



# HIPAA and the National Health Information Infrastructure

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# Vision of the NHII

- ◆ The set of technologies, standards, applications, systems, values, and laws that support all facets of individual health, health care, and public health.
- ◆ NOT a centralized database.
- ◆ Connects distributed health information in the framework of a secure network with strict confidentiality protections.

# Salmonella Outbreak







(C)NND



# The Challenge that we face

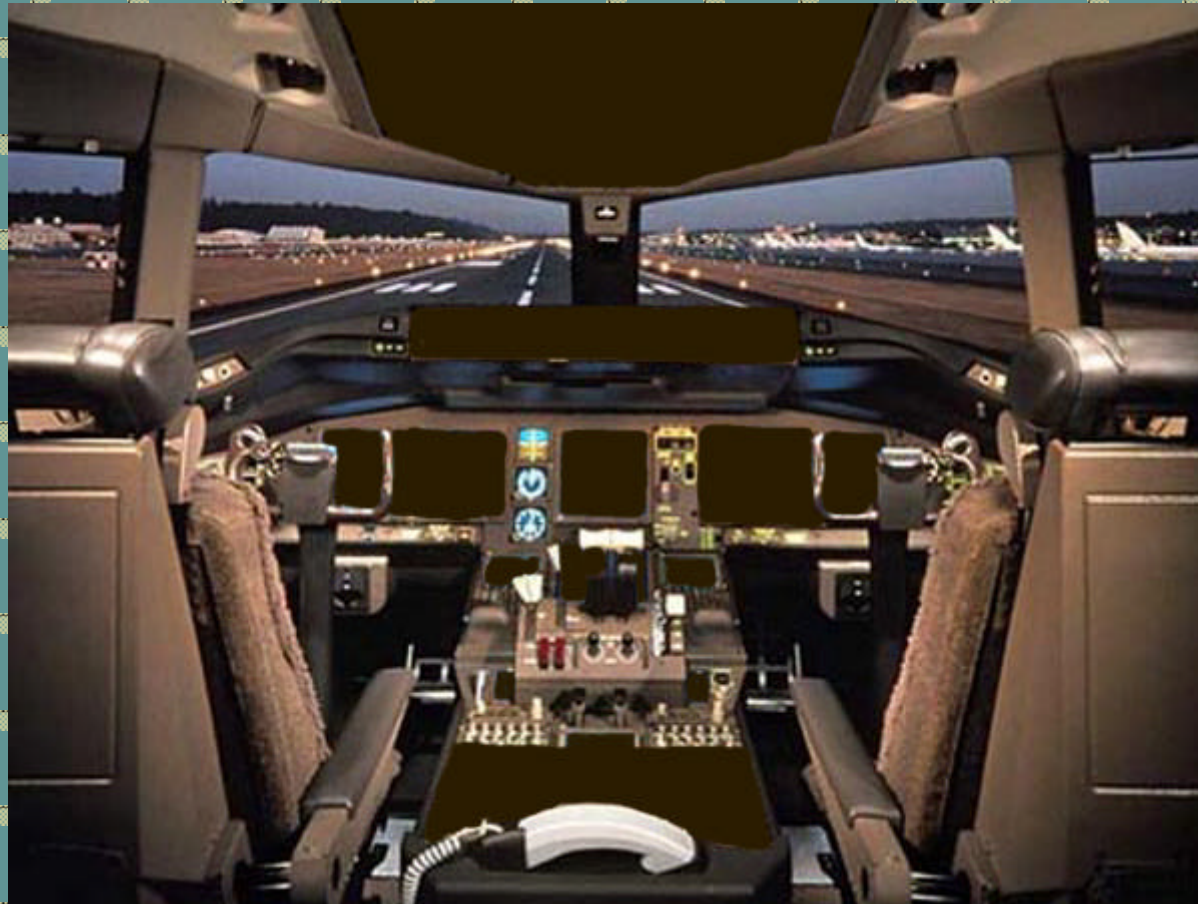
- ◆ "THE MANAGED-CARE-BASED HEALTH SYSTEM IS FAILING. MEDICAL INFLATION IS BACK. CONSUMER DISTRUST, PROVIDER HOSTILITY, COSTLY NEW TECHNOLOGIES AND POLITICAL OPPORTUNISM WILL NO LONGER ALLOW COSTS AND QUALITY TO BE CONTROLLED BY MOST EXISTING MANAGED CARE ARRANGEMENTS"

# The Challenge that we face

- ◆ "OVERALL, QUALITY HAS NOT BEEN DELETERIOUSLY AFFECTED BY MANAGED CARE, BUT MANAGED CARE HAS NOT SUBSTANTIALLY REDUCED UNSAFE PRACTICES, OVERUSE, UNDERUSE AND MISUSE OF HEALTH CARE"  
- PAUL ELLWOOD









