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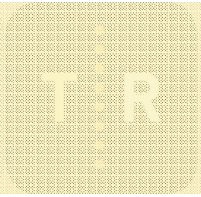


# Personal eHealth Records Projects for Health Information Exchange

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Professor

University of Minnesota



# PHR Topics

- Carlson PHR project for employees empowerment: co-sponsored by BHCAG and funded by Avenet
- Willmar PHR Project for Health Information Exchange: sponsored by Stratis Health and funded by Minnesota Department of Health e-Health Initiative



Total Rewards  
getting better all the time

BENEFITS  
COMPENSATION  
WORK - LIFE  
REWARDS & RECOGNITION

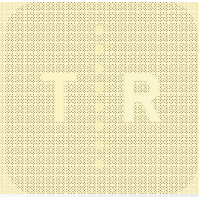
Healthcare  
Wellness  
Financial Resources  
Insurance Coverage

myTotalHealth

# Carlson's Healthcare Strategy

Leveraging  
myHealthFolio,  
a consumer-based  
health portfolio





personal health awareness

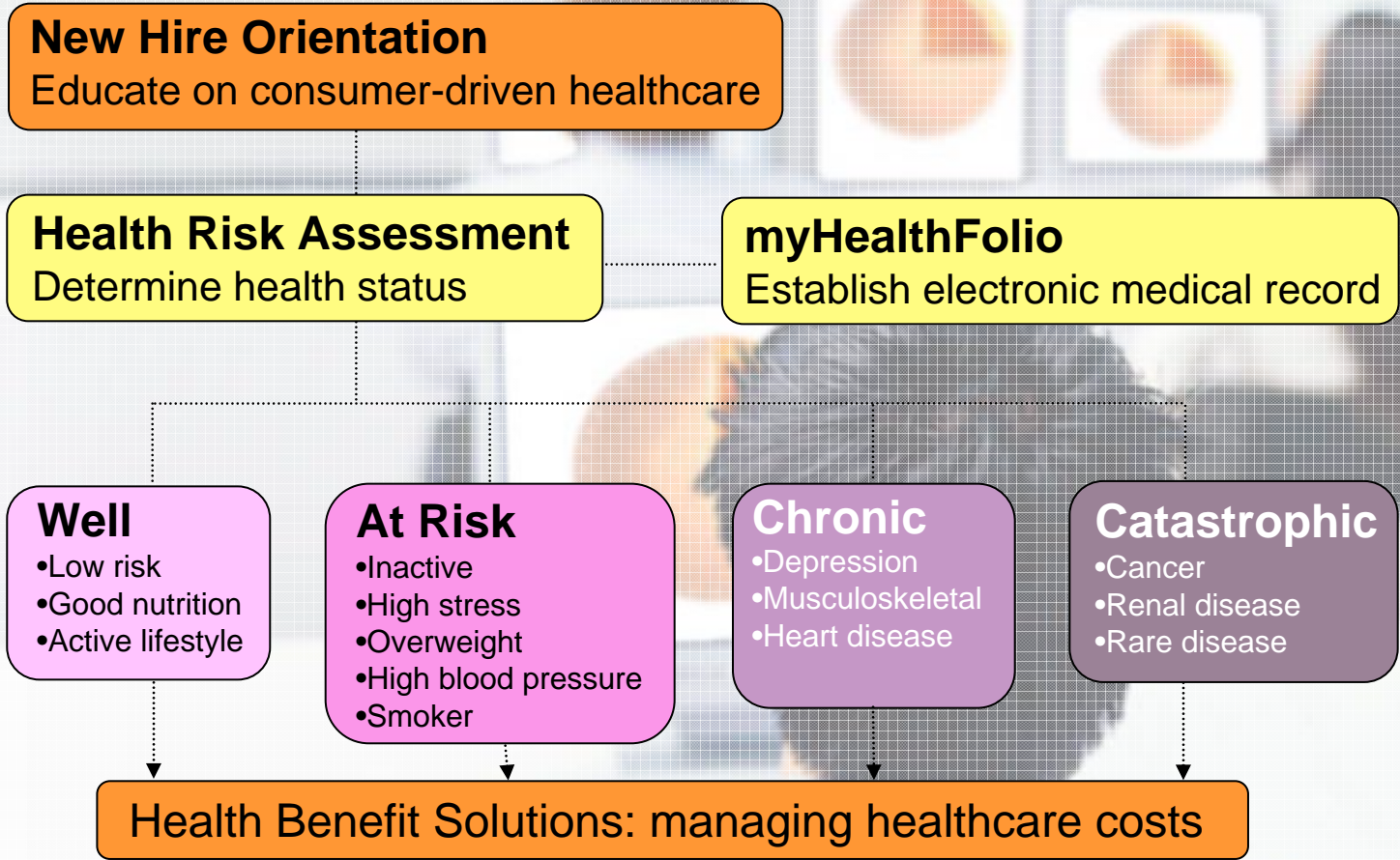
health benefit solutions

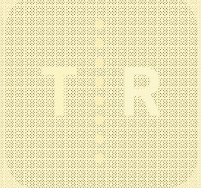
the good life



culture of wellness

# Focus on Health from Day One





# myHealthfolio Survey

## Goals

- 1) What is the general level of interest and support from employees?
- 2) What general features will drive regular use by employees?

## Methods

- 1) Institutional Review Board (IRB) approval- exempt
- 2) Focus groups to gauge interest and design survey
- 3) Recruit employees through Epicenter article with 3 reminders
- 4) On-line voluntary survey

# Engaging consumers to manage their wellness, health care and costs

## Calendar and reminders

health care appointments, health maintenance timelines and preventive schedules, and daily health routines

## Health record organizer

health history, medications, immunizations, implanted device information, health care directives and access to EMRs, imaging, laboratory tests

## Communication portal

between consumers, health care providers and health plans includes on-line consults, prior authorizations, and benefit queries



## Cost management tools

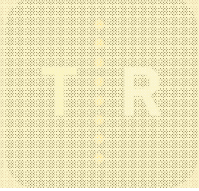
Pay for and track health care services and cost, budgeting of HSAs and HRAs, definition of benefits of individual consumer plan

