

DRA Project

Partner's Meeting

Embassy Suites Hotel

April 6, 2006

Institute for Alternative Futures



Disparity Reducing Advances

Disparity Reducing Advances are technologies, public health initiatives, or community health approaches that reduce disparities in the realms of health-care and public health.



Accelerating Health Disparity Reducing Innovation

The DRA Project is a multi-year, multi-stakeholder project developed by the Institute for Alternative Futures (IAF) to identify the most promising advances for bringing health gains to the poor and underserved and reduce disparities in order to accelerate the development and deployment of these advances.



DRA Project Sponsors

National Cancer Institute, Center to
Reduce Cancer Health Disparities

Agency for Healthcare Quality and
Research

Robert Wood Johnson Foundation

Florida Hospital

University of Texas Medical Branch



DRA Project Partners

- Active Living by Design
- Alliance for Health Reform
- American Cancer Society
- American College of Nurse Practitioners
- Center for Information Therapy
- Center for Minority Health at the University of Pittsburgh
- Center for Public Health Practice at Emory University
- Central Florida Family Health Center
- Clinical Directors Network
- Corporate Office of Science and Technology (COSAT),
Johnson & Johnson
- Detroit Medical Center
- Health Resources and Services Administration
- Henry Ford Health System
- Hill Health Center



DRA Project Partners

- Institute for Alternative Futures
- Institute for Community Health
- Institute for Healthcare Improvement
- Institute for the Elimination of Health Disparities at The University of Medicine and Dentistry of New Jersey
- Intercultural Cancer Council
- Leadership by Design, Inc.
- Maryland Department of Health and Mental Hygiene
- Medical Automation Research Center at the University of Virginia
- Planetree
- Prevention Institute
- Resource Center for Health Policy at the University of Washington
- Samueli Institute for Information Biology



Today's Objectives

■ Morning Session

- Build Commitment to Reducing Disparities
- Clear Understanding of the Process of DRA
- Provide Background by Reviewing Major Reports in Disparities
- Get Input On Our Draft Criteria
- Present Our "Advance Areas" and Specific Advances, and Get Additions/Comments
- Present Biomonitoring as a Case Study



Today's Objectives

■ Afternoon Session

- Imagine Winners to Evaluate and Pursue Through the DRA Project
- Recommendations on How to Proceed in Advancing the Winners
 - ◆ Areas for further research
 - ◆ How to translate these ideas into reality
 - ◆ Identify who needs to be involved
 - ◆ Identify the value for these ideas in reducing health disparities



Agenda for the Day: Morning

9:00 - Welcome & Introduction

9:45 - Key Disparity Focused Reports

10:30 - Break

10:45 – DRA Areas & Advances

11:30 - Biomonitoring Futures Project
Recommendations

12:15 - Lunch



Agenda for the Day: Afternoon

1:15 - Imagining Promising DRA Efforts

2:15 – Developing Promising DRAs

3:00 - Break

3:15 - Next Steps for the DRA Project

4:30 - Closing Session

5:00 - Meeting Ends



Roles

- Clement Bezold: Lead Facilitator
- Bill Rowley: Co-Facilitator
- Craig Bettles: Co-Facilitator
- Yenisel Rodriguez: Notes
- Partners/Participants: Active shapers of the DRA Project



Overview of the DRA Project

- Partners, Sponsor Network
- Active exploration, forecasting, targeting of key areas & opportunities
- DRA Project Schedule
 - 2006
 - ◆ Summer – Develop forecasts and explore key DRAs, apply criteria, expand Network,
 - ◆ September 13 – 2nd DRA Partner Meeting
 - 2007 & 2008
 - ◆ Accelerate Disparity Reducing Advances
 - ◆ Pursue specific projects
 - ◆ Support others' efforts



Why DRA Is Important

- Health disparities are significant
- They are not perceived by most in the US
- Pursuit of equity (fairness) is a trend, like slavery and women's rights, that will take time and support, but can be accelerated
- Equity in: WHO Health For All, Healthy People 2010, IOM's Crossing the Chasm Report
- There will be advances – some of which can be identified and accelerated to reduce disparities
- The DRA Project, using us – the DRA Partner Network and those we affect – can do this.