The best outcomes occur  
When

*THE RIGHT DECISIONS ARE MADE*  
*AT THE RIGHT TIME*

- ◆ Data – the measurement and bits that describe a person and their health
- ◆ Information – data with analysis
- ◆ Knowledge – information in context with rules

## NHII

- ◆ THE GOAL IS TO PUSH KNOWLEDGE TO THE POINT OF SERVICE (CONTACT)
  - ◆ EXPERT SYSTEMS
  - ◆ DECISION SUPPORT
  - ◆ PRACTICE GUIDELINES



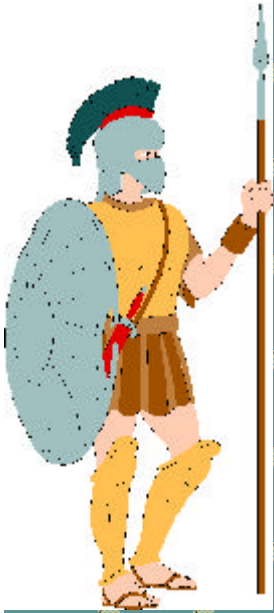
# HEALTH

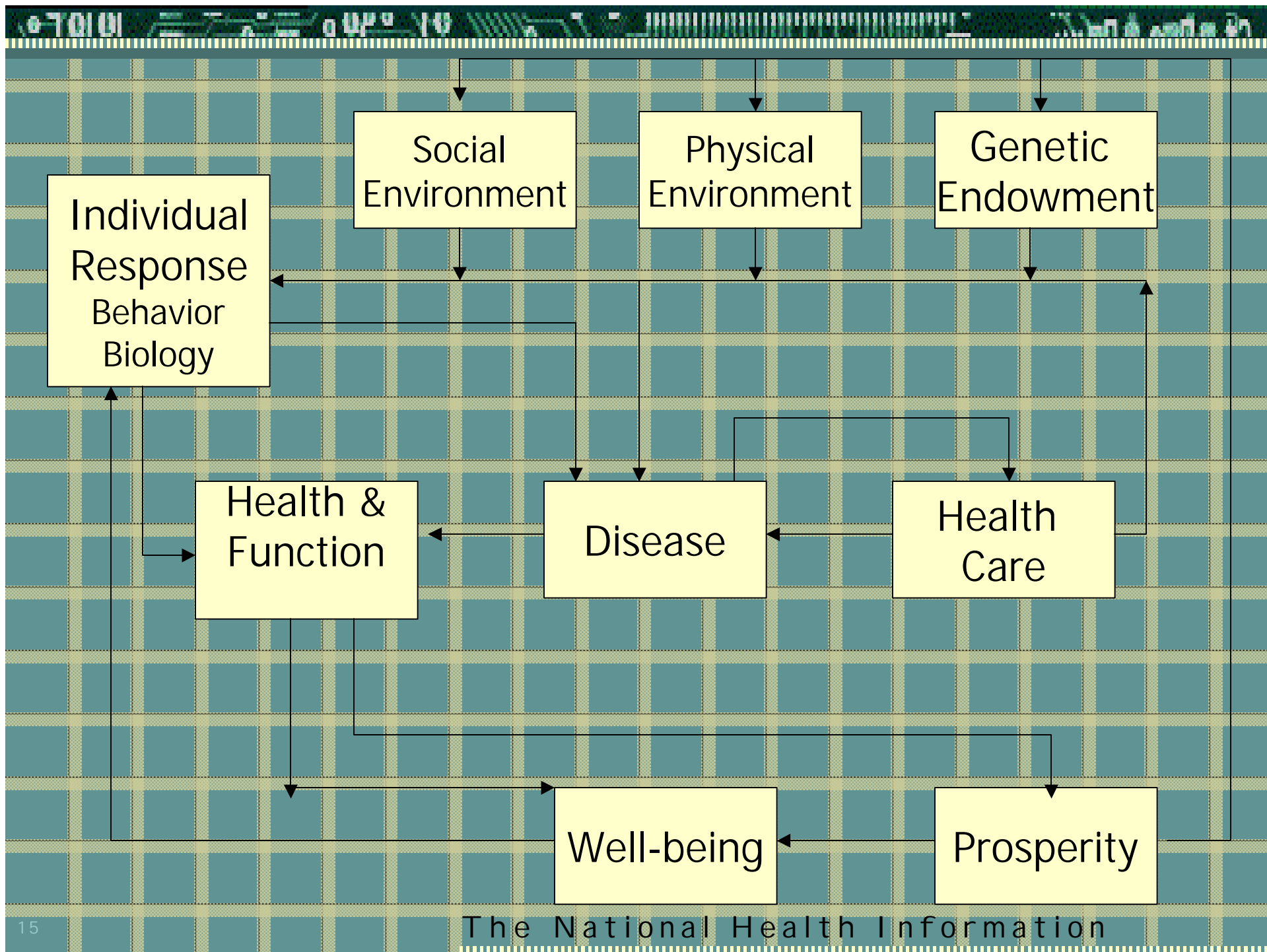
## ◆ WHO

- ◆ HEALTH IS A STATE OF COMPLETE PHYSICAL, MENTAL AND SOCIAL WELL-BEING AND NOT MERELY THE ABSENCE OF DISEASE OR INFIRMITY
- ◆ HEALTH IS A STATE OF WELL-BEING AND THE CAPABILITY TO FUNCTION IN THE FACE OF CHANGING CIRCUMSTANCES

# HIPPOCRATES

- ◆ NOTED THAT IF YOU WANTED TO KNOW ABOUT THE HEALTH OF A PEOPLES NOTE
  - ◆ THE WINDS AND THE CHARACTER OF THE AIR
  - ◆ THE WATER AND THAT THEY DRINK
  - ◆ THE LAY OF THE LAND
  - ◆ THE HABITS OF THE PEOPLE