## Incentive programs

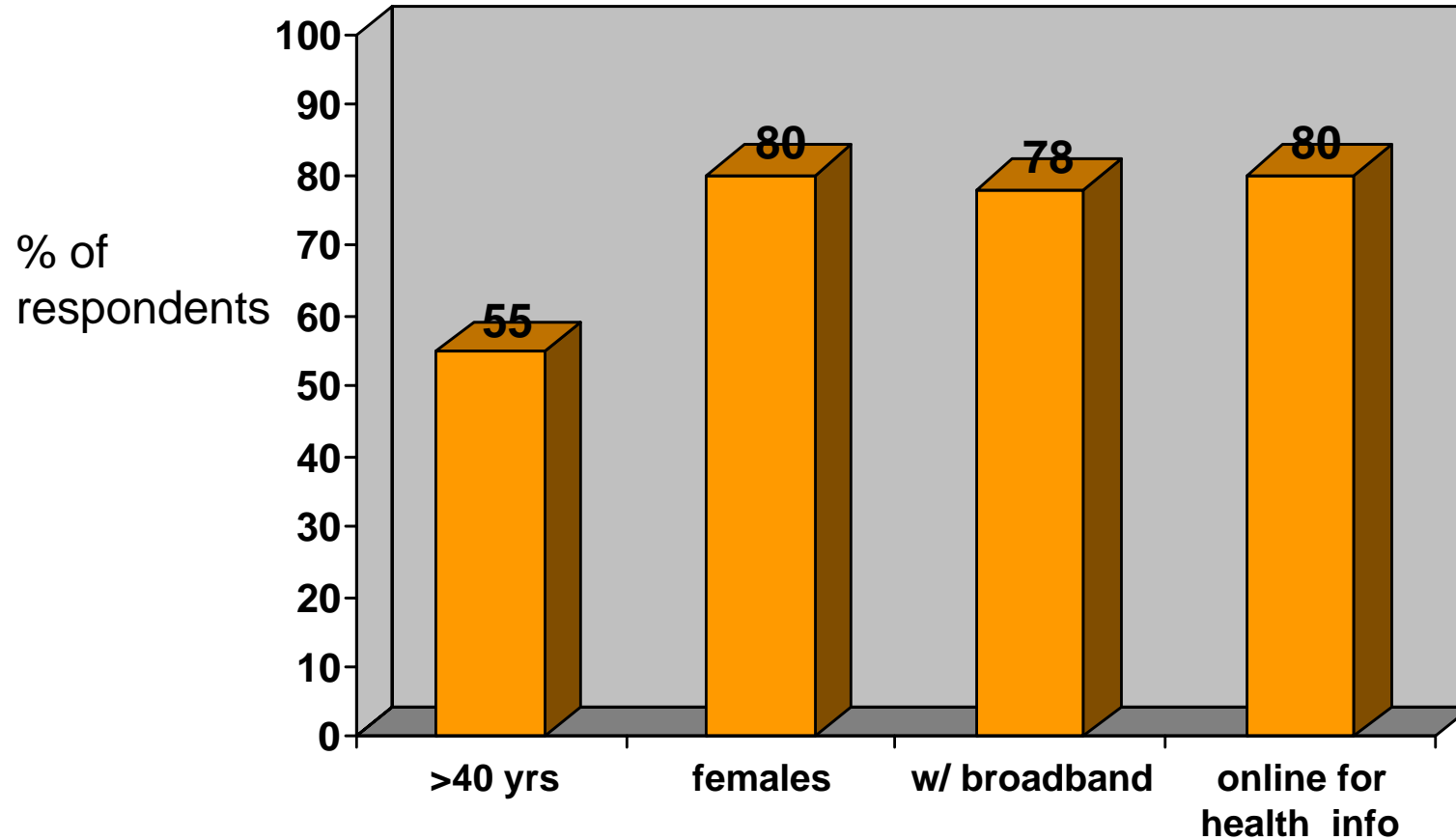
Receive redeemable points for maintaining wellness schedule of risk assessment, healthy routines, preventive programs, and maintenance timelines

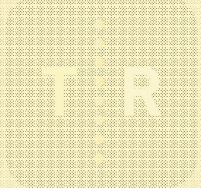
## Health education

Be able to enroll in disease management programs, health risk assessment and management, and health maintenance timelines

