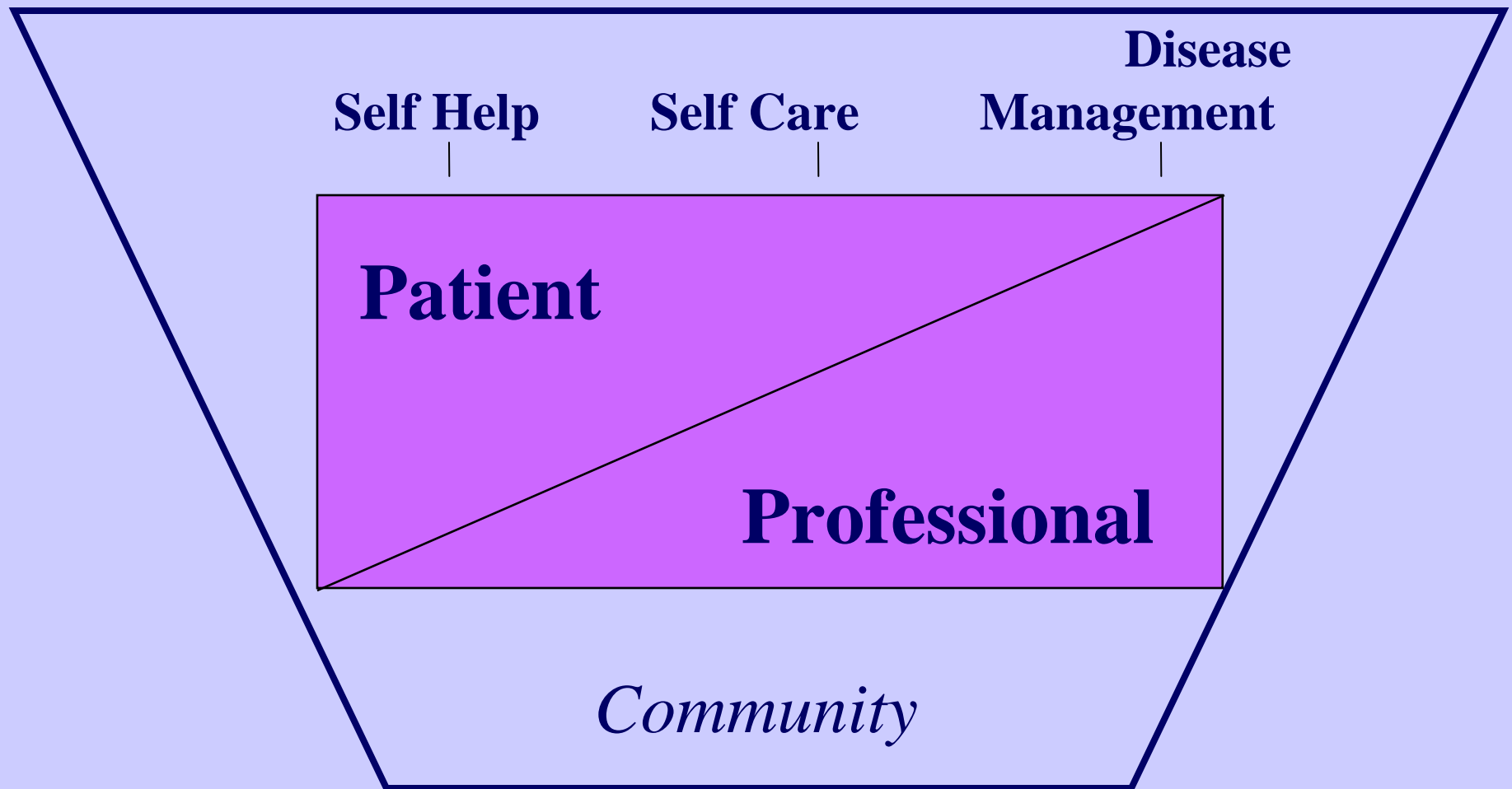
# Acknowledgements

- NIH, NLM
- Intel Corporation
- Moehlman Bascom Fund
- Holton Fund
- Students, colleagues and patients
- Community members everywhere

# The Problem of Contemporary Health Informatics



# What is health care & who's involved?



SMART

Patients

# SMART Patients

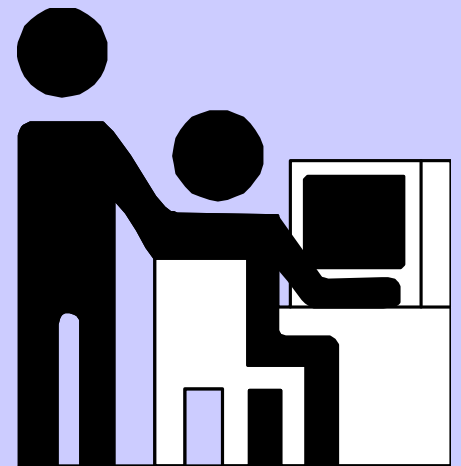
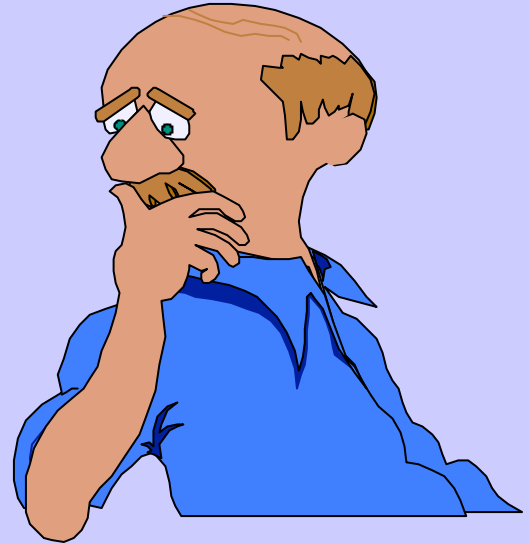
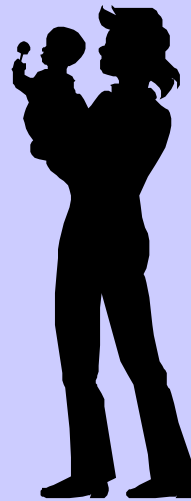
- Self-assured
- Motivated
- Aware
- Resourceful
- Talented