# HEALTH

- ◆ SHARED RESPONSIBILITY

- ◆ HEALTH CARE

- ◆ PUBLIC HEALTH

- ◆ OTHER

- ◆ -IOM 1997 IMPROVING HEALTH IN THE COMMUNITY-A  
ROLE FOR PERFORMANCE MONITORING



NHII

# Universe of Health Data

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**PROVIDER DATA**

Universe of Health Data

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## Universe of Health Data

**ADMINISTRATIVE DATA**

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## Universe of Health Data

**PERSONAL DATA**



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**COMMUNITY  
BASED DATA**

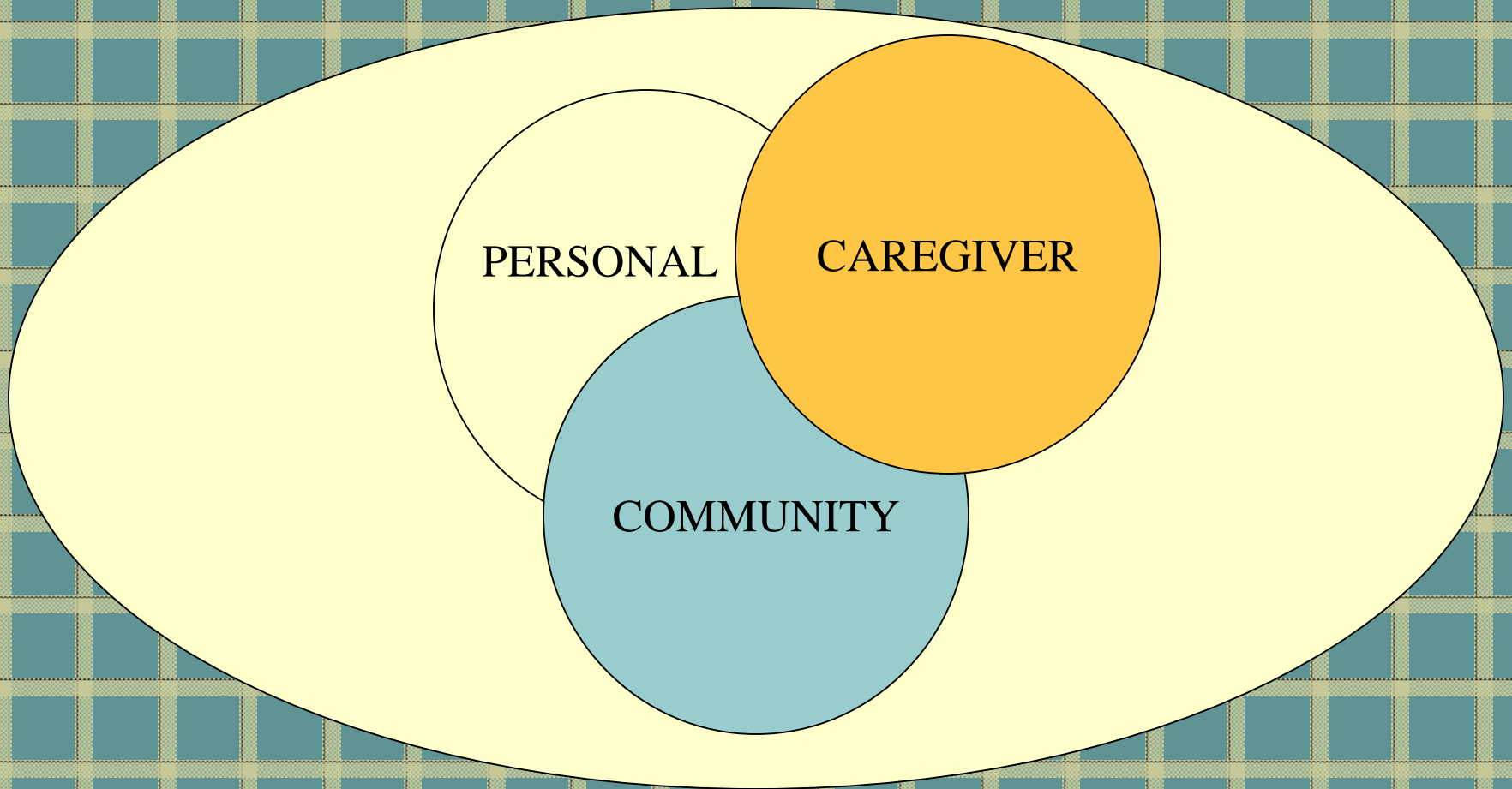
Universe of Health Data

NHII

Universe of Health Data

**QUALITY DATA**

NHII



# Personal Health Dimension

- ◆ Supports the management of individual wellness and health care decision-making
- ◆ Includes a personal health record, created and controlled by the individual or family
- ◆ Includes non-clinical information such as self-care trackers, health materials, local public health and health care services




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CHICAGO


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**1 Signed In**, click to [Sign Out](#)






















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Schedule delivery time now for best availability.

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Your Subtotal: \$4.80

QTY	PRODUCT
1	 <a href="#">Smoked Salmon Roll; 12 pieces</a>

<a href="#">Images On/Off</a>	<a href="#">Product Name</a>	Unit Price	<a href="#">Price</a>	QTY	
	<a href="#">Collard Greens</a> by the bunch	----	\$1.29/EA	1	Ea  
	<a href="#">Green Kale</a> by the bunch	----	\$0.99/EA	1	Ea  
	<a href="#">Mustard Greens</a> Bunch	----	\$1.19/EA	1	Ea  
	<a href="#">Rainbow Chard</a> by the bunch	----	\$1.59/EA	1	Ea  
	<a href="#">Red Swiss Chard</a> by the bunch	----	\$1.59/EA	1	Ea  
	<a href="#">Swiss Chard</a> by the bunch	----	\$1.59/EA	1	Ea  
	<a href="#">Turnip Greens</a> 1 lb	----	\$2.49/EA	1	Ea  

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Bookmarks Location: <http://www1.peapod.com/cgi-bin/sam.fcgi?aab=9flyKmV&NUM=1&aaa=079>

**Buy Green Leaf Lettuce 1 Head**

Price: \$1.49  
Size: APRX EA  
On Sale

**Nutrition Facts**

Serving Size 1 1/2 CUPS SHREDDED  
Servings Per Container VARIES

Amount Per Serving		
<b>Calories</b> 15		Calories from Fat 0
		<b>% Daily Value*</b>
<b>Total Fat</b> 0.0 g		0%
Saturated Fat 0.0 g		0%
<b>Cholesterol</b> 0.0 mg		0%
<b>Sodium</b> 40.0 mg		2%
<b>Potassium</b> 0.0 mg		0%
<b>Total Carbohydrate</b> 3.0 g		1%
Dietary Fiber 1.0 g		4%
Sugars 2.0 g		