Partner Introductions

Use your workbook to answer these questions:

- Why the DRA is important for your and your organization?
- My personal hopes for today and the DRA project?

Take a few minutes and introduce yourself to those at your table with:

- Your name and organization
- Your answer to the two questions



Key Disparity Focused Reports

Unequal Treatment

- Studies show that racial & ethnic minorities receive a lower quality of healthcare than minorities, even when controlling for access to healthcare & income.
- Stereotyping, biases and uncertainty of healthcare providers can all contribute to disparities as can language, cultural and geographic barriers.
- A multi-level strategy to change the healthcare system is needed, including changing incentives, increasing the numbers of minority health professionals and improving the education of both providers and patients.



National Healthcare Disparities Report, 2005

The 2005 NHDR finds that disparities related to race, ethnicity, and socioeconomic status still pervade the American health care system.

1. Across all dimensions of quality of health care.
2. Across all dimensions of access to care.
3. Across many levels and types of care.
4. Across many clinical conditions.
5. Across many care settings.
6. Within many subpopulations.



A State Policy Agenda to Eliminate Racial and Ethnic Health Disparities

Identified diseases & conditions with significant health disparities, including:

- Alzheimer's Disease
- Asthma
- Cancer
- Chronic Lower Respiratory Disease
- Diabetes
- Heart Disease
- HIV/AIDS
- Infant Mortality/Low-Birth Weight
- Influenza/Pneumonia
- Obesity
- Stroke
- Tuberculosis



A State Policy Agenda to Eliminate Racial and Ethnic Health Disparities

Key Needs for State/National Policy Makers:

- Consistent Racial/Ethnic Data Collection
- Effective Evaluation of Disparity Programs
- Standards for culturally and linguistically competent health services
- Establishment or enhancement of state offices of minority health
- Involvement of all health system stakeholders
- Creation of a national coordinating body to promote continuing state-based activities



Leading Health Indicators

The Office of Minority Health at the CDC identified ten leading health indicators as targets of opportunity for generating health gains and reducing health disparities:

- Physical Activity
- Overweight And Obesity
- Tobacco Use
- Substance Abuse
- Responsible Sexual Behavior
- Mental Health
- Injury And Violence
- Environmental Quality
- Immunization
- Access to Health Care



California Campaign to Eliminate Racial and Ethnic Disparities in Health

1. Cardiovascular disease

- Poor nutrition, lack of physical activity, tobacco use, alcohol use.
- Also affected by disparities in medical care and treatment.

2. Breast Cancer

- Poor diet, obesity, and lack of physical activity.
- Also affected by disparities in screening rates.

3. Cervical Cancer

- Lack of Pap tests (also HPV from unsafe sex and tobacco use increases risk)

4. Diabetes

- Poor nutrition and lack of physical activity are important risk factors

5. HIV/AIDS

- Unsafe sex and drug and alcohol use

California Campaign to Eliminate Racial and Ethnic Disparities in Health

6. Infant Mortality

- Low birth weight/pre-term, complications of pregnancy, and SIDS.
- Links to tobacco use, poor nutrition and lack of physical activity, unsafe sex, and alcohol use.

7. Asthma

- Exposure to environmental triggers such as air pollution, tobacco smoke, dust mites, cockroaches, and molds.
- Also disparities in access to medical care.

8. Mental Health

- Disparities in mental health care in terms of access and availability of services and treatment quality.
- “Mental health issues are complicated with overlapping social and physical health problems”.

9. Trauma (both intentional and unintentional)

Esp. homicide and car accidents may involve drug or alcohol abuse.