# Remember, they may also be:

- Scared
- Minors!
- Anxious
- Reluctant
- Time consuming

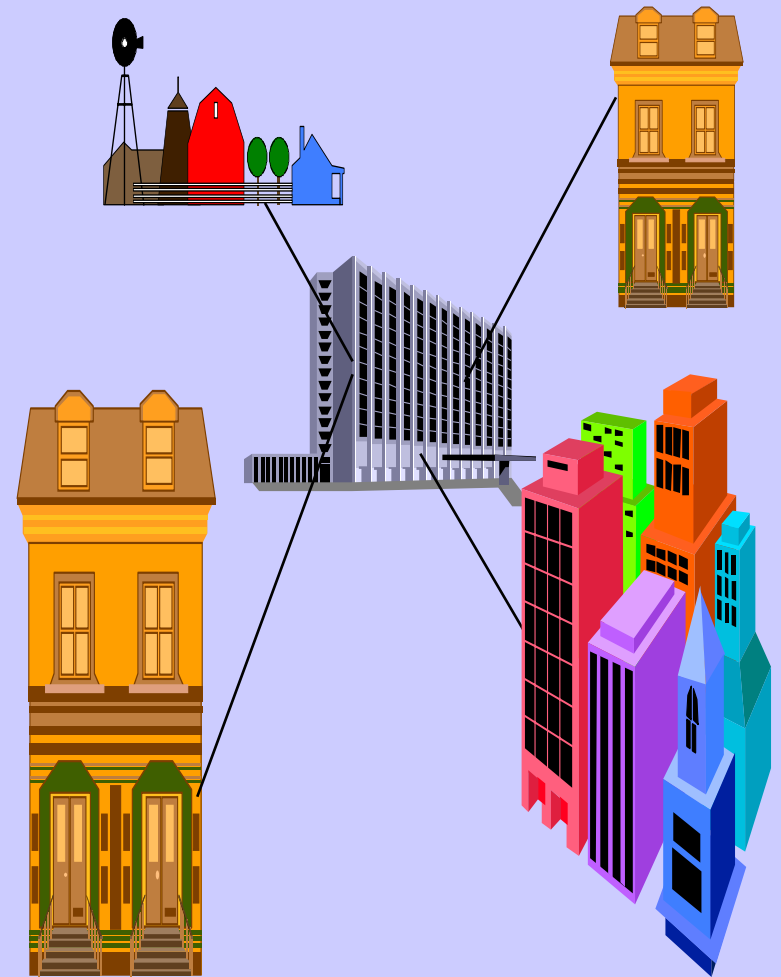


# What are we expecting patients to do?

- Motivate
- Monitor
- Mentor
- Mend
- Manage!

# The Contexts of Care

- Living Environment
  - Homes
  - Communities
- Social Environments
  - Families
  - Cultural Groups
- Psychological Environments
  - Illness representations
  - Human Information Processing
- Technological Environments



A 32-year old mother of two living in Wausau, recently diagnosed with Ovarian Cancer, locates and enrolls in a clinical trial lead by a University-affiliated oncologist in her community.

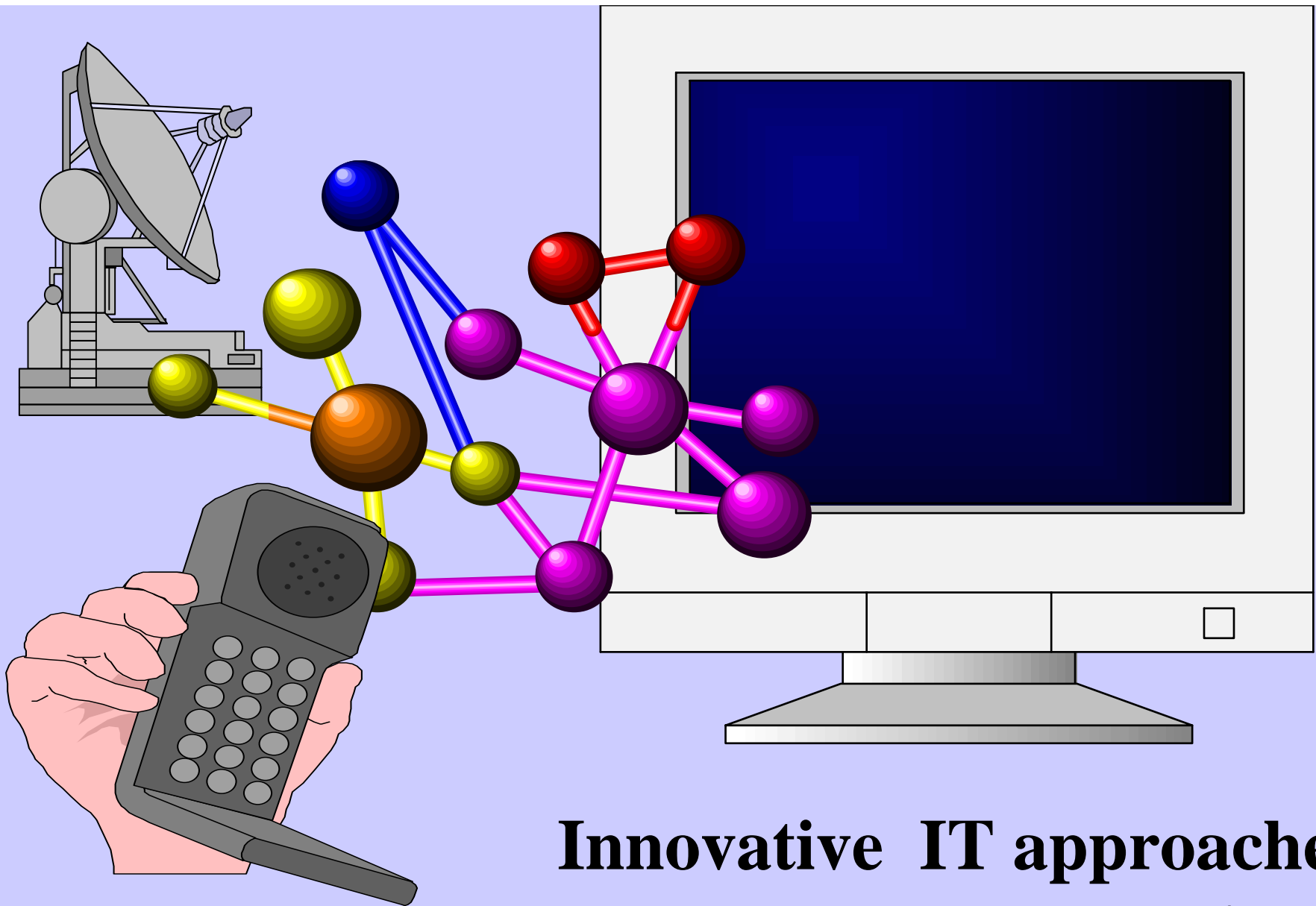
A genomics researcher defines a genotype expression and requests and receives clinical profiles cleansed of personally identifiable information of all patients sharing that expression.