**Peapod**

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# PERCIVAL POTTS, MD

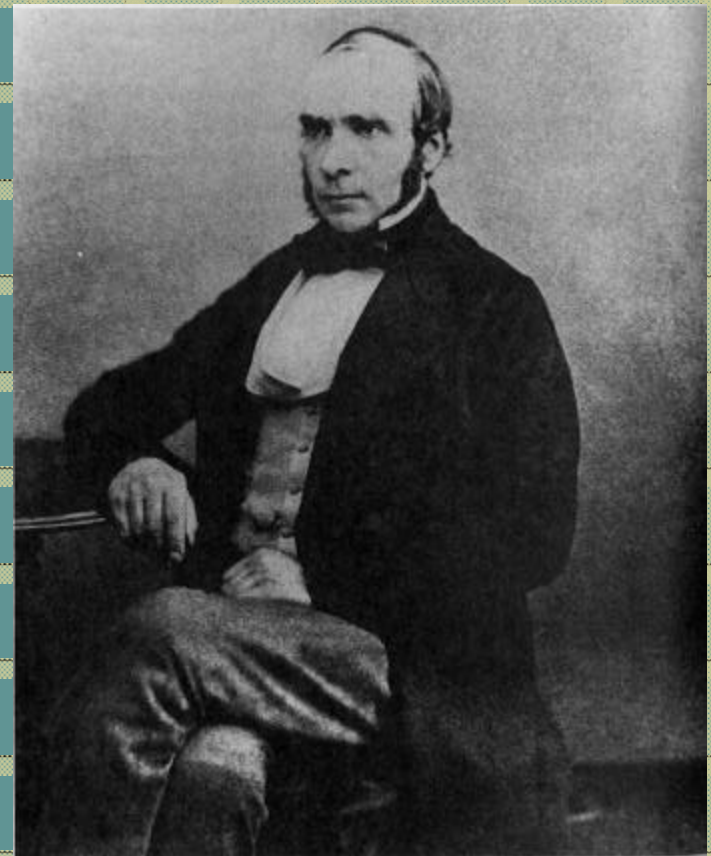
- ◆ IDENTIFIED LINK BETWEEN
- ◆ OCCUPATION AND CANCER
- ◆ RECOMMENDATIONS FOLLOWED?