Determinants of Health

Relative importance of factors shaping health (Premature Mortality)

| | 1993 | 2002 |
|-------------|------|------|
| Behavior | 50% | 40% |
| Environment | 20% | |
| Social | | 15% |
| Physical | | 5% |
| Genes | 20% | 30% |
| Healthcare | 10% | 10% |

Source: 1993 – McGinnis and Foege, JAMA, 1993, 270, 2207-2212;
2002 - McGinnis, Russo, Knickman, 2002, Health Affairs, 21,3,83



Draft Criteria for the DRA Project

- Can make a very large difference in reducing health disparities
 - Across multiple diseases/conditions
 - ◆ Lowers morbidity by enabling better treatment
 - ◆ Enables earlier detection of the disease
 - ◆ Stimulates prevention by identifying pre-disease conditions or risks
 - Within single high disparity diseases
 - ◆ Lowers morbidity by enabling better treatment
 - ◆ Enables earlier detection of the disease
 - ◆ Stimulates prevention by identifying pre-disease conditions or risks
- Low-cost enough to be applied and reapplied as necessary
 - Low cost to the health care provider
 - Low cost to the consumer/patient
 - Low cost to the insurer/third party payers
- Appropriate for multiple poor and minority populations
 - Culturally appropriate
 - Linguistically appropriate
- Can the advance be realistically achieved within the next 10 years?
- Can the advance be effectively promoted through the DRA Project Network?



Initial List of Disparity Reducing Areas & Specific Advances

Initial Advance Areas to Consider

- **Community health and prevention**
- **Better quality health care – More effective, caring treatment**
- **Complementary and alternative approaches**
- **Risk Identification**
- **Biomonitoring/Bioinformatics**
- **Behavior coaching/reinforcement**



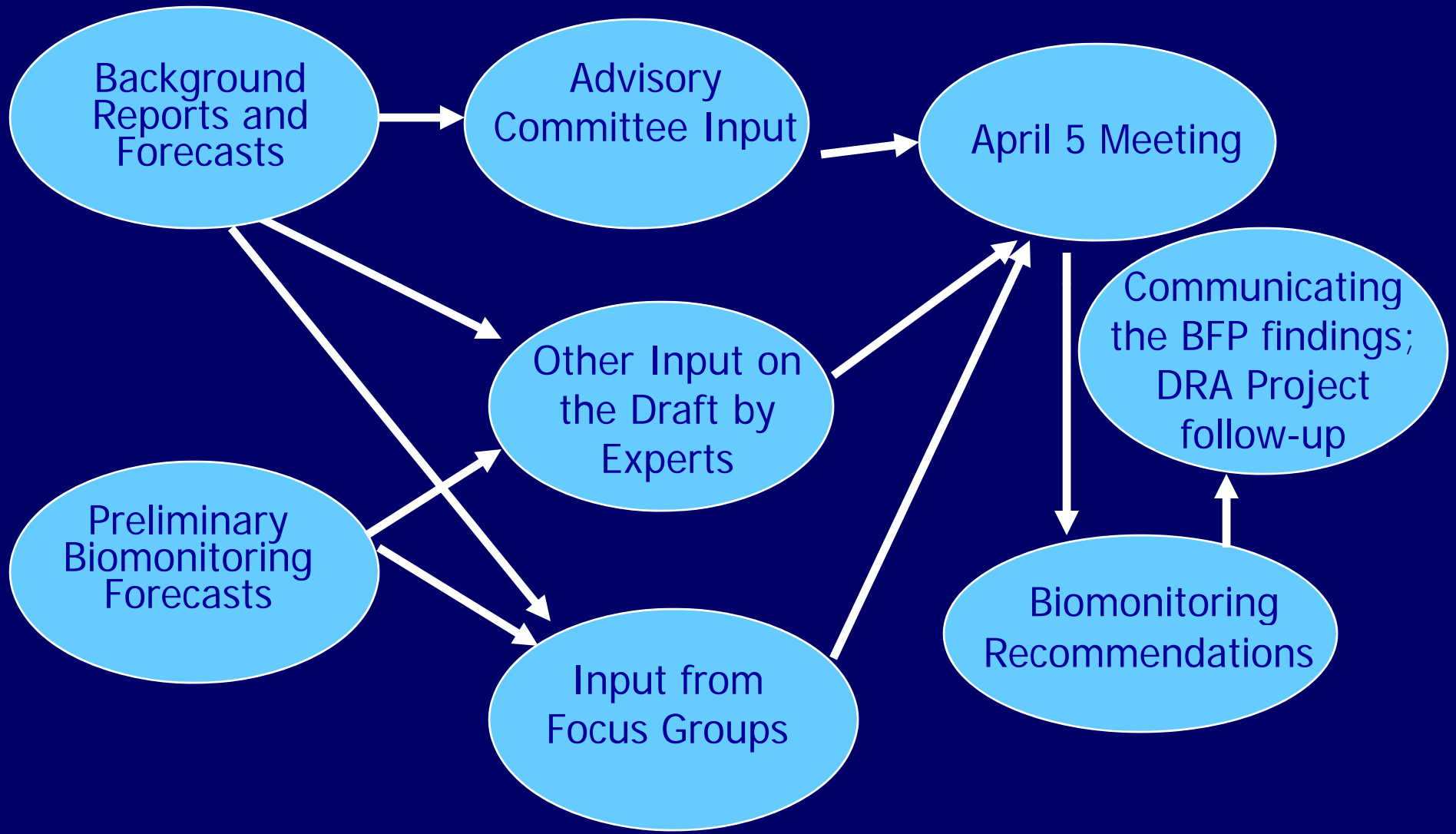
Biomonitoring as a Disparity Reducing Advance