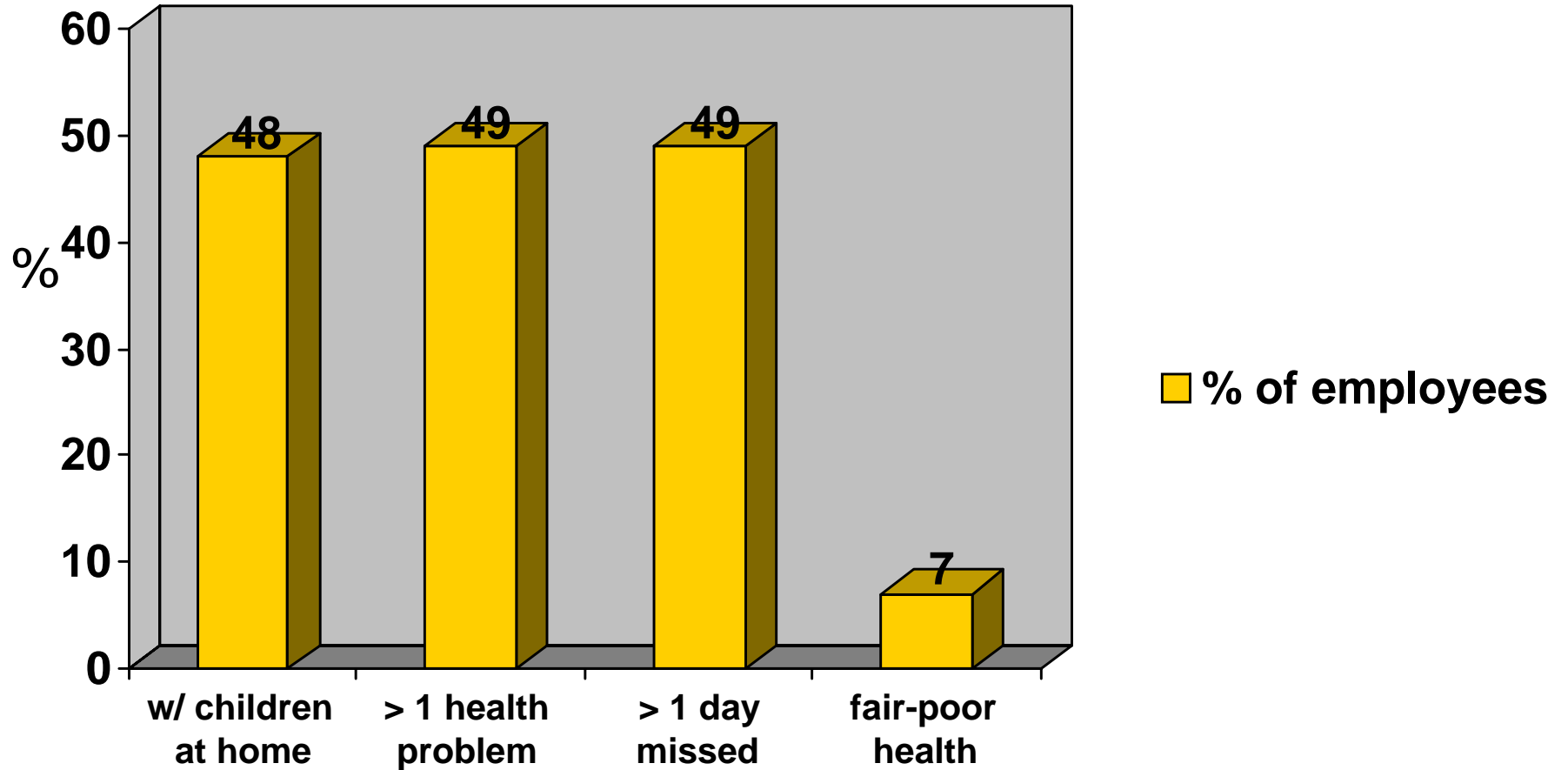


## Characteristics of Survey Population (n=306)

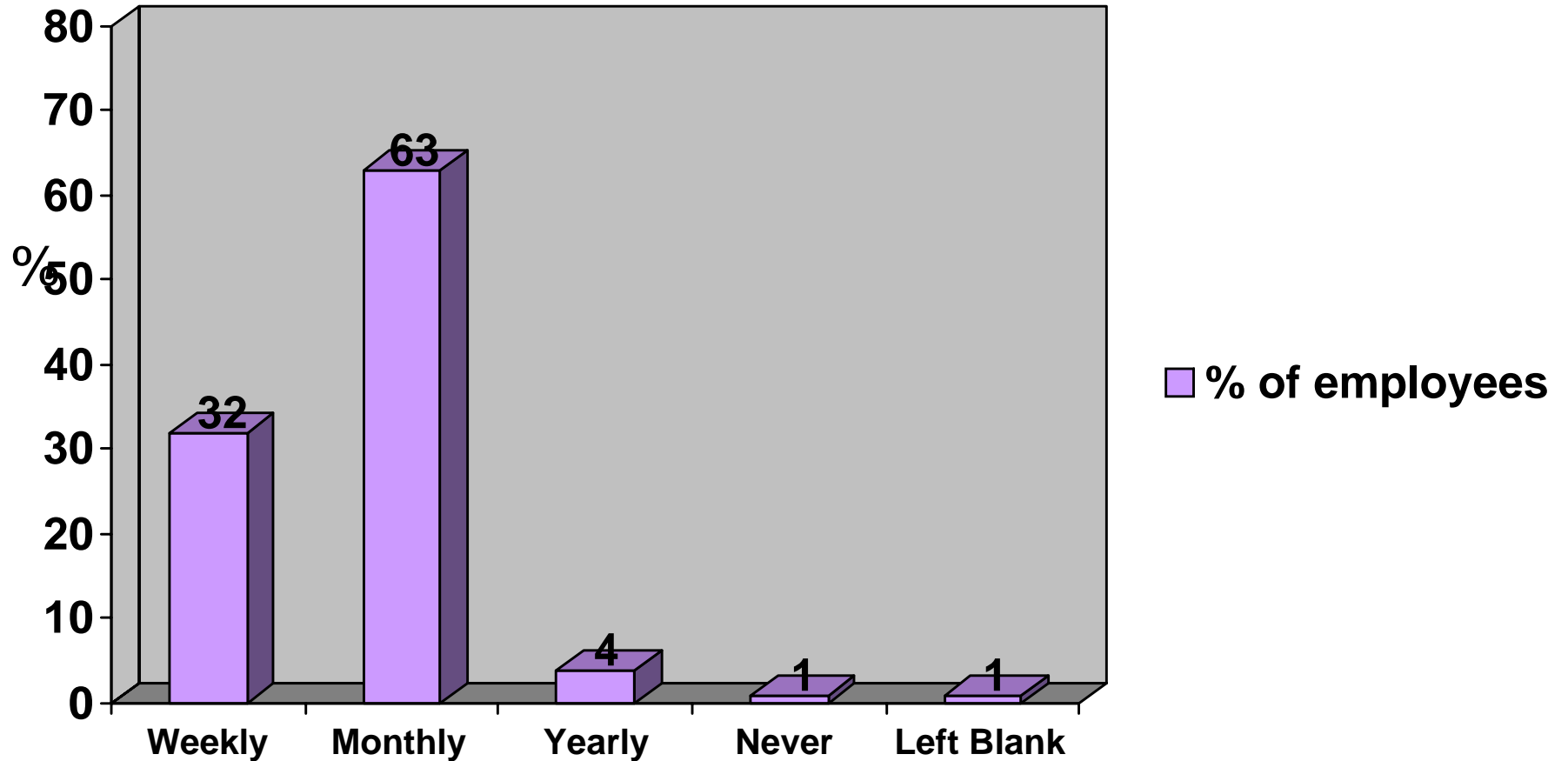




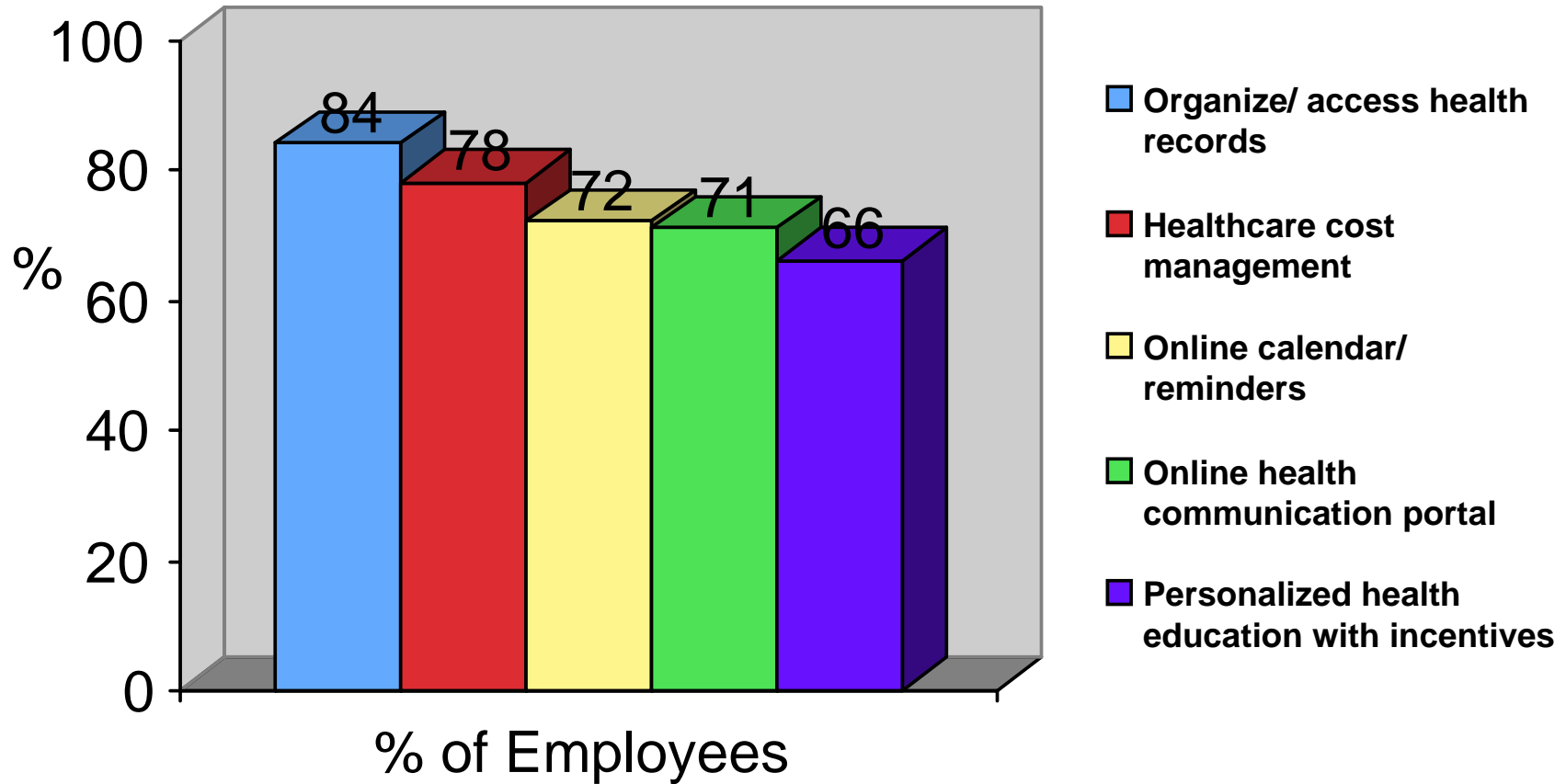
# Characteristics that Encourage Utilization



## Estimated frequency of myHealthfolio use



## *Interest in General Features of myHealthfolio.*



## Organize Health Records



access to medical records (immunizations, doctor summaries, imaging, lab, and hospital)	95%