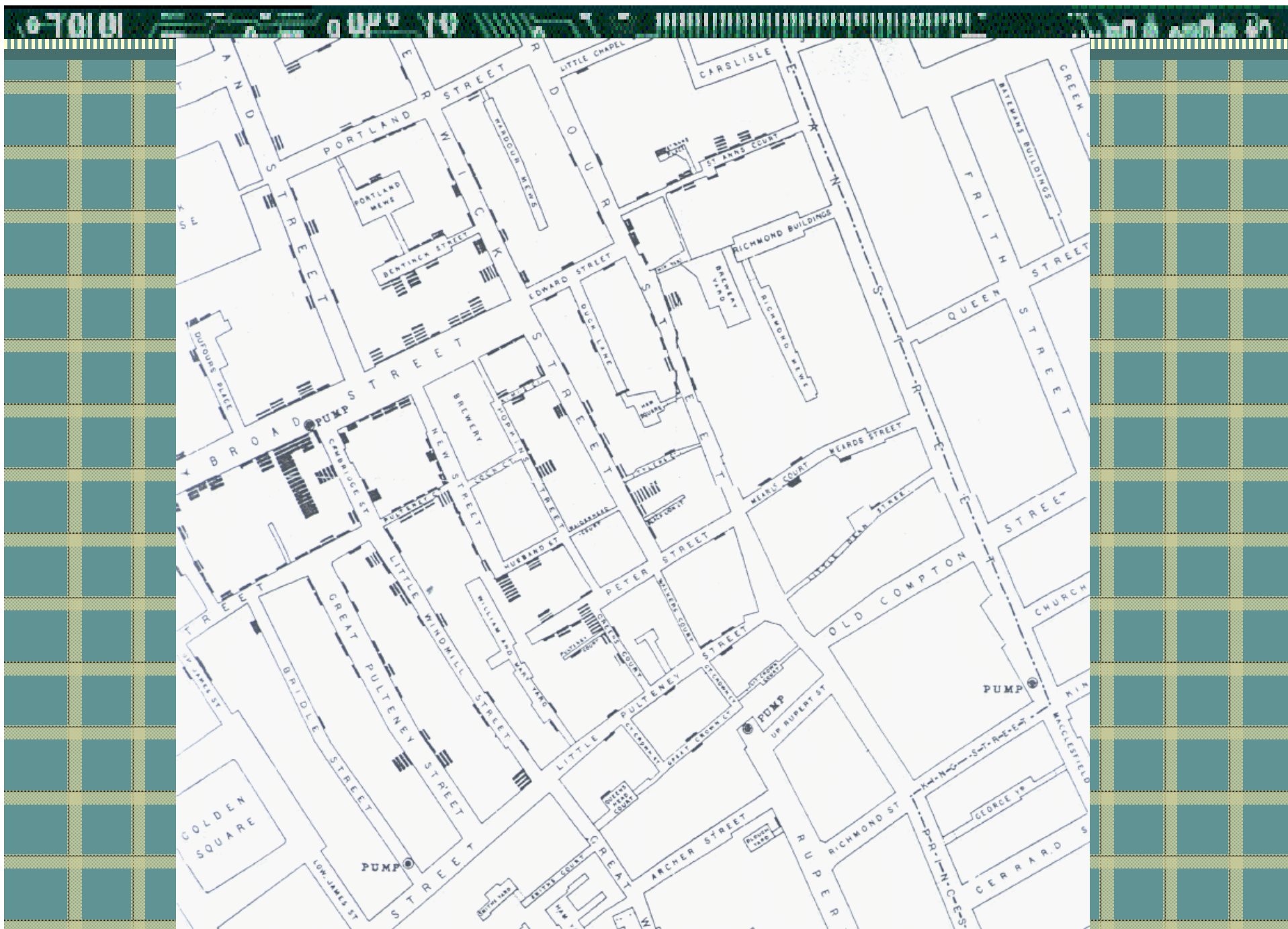




# SNOW ON CHOLERA

- ◆ DATABASE ANALYSIS
- ◆ GIS SYSTEM







# Community Health Dimension

- ◆ Supports the identification of health threats, assessment of population health status, focussing programs and services, research and evaluation
- ◆ Encompasses population-based health data and resources, statutorily authorized data in public health systems and the Health Care Provider Dimension, and other anonymous data