The Biomonitoring Futures Project

- Biomonitoring is one area of disparity reducing advance. The Robert Wood Johnson Foundation has provided funding to consider the future applications of biomonitoring and its role in reducing health disparities.
- The BFP is a component of the larger DRA Project.



Biomonitoring Futures Project



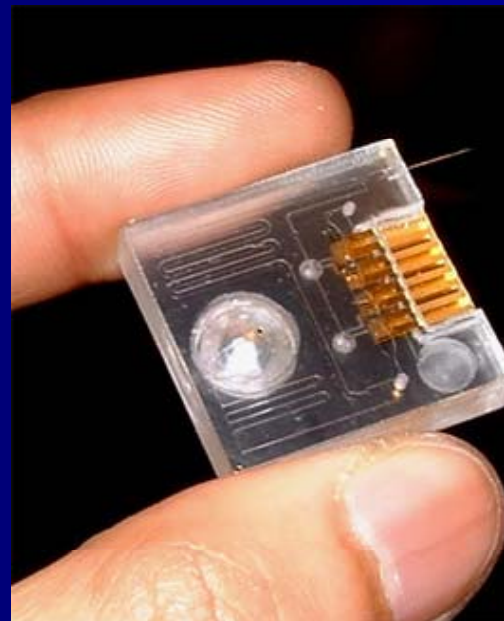
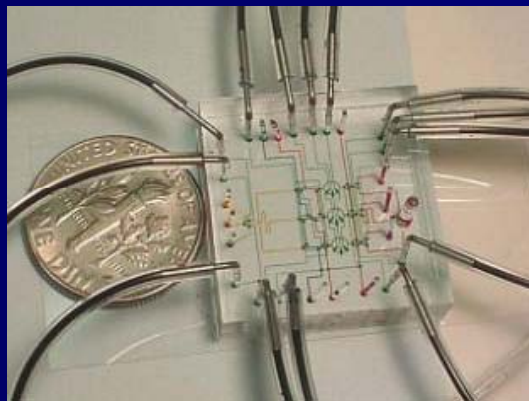
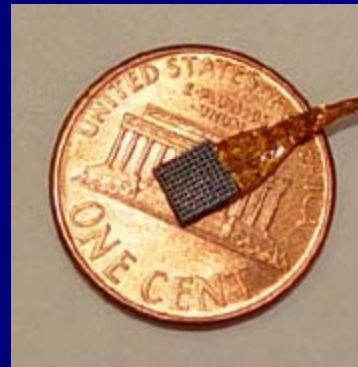
Biomonitoring Futures Project

- Focus of the project:
 - Cancer (esp. breast, lung & colon)
 - Diabetes
 - Prevention/Healthy Living
- Findings of BFP Research, including
 - Diabetes and Cancer 2015
 - Health Information Systems 2015
 - Emerging biomonitoring platforms