access health history for emergency use	92%
On-line registration/ medical history for new providers	88%
Link to children's and other family members sites with permission	80%
online risk assessment	79%
health care directives	72%

# Health Cost Management



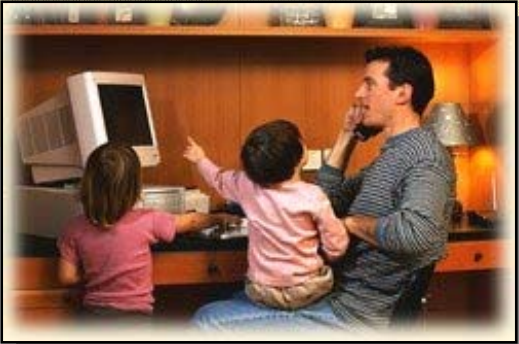
Review previous claims and services	89%
Access to medical fee list	88%
Review evidence of benefit information	88%
Secure e-mail with health plan (Prior authorizations, benefit questions, eligibility)	83%
cost ratings of hospitals, health plans, clinics, and providers	82%

## Calendar and Reminders

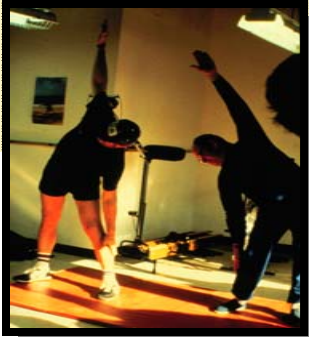


health maintenance calendar with reminders (need for tests, immunizations, etc)	86%
email reminders of important health events and appointments	86%
health calendar with appointments or events scheduled	82%