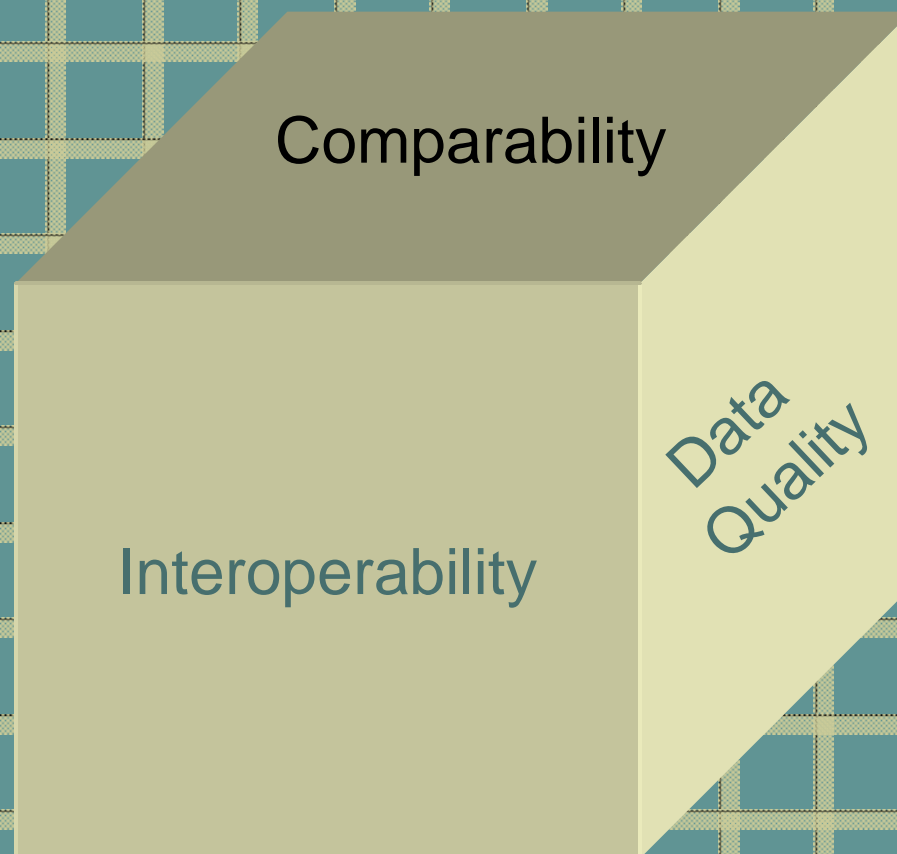
# Community Health Dimension

- ◆ No single database of public health information
- ◆ Improved vertical and horizontal integration of federal, state, and local systems through electronic data exchange standards
- ◆ Data aggregated by geographic area, demographic element, health event, etceteras
- ◆ Access defined along a continuum with strict protocols and monitoring