Papers available at www.altfutures.com/BFP

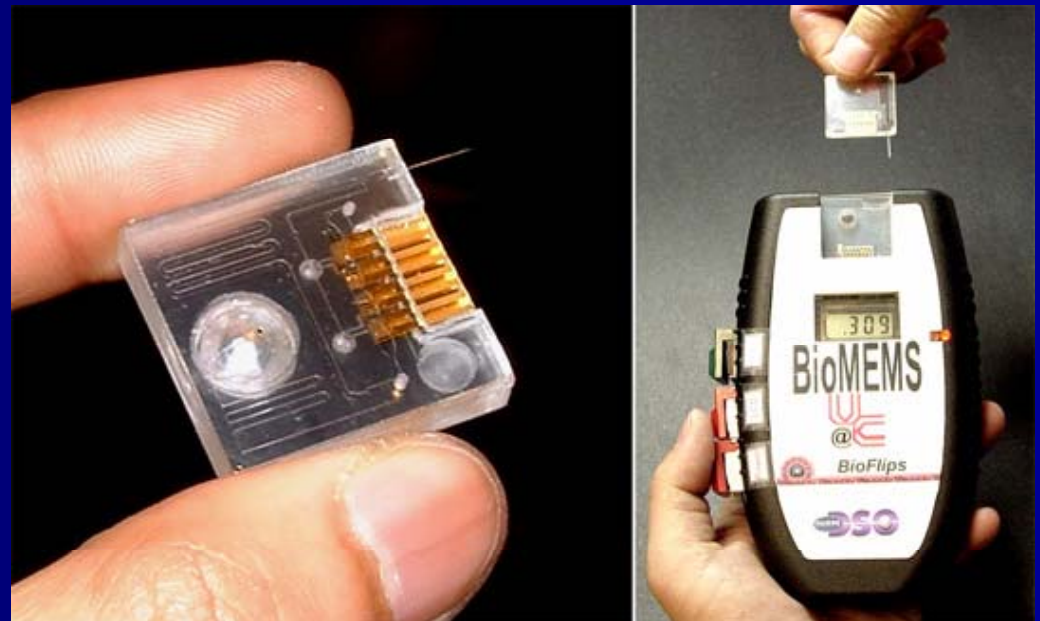


Biomonitoring Platforms



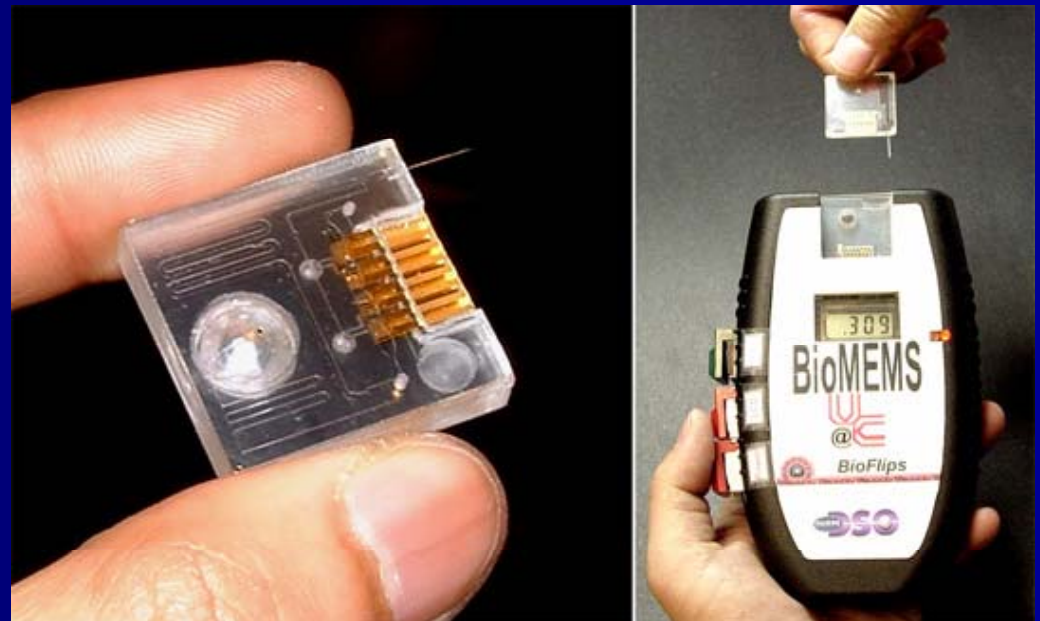
Biomonitoring Platforms

- Portable – point of care or home
- Easy to use
- ~ Painless
- Fast result
- Reliable
- Data captured
- Inexpensive?