A single father of a 7 year old child learns from her pediatrician that the child has Crohn's disease. The father reviewed his child's records, including laboratory tests and physician notes over the web from his home computer, and was also able to look at health information from major research universities.

A health planner analyzes the discharge disposition of all CABG patients and determines that 32% are discharged home alone, thus necessitating development of more extensive aftercare services.

A third year medical student, on rotation at a small, community hospital 200 miles from Madison, uses a Palm Pilot to access the Electronic Textbooks and other useful references through the Health Sciences Library

# The Solution



**Innovative IT approaches  
to reach patients  
at the point of care -- EVERYWHERE!**

# Patient Informatics and Public Health Informatics

- Most health information systems focus on *individuals, their illnesses* and *care delivery operations*.
- Individuals need information about *health, managing health problems* and *living in their communities*.
- Public health focuses on the prevalence and detriments of disability and disease in *populations in the aggregate*.
- Clinicians, Public Health officials *and* patients need access to information about health status, public health risks, and population health issues, including trends.

# **Linking Patient & Public Health Information: A Community-Centered Information System**

...tools that help individuals understand health concerns and manage health problems in the world in which they live.

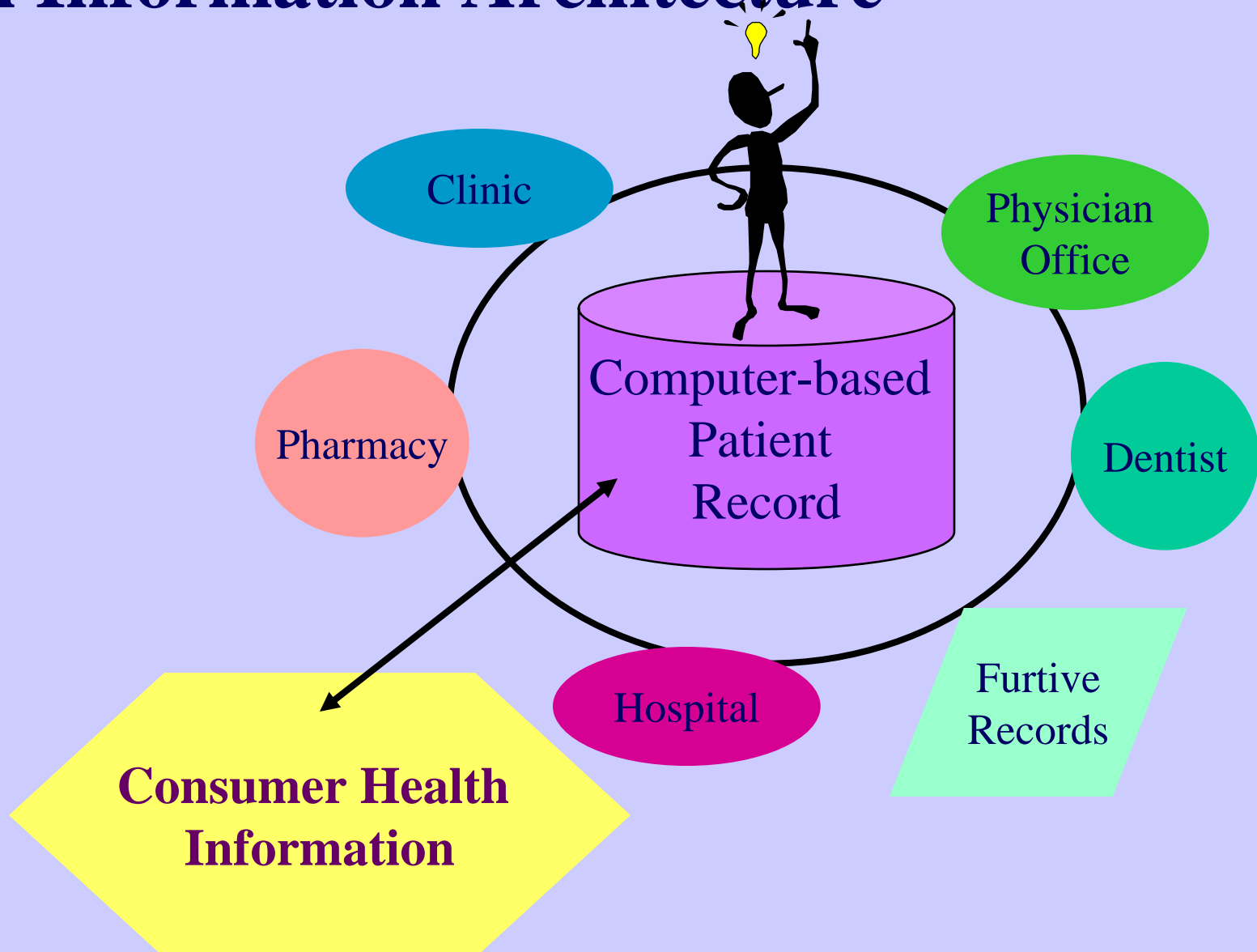
...properly focused information systems that bring population-based thinking into daily medical practice at the community level.

...specialized solutions that integrate and utilize large population and patient-specific datasets.

...systems that increase participation of the patient, clinician, and public health official to support the health of the public.