# Health Care Provider Dimension

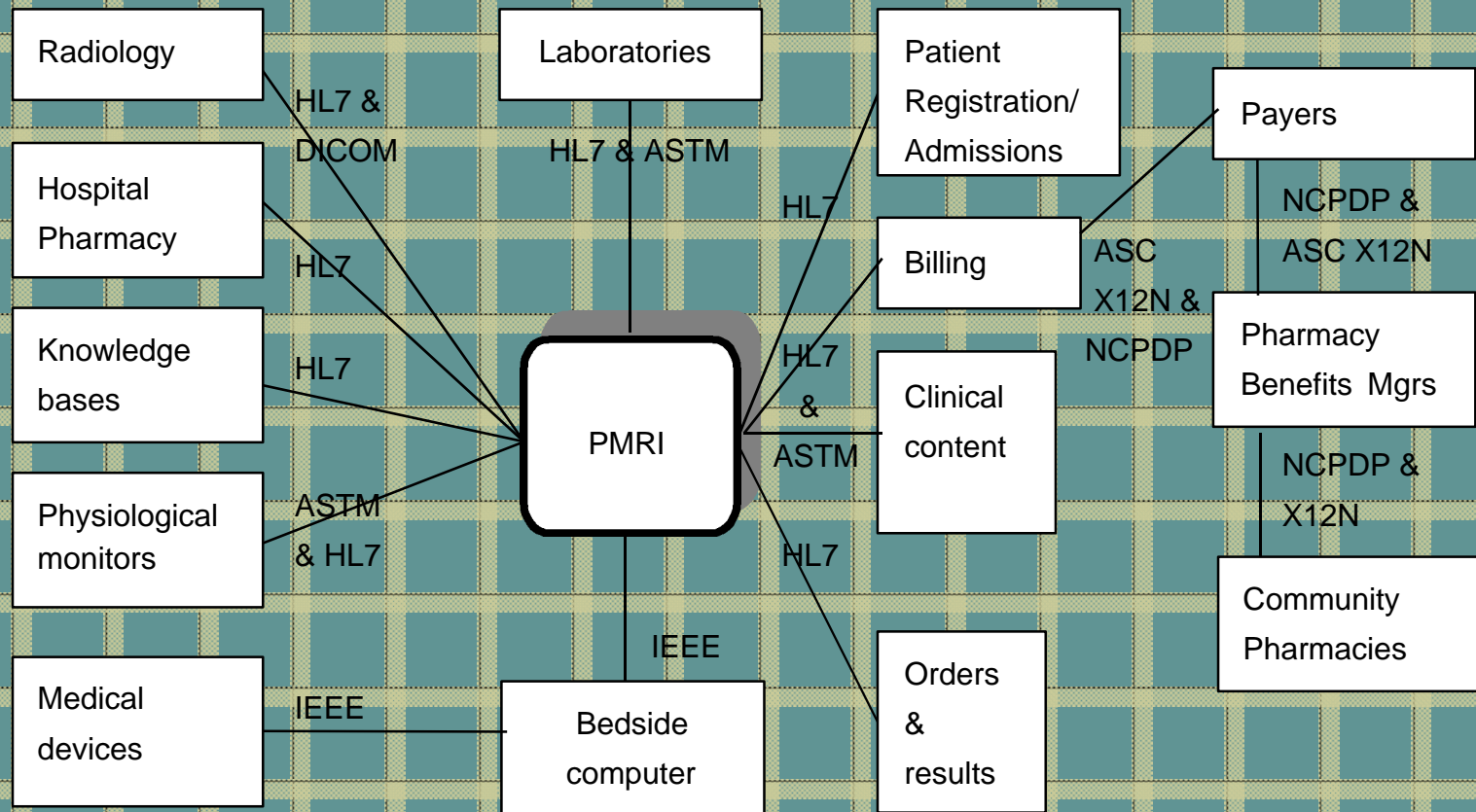
- ◆ Primary record of care is under the control of the provider who captures original information
- ◆ May be stored on site or on server of a third-party health information guardian
- ◆ Confidentiality protections include technologies for authorization, authentication, encryption and electronic signatures; restricted access by class, role, or location of user

# Overview of PMRI Dimensions





# Interoperability Status



(Adapted from Electronic Health Records: Changing the Vision, Eds. GF Murphy, MA Hanken, and KA Waters, Philadelphia: W. B. Saunders Company, 1998)



# Comparability Status

## Other Codes

- Health Language Center
- UMDNS (ECRI)\*
- DEEDS
- UPN (HIBCC)/UPC (UCC)

## Message Specific Codes

- DICOM
- NCPDP
- IEEE
- HL7\*
- X12N

## Nursing Codes

- HHCC\*
- NANDA\*
- NIC\*
- NMMDS
- NOC\*
- OMAHA\*
- PCDS\*
- PNDS

## Convergence

SNOMED RT/  
NHS Clinical Terms

## Diagnoses & Procedure Codes

- Alternative Link\*
- CDT-2\*
- CPT-4\*
- HCPCS\*
- ICD-9-CM/ICD-9-V3\*
- ICD-10-CM\*
- ICD-10-PCS
- ICDH-2

## Clinically Specific Codes

- DSM\*
- Gabrieli
- LOINC\*
- MEDCIN
- MedDRA
- SNOMED V3\*
- NHS Clinical Terms\*

## Drug Codes

- First Data Bank\*
- Multum \*
- NDC

\* Fully or partially included in the  
UMLS Metathesaurus as of March 1, 2000

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- ◆ The set of technologies, standards, applications, systems, values, and laws that support all facets of individual health, health care, and public health.
- ◆ NOT a centralized database.
- ◆ Connects distributed health information in the framework of a secure network with strict confidentiality protections.