## Communication Portal



on-line help in finding doctors	88%
Secure e-mail with health providers (queries, appointments, e-consults)	76%
On-line access health providers' websites	79%
Secure e-mail with pharmacists for on-line Rx	74%



## Health Self Management Tools

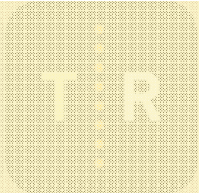
Develop personalized action plans to improve health and well-being	68%
self manage persistent illness like arthritis or asthma	67%
Compare your health measures to national standards	67%
Receive rewards and recognition for completing health education programs and achieving health goals	65%
Receive consumer information on health issues and public health advisories	64%

# Security Issues



- Username and password
- Access controls and audit trail
- Use of smart card to improve security, HIPAA compliance, and authentication
- Visual verification with ID screen
- Store emergency information





## Future Research Recommendations

Outcome study (pre vs. post) examining the impact that the new health benefits strategy will have on a selected defined subpopulation:

- Health care costs
- Health behaviors e.g. exercise and use of PHR applications
- Biometrics e.g. weight and blood pressure



# Willmar PHR Project for Health Information Exchange

*Funded by the Minnesota e-Health Initiative  
Grant Program*

QuickTime™ and a  
TIFF (LZW) decompressor  
are needed to see this picture.

# Collaborators

- > **Family Practice Medical Center**
- > **Affiliated Community Medical Center**
- > **Rice Memorial Hospital**
- > **Rice Care Center**
- > **Kandiyohi County Public Health**
- > **Kandiyohi County Human Services**

# Willmar Project Summary

- > Implement PHR with Willmar collaborators
- > Allow exchange of health information between healthcare setting including medication and medical history reconciliation
- > Target population- Congestive Heart Failure patients
- > Provide single source for remote access to electronic systems for the individual patients and health information
- > Overall goals and expected outcomes. To improve;
  - Health information exchange
  - Health outcomes
  - Patient-provider relationship



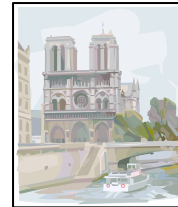
# Accessing Health Information through the PHR



Pharmacy



Dentist



Hospital



Laboratory  
Imaging



Medical Clinic



Nursing Home



Public Health Agency



implanted device  
Information



Health Plan benefits  
and claims history

## Example:

# Medication and Medical History Reconciliation

- > Medication reconciliation- identifying the most accurate list of all medications a patient is taking at any point in time — including name, dosage, frequency, adverse events, and route.
- > Medical history reconciliation- identifying the most accurate and current medical history and review of systems.
- > Goal: understand the patients and prescribe the correct medications and treatment for patients anywhere within the health care system.



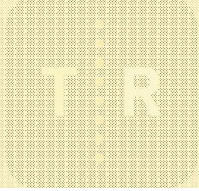
# Why is it a challenge?

- > Patients are often not accurate historians about current medications and medical history
- > The list of medications for patients with chronic illnesses can be long, overlapping, and complicated.
- > The list of recommended medications may be changed during exacerbations of the disease and across sites of service and the medication list is not updated to reflect the changes
- > Doctors change medications and medical history often changes and little communicate of change to other providers
- > Patients often discontinue or change medication usage without communicating this to doctors.
- > There is no central database that includes input from all stakeholders.