# A Community-Centered Health Information Architecture

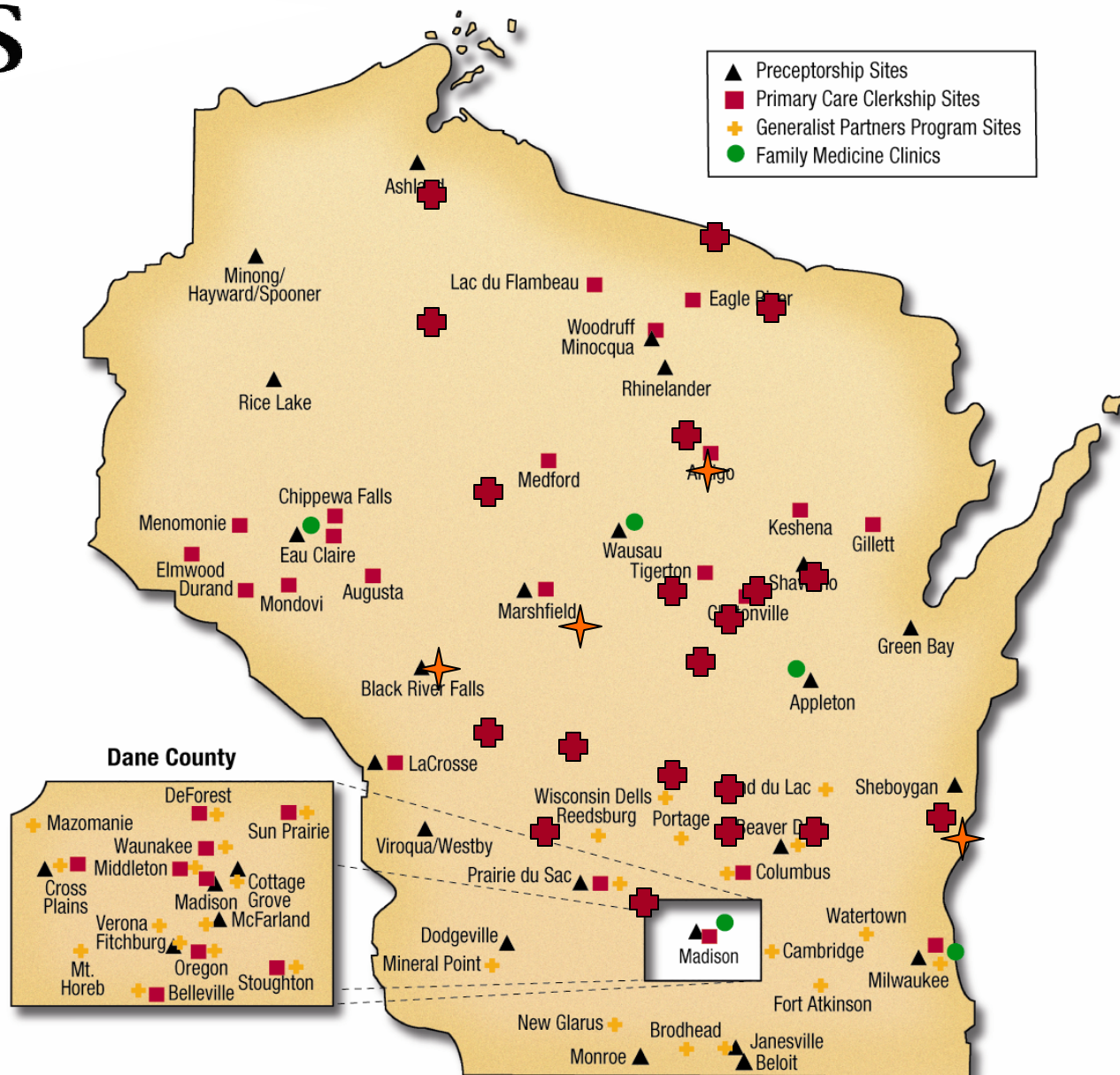


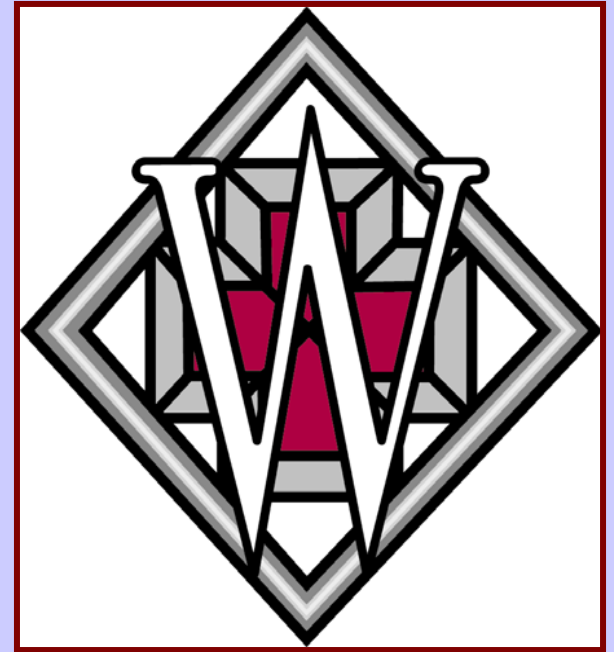
# The Strategy



# The UW-Madison IAIMS

- Create the health information infrastructure to support teaching, research and service in the 21st century
- Capitalize on the Wisconsin Idea





# The Wisconsin Idea

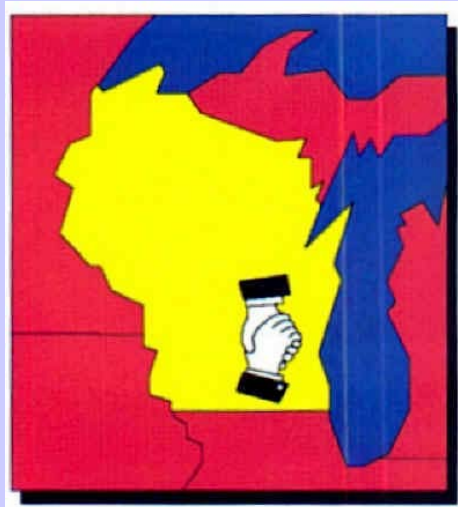
...the borders of the University  
are the  
borders of the STATE

# Health IT Planning *driven by the Wisconsin Idea*

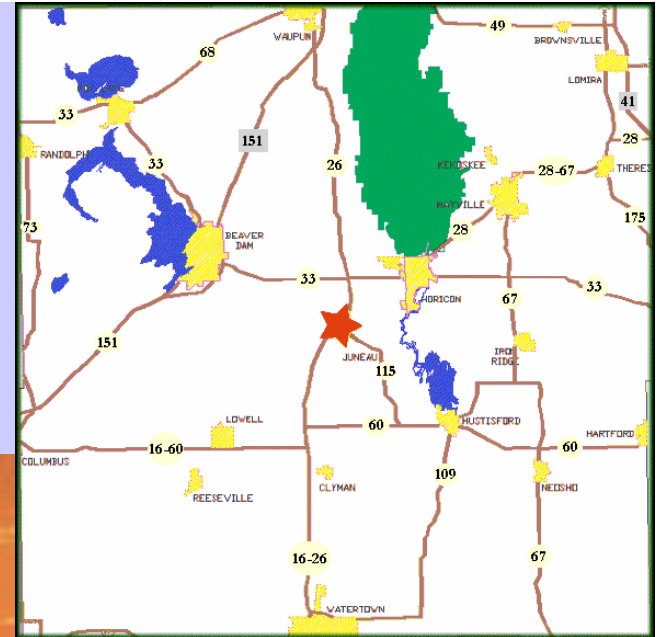
---

- Local needs drive technology direction
- Partnership with local communities to
  - ...identify local resources
  - ...develop local capacity
  - ...generate local buy-in
  - ...co-create locally-relevant, locally-valued solutions
- University resources applied in the service of the community!