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Type 2 diabetes

| Component of Management | Role for Biomonitoring |
|-------------------------|--|
| Forecast Risk | Gene patterns, including mitochondrial genes Possibly protein or metabolic patterns |
| Prevention | Information and coaching for healthy living – diet and exercise |
| Screening | Identify prediabetes, diabetes, dyslipidemia hypertension |
| Behavior Modification | How well controlling HgA1c, lipids, BP |
| Disease Management | Easy testing with rapid results at point of care |
| Patient self-care | Biomonitoring to help management - wireless capture and longitudinal record |



Glucose Biomonitoring



Glucose Biomonitoring



- Polymerized Crystalline Colloidal Arrays Photonic Cosmetic Contact Lenses
- Detection of Glucose and other Biomedical Analytes on Biosensor Surfaces using Fractal Analysis
- A glucose Biosensor Encapsulated in Erythrocytes
- Carbon Microstructures for Glucose Biosensor
- New Biosensor Technologies: Your Personal, Portable and Always On-call Physician



Glucose Biomonitoring

**I am convinced we will have a
noninvasive glucose monitor
before 2015**

**But I do not know which platform
technologies will succeed**

***Whichever becomes available, we
must make sure it is leveraged to
reduce health disparities***

Biomonitoring

Innovation



How do we leverage biomonitoring to improve compliance and change behavior?

Protein and Gene Biomarkers

- Gene variations associated with higher risk
 - Single genes – BRCA1 & BRCA2
 - Genomic fingerprints
 - DNA methylation – 50 genes that play a role in cancer
 - Abnormal genes in established cancers – presence of epidermal growth factor receptor mutations
- Protein markers
 - Single protein like PSA, CA 125
 - Protein profiling – OvaCheck for ovarian CA