# NHII

- ◆ DATA MODEL
- ◆ DATA STANDARDS
- ◆ CONNECTIVITY STANDARDS

# NHII

## ◆ DATA STANDARDS

- ◆ HIPAA

- ◆ X12

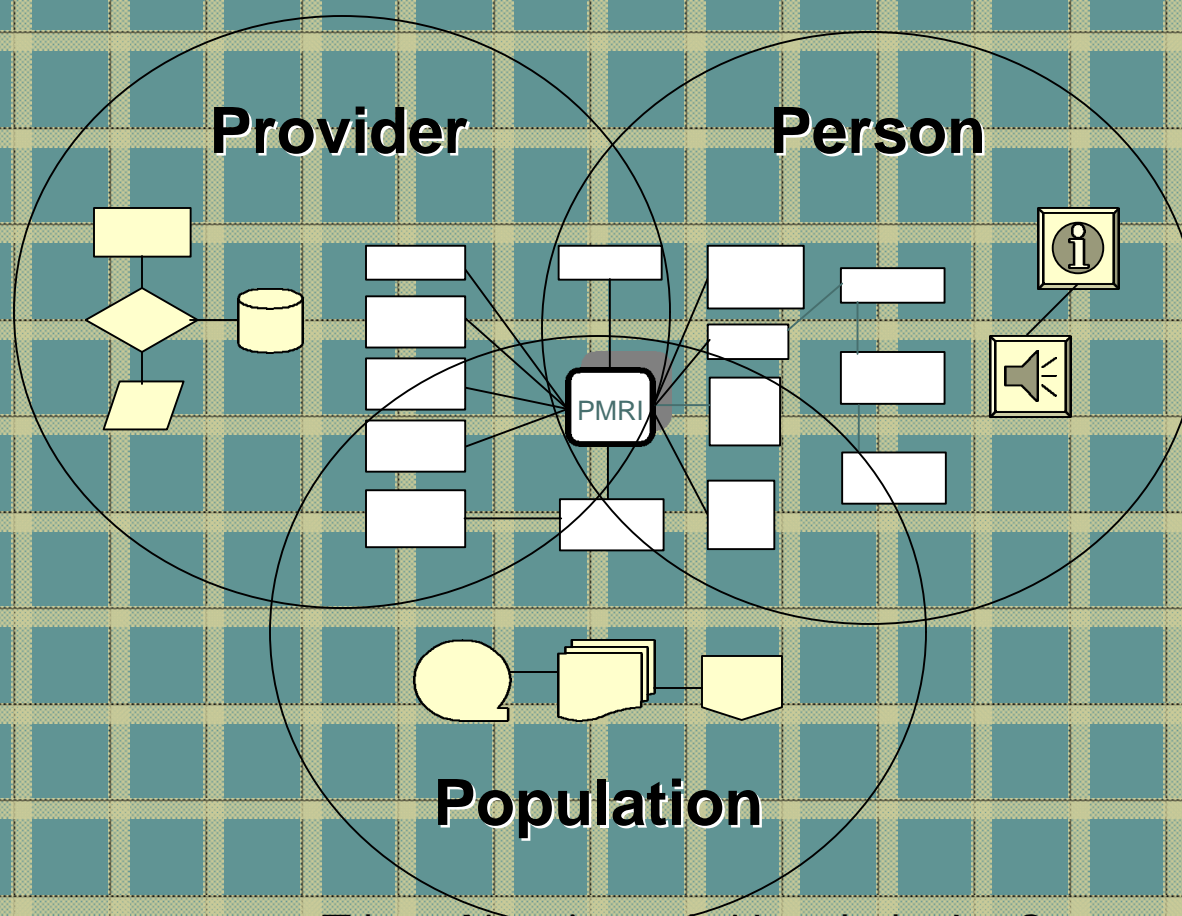
- ◆ HL7

- ◆ NCPDP

- ◆ NPI

- ◆ OTHER STANDARDS

# PMRI & Health Information Infrastructure





# AMERICAN APPROACH

- ◆ RESPECT INDIVIDUAL PRIVACY
- ◆ ASSURE CONFIDENTIALITY
- ◆ ENGINEERED FOR SECURITY

# Next Steps

- ◆ Recommendations to the Secretary
  - ◆ Role of HHS
  - ◆ Role of other Federal Agencies
  - ◆ Role of State and Local Government
  - ◆ Role of Providers
  - ◆ Role of Non-Profit and Voluntary Sector
  - ◆ Role of Consumer groups



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