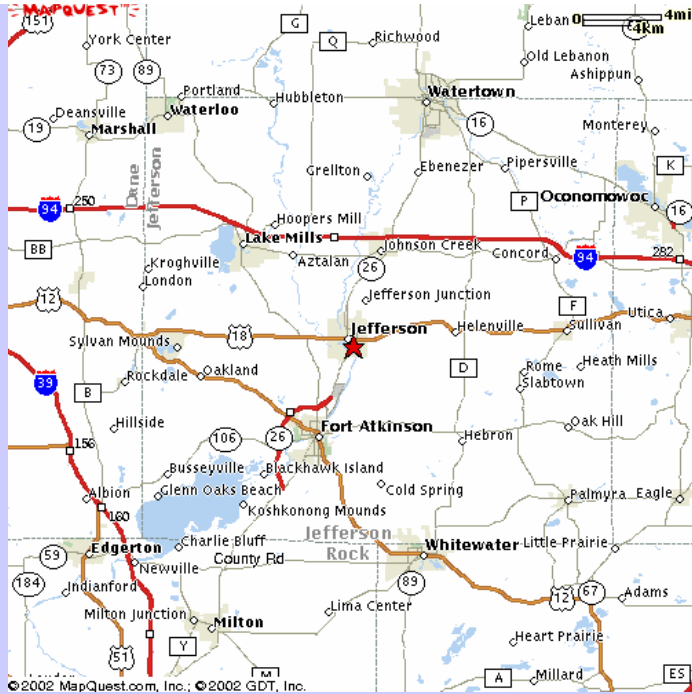
# The Opportunity



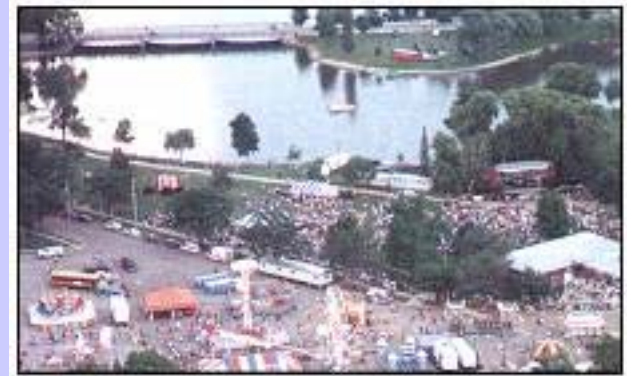








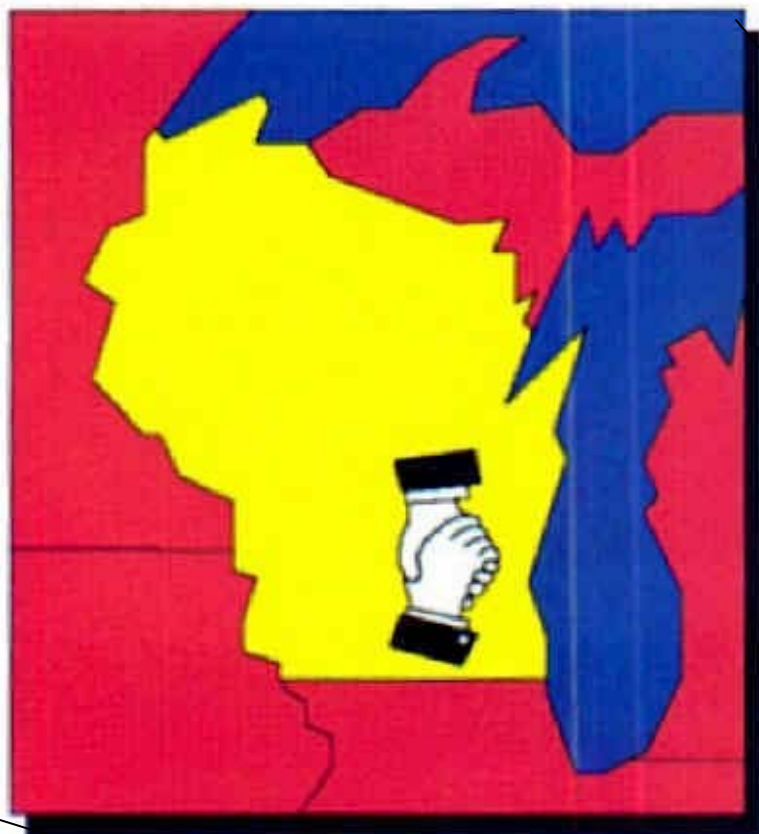
# Jefferson County, Wisconsin



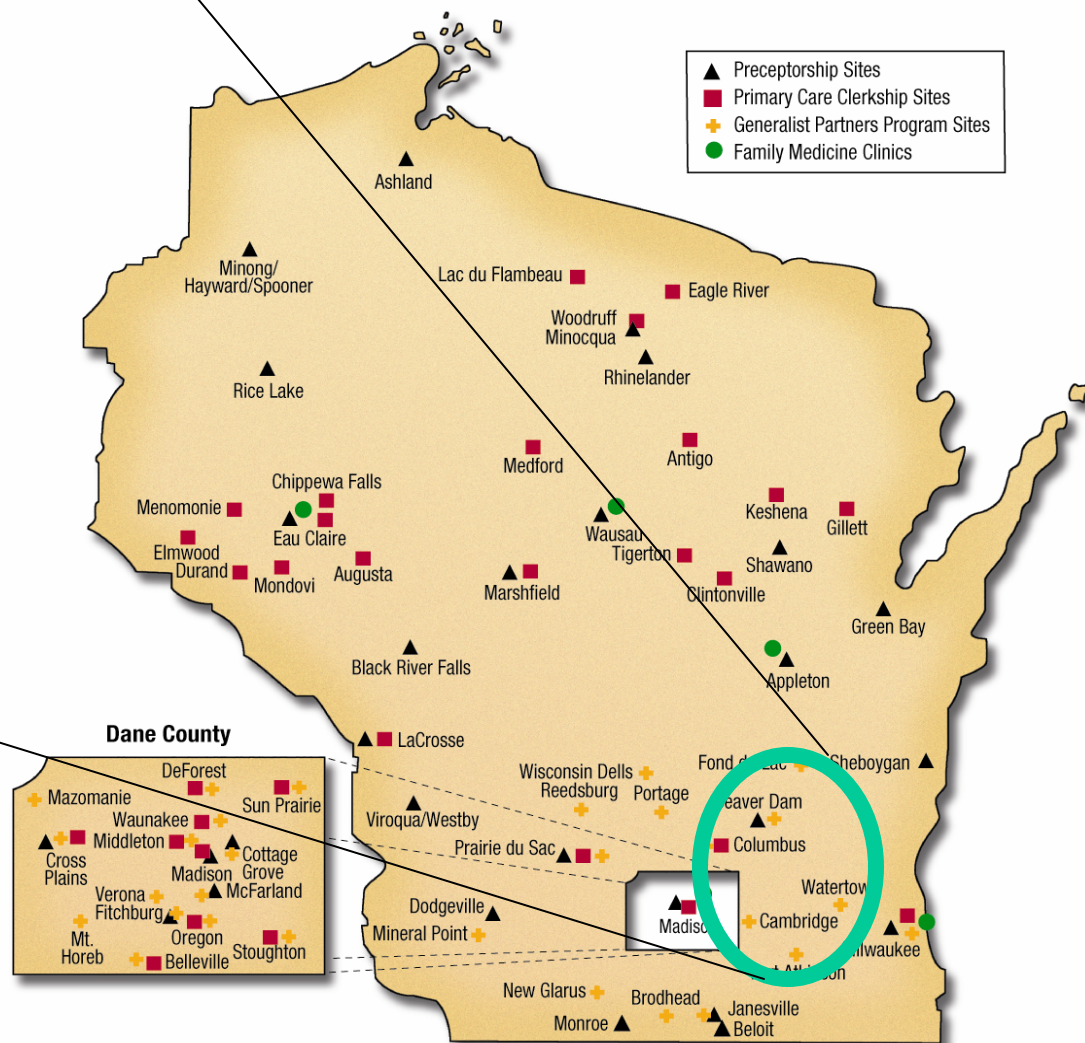
# Dodge County



# Jefferson County



## THE WISCONSIN CLINICAL CAMPUS



# The Dodge-Jefferson Healthier Communities Partnership





## Dodge/Jefferson Healthier Community Partnership, Inc.

*"To become the healthiest community in America"*



### Our Mission

**"To enhance the health and well-being of all individuals, families and communities in Dodge and Jefferson Counties. To operate as a collaborative catalyst identifying needs and linking the necessary resources to achieve its mission."**

---

Welcome to the Dodge-Jefferson Healthier Community Partnership, Inc. (DJHCP) Web Site. This site was developed to help citizens of Dodge and Jefferson County access available resources and stay informed about DJHCP activities and projects.

Some information available on this site include:

DJHCP [News and Events](#);

Community [Resource Guide](#) (This Guide is currently being updated);

Community [Health Assessment](#) (The Assessment is currently being updated);

---

### Our History...Our Present

Home

DJHCP News & Events

Health Assessment

Project Updates

Resource Guide

**Number of  
Visitors**

**1079**

# History of the Collaboration

---

- September, 2000: Proposals solicited
- February, 2001: Collaboration endorsed by DJHCP
- May, 2001 First initiative: Health@Home
- May, 2001 First really big mistake!
- August, 2001 Support for the IAIMS Site Visit