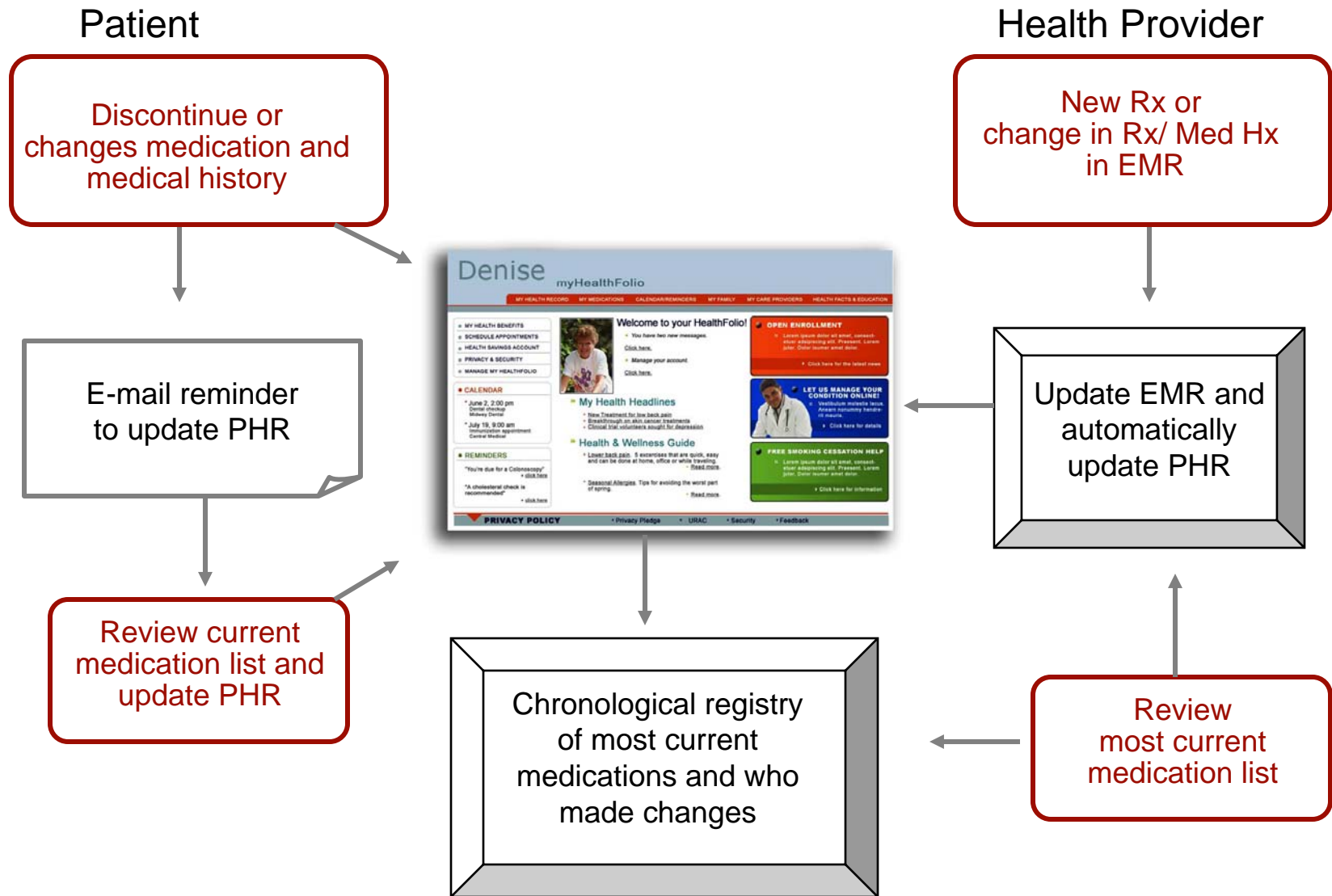


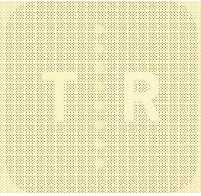
## How can a PHR facilitate reconciliation?

- > PHR can act as a central registry of most current medications and medical history with a chronological history of changes to registry by any provider.
- > Clinical and hospital EMRs can automatically update PHRs to document medication additions, deletions, and changes when a patient is present
- > Patients can authorize viewing PHR and current medication list by any health provider at point of care.
- > Patients can be reminded through e-mail to document any changes in medical history, medications, supplements, and herbal remedies through the PHR



# How does reconciliation work with a PHR?





Thank you for your attention

*Questions?*