Breath Test for Lung Cancer

Collected breath samples on 178 patients before bronchoscopy

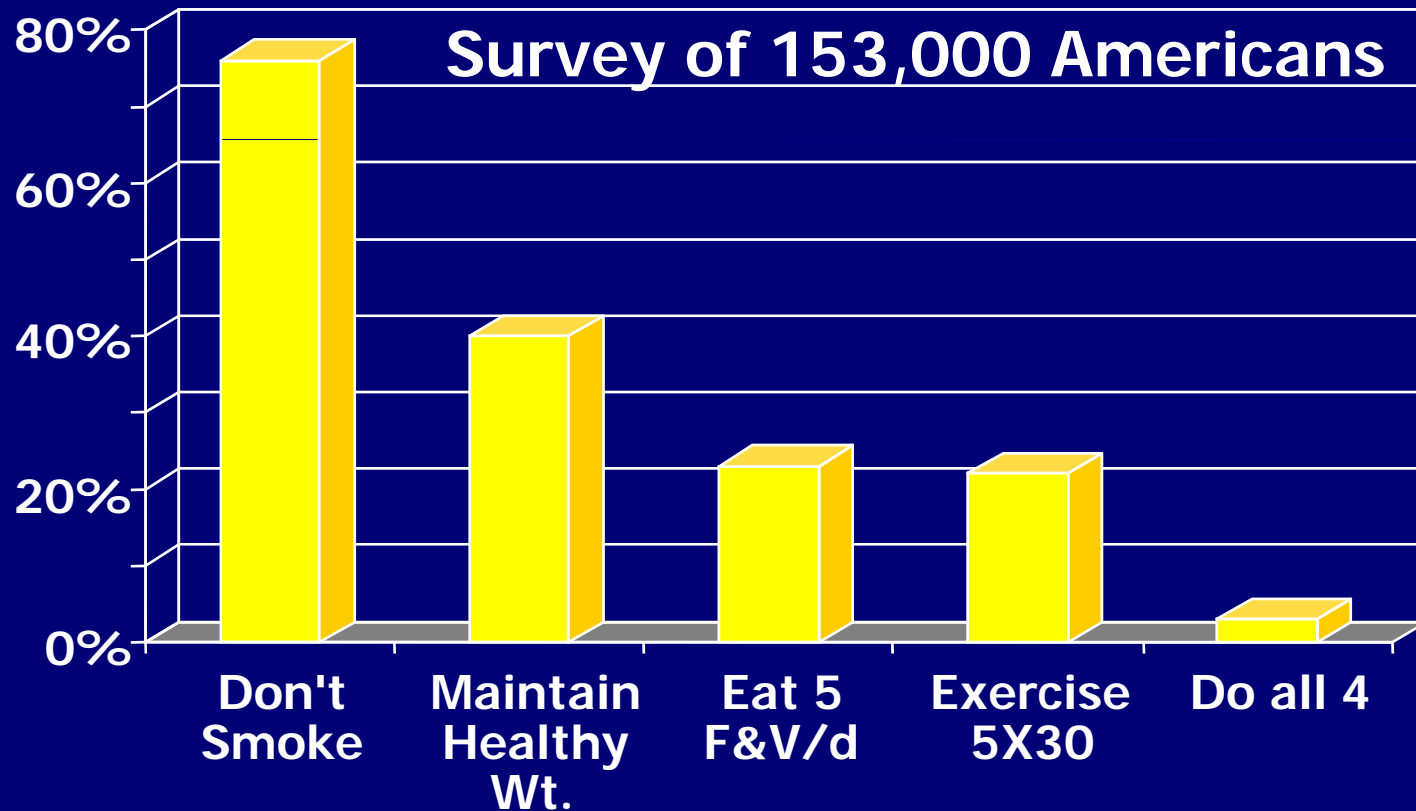
- 67 primary lung cancers compared to 41 controls
- Sensitivity 89.6%, specificity 80.5%

Will breath testing be the future screening procedure for lung cancer we are looking for?



Biomonitoring for Healthy Living

Healthy Lifestyles



Reeves, Healthy Lifestyle Characteristics Among Adults in the United States, 2000, *Arch Intern Med*, 2005