- January, 2002 Technology-push by UW Team
- May, 2002: Digital Libraries Proposal
- June, 2002: Information Systems Proposal

# *Health@Home*

Develop a model to generate  
design criteria for  
health-related IT solutions  
from an understanding of  
citizen  
health information processing behaviors  
and  
community resources

# Strategy:

*Collaborate with the Dodge Jefferson Healthier Community Partnership*

---

1. Describe how people manage health information in their homes (year 1)
2. Identify and create maps depicting what kind, and how, health information is accessed and disseminated through this community (Years 1-2)
3. Determine the readiness of this community for Consumer Health IT solutions across and within the local health care community (Year 2)
4. Develop a prototype IT resource tailored to the needs of the citizens within the context of their community (Years 2-3)

# Project Milestones

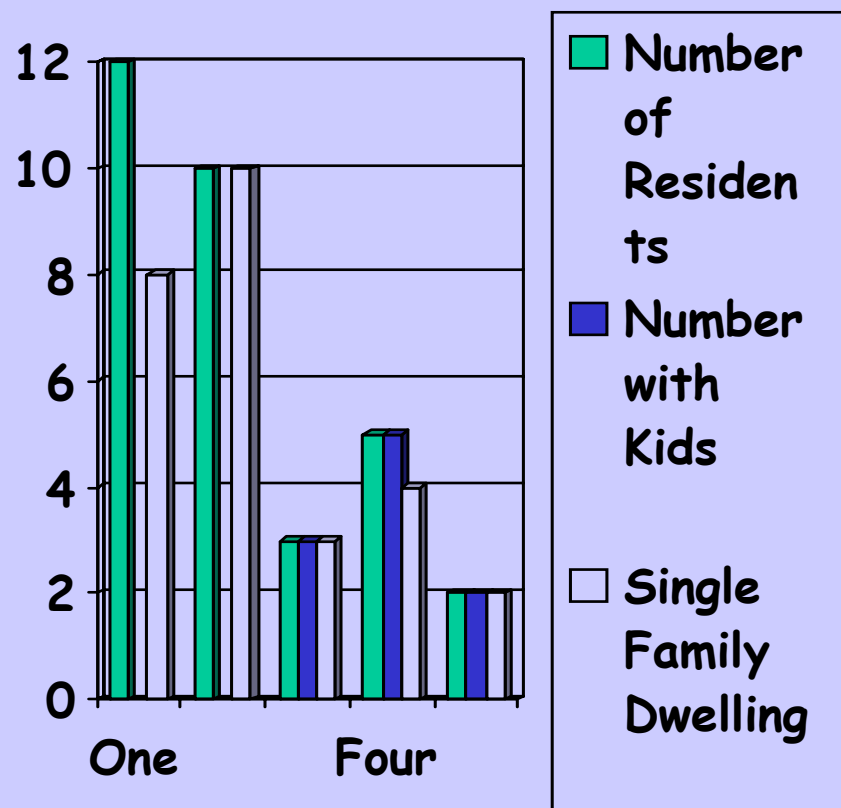
---

- Established interview protocols
  - Developed Home Assessment Instrument in English and Spanish
  - Received Human Subjects' Approval
- Conducted county-wide recruitment
  - Posters
  - Media
  - Referrals
  - On-site (Clinics, Health Fairs, etc)
- Carry out in-home assessments



# Household Composition

---



- Most of those interviewed live alone
- Over half of the 1 & 2 person families had one person over age 65
- Most live in single-family homes
- All respondents are majority race

# Households & Resources

---

- Housing type
  - 25 Single Family
  - 6 Apartments
  - 1 Mobile Home
- Electronics
  - Phones: 30
  - Cable: 24
  - Internet: 16



# Health of the Household

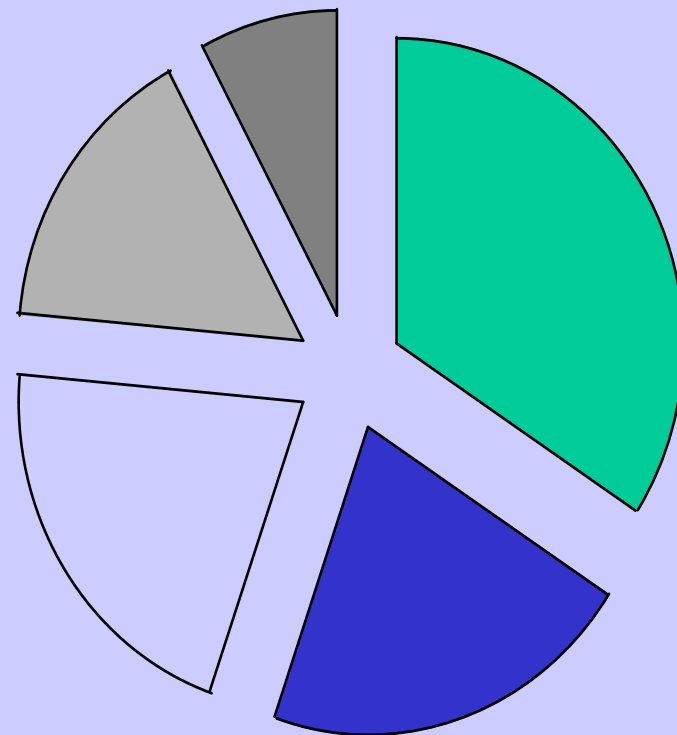
---

- Respondents:
  - 7 Excellent; 12 Very Good; 10 Good; 3 Fair
    - No one indicated Poor
- Respondent's assessment of household
  - Generally matched the primary respondent
    - 2 less well; 1 better
- Income adequate
- ? Health Insurance coverage
- ? Health Care Provider

# Health Concerns of the Household

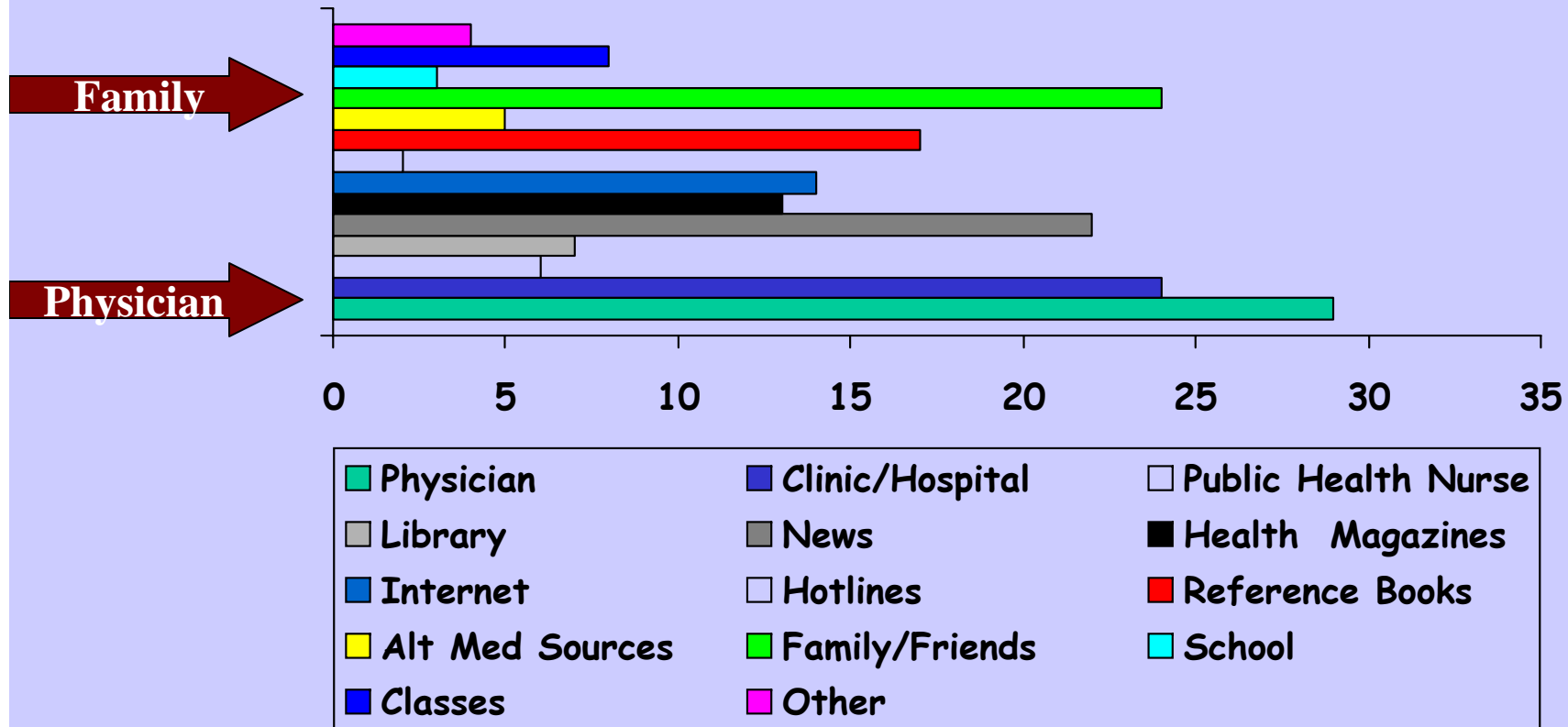
---

- Top concerns:
  - Cardiovascular Disease
  - Diabetes
  - Hypertension
  - Arthritis
  - Cancer
- Other Concerns:
  - Depression
  - Memory Problems
  - Nutrition
  - Wellness