Biomonitoring for Healthy Living

- Education



- Coaching



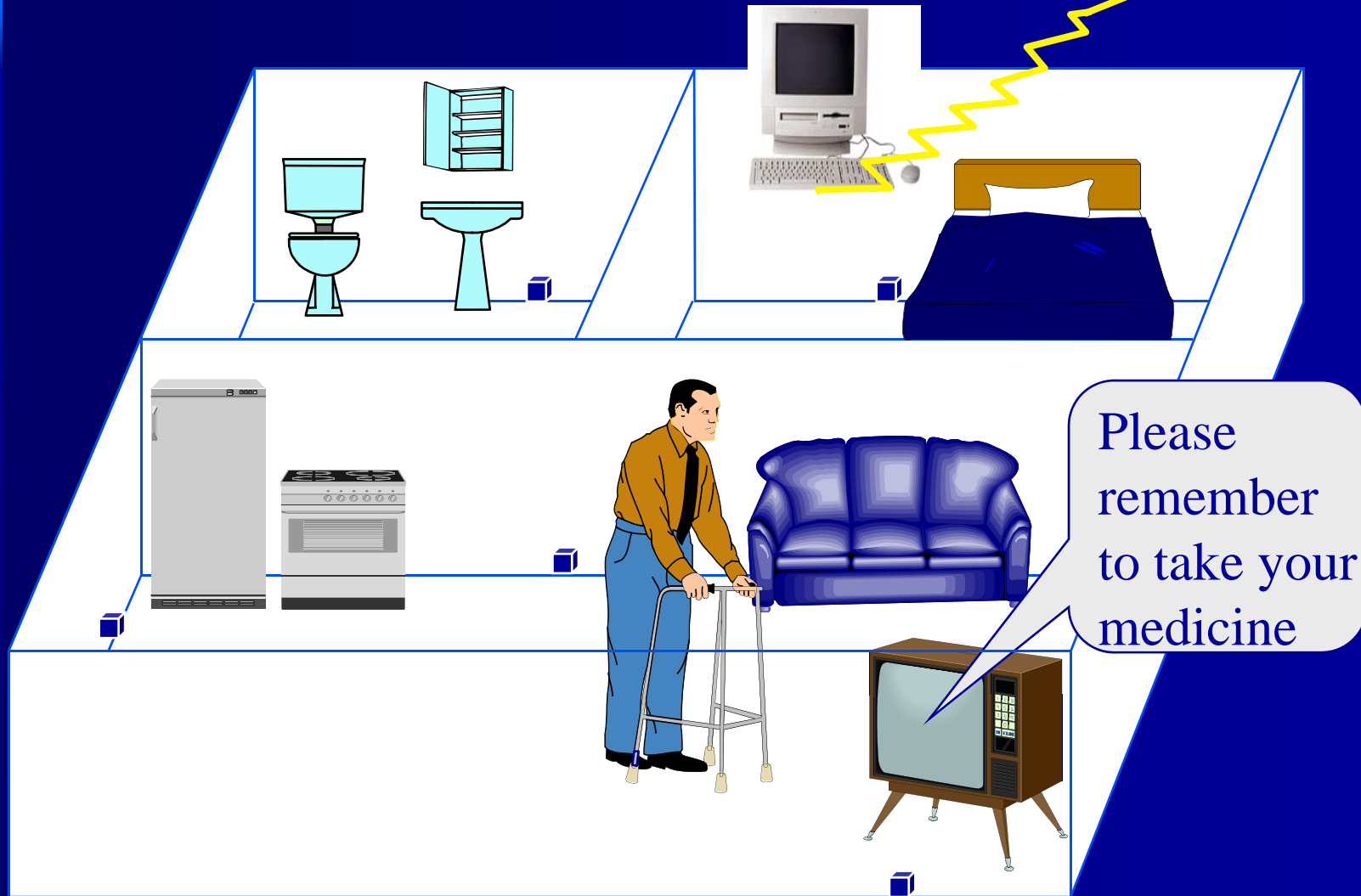
- Incentives to stick with it



Home Monitoring



Home Monitoring Smart Home



Advisory Committee Results

Key Opportunities for Biomonitoring to Reduce Disparities:

1. Support continuous, passive monitoring for healthy living & prevention
2. Develop an indwelling closed loop insulin pump and biomonitoring system
3. Focus on early detection for cancer through early screening using blood as a platform
4. Support the use of biomonitoring to change behavior, upstream, at the community and national level



Draft Recommendations

- HRSA and CMS should enhance partnerships for evaluating the intersection of biomonitoring platforms, specific disease biomarkers, and CHCs
- Clinical Director's Network and other appropriate groups should help design & implement controlled studies of effectiveness of biomonitoring systems in CHCs as well as diffusing best practices
- Encourage major federal agencies such as DoD, NIH and VA to develop a more coherent early stage funding programs based around biomonitoring for disparity reduction



Draft Recommendations

- Work with industry associations, such as PhARMA and NEMA on their members' biomonitoring activity and disparity reducing opportunities
- The FDA should encourage testing and evaluation of biomonitoring devices among populations with less access and resources

Draft Recommendations

- Enhance the ability of CHCs and others to design, deploy and evaluate experiments/tests of potential biomonitoring advances
- Provide forecasts or estimates of platforms under development or in consideration as well as potential disruptive innovations
- Identify specific forums to develop and share information on biomonitoring for disparity reduction



Draft Recommendations

- Work with organizations to support the development of interoperability standards for biomonitoring devices
- Review and encourage reimbursement strategies for effective biomonitoring, especially around prevention
- Support a web based directory for biomonitoring technology, drug and device companies as well as early stage researchers and healthcare providers to network around biomonitoring for disparity reduction (e.g. [Medical Automation.org](http://MedicalAutomation.org))



Imagining DRA Project Efforts in Communities & Healthcare

Developing Promising DRAs

Next Steps for the DRA Project