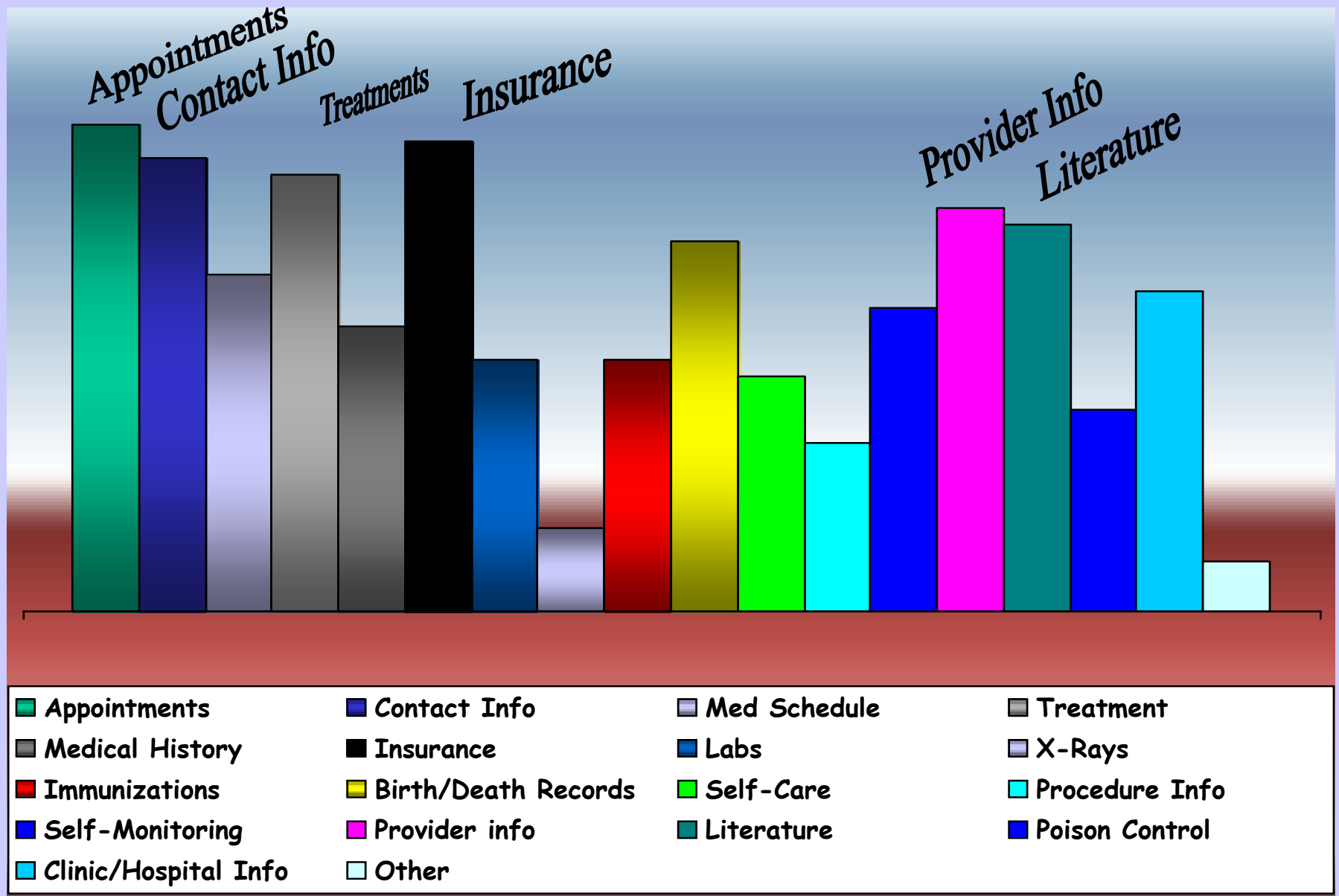


■ Cardiovascular ■ Diabetes □ Hypertension ■ Arthritis ■ Cancer

# Where Do People get Health Information?



# Information Managed in the Home:



# Information Management in the home

---

- Information types named by at least 20 respondents
  - Appointment & Contact Information
  - Medication
  - Treatment
  - Birth/Death records
- Household experiences
  - Average 10.2 (sd. 3.3) information types
  - Number and variety unrelated to age of respondents or presence of children

Where do they put all of this information?





2001

AUGUST

Notes

Sunday

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday



5

12

19

26

6

13

20

27

7

14

21

28

8

15

22

29

9

16

23

30

10

17

24

31

11

18

25



1 2 3 4 5 6 7  
 8 9 10 11 12 13 14  
 15 16 17 18 19 20 21  
 22 23 24 25 26 27 28  
 29 30 31

1 2 3 4 5 6 7  
 8 9 10 11 12 13 14  
 15 16 17 18 19 20 21  
 22 23 24 25 26 27 28  
 29 30 31

1 2 3 4 5 6 7  
 8 9 10 11 12 13 14  
 15 16 17 18 19 20 21  
 22 23 24 25 26 27 28  
 29 30 31

1 2 3 4 5 6 7  
 8 9 10 11 12 13 14  
 15 16 17 18 19 20 21  
 22 23 24 25 26 27 28  
 29 30 31

1 2 3 4 5 6 7  
 8 9 10 11 12 13 14  
 15 16 17 18 19 20 21  
 22 23 24 25 26 27 28  
 29 30 31

1 2 3 4 5 6 7  
 8 9 10 11 12 13 14  
 15 16 17 18 19 20 21  
 22 23 24 25 26 27 28  
 29 30 31

1 2 3 4 5 6 7  
 8 9 10 11 12 13 14  
 15 16 17 18 19 20 21  
 22 23 24 25 26 27 28  
 29 30 31

1 2 3 4 5 6 7  
 8 9 10 11 12 13 14  
 15 16 17 18 19 20 21  
 22 23 24 25 26 27 28  
 29 30 31

1 2 3 4 5 6 7  
 8 9 10 11 12 13 14  
 15 16 17 18 19 20 21  
 22 23 24 25 26 27 28  
 29 30 31



*Health@Home*

What are we learning?

How are we learning it?

# Environments as a source of Design Requirements

---

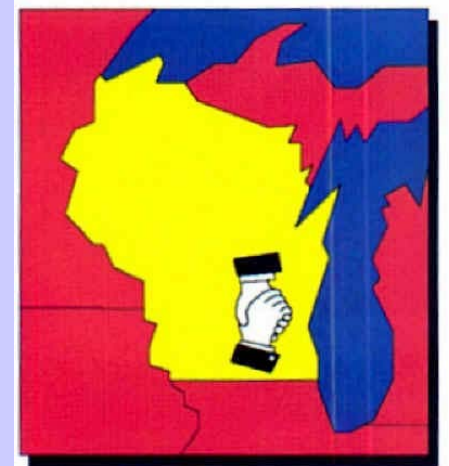
- Living Environment
  - Homes, Communities
- Social Environments
  - Families, Cultural Groups
- Psychological Environments
- Technological Environments
  - Telecommunications
  - Broadcast, print media



# History of the Collaboration: New Initiatives

---

- September, 2000: Proposals solicited
- February, 2001: Collaboration endorsed by DJHCP
- May, 2001 First initiative: Health@Home
- May, 2001 First really big mistake!
- August, 2001 Support for the IAIMS Site Visit
- January, 2002 Technology-push by UW Team
- May, 2002: Digital Libraries Proposal
- June, 2002: Information Systems Proposal



# What's making it work?

---

- Team presence in the community
  - PI, Architect, Project director
- Participating in local health fairs, media events
- Listening, listening, and reminding them that we listened
- Balancing goals, priorities

# Community-Centered Information System

