

SHRINKING AMERICA TO DELIVER INTEGRATED HEALTHCARE

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SECTION: Role of HIIT: Health Disparities in Minority
Communities**

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Presenter & Co-Author Disclosures :
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- (1) The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:**

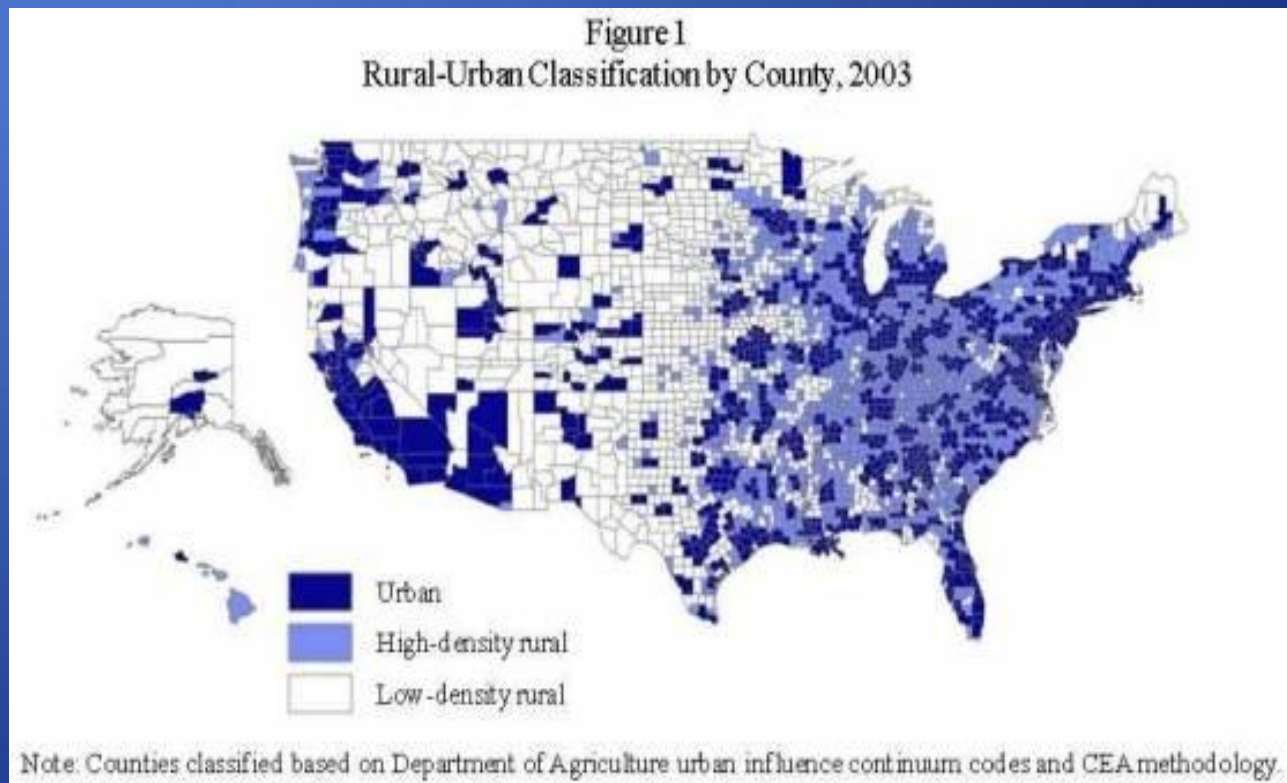
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Introductory Comments

- **Integrated Healthcare Delivery is Essential to Enable Collaboration among Rural Healthcare Providers as Recommended by the Institute of Medicine of the National Academies (1) (“IOM”)**
- **Integrated Healthcare Delivery Models were Prescribed under the Patient Protection and Affordable Care Act (the “ACA”) Enacted in March 2010, as a Solution to Increase Healthcare Access, Quality and Cost Containment.**
- **To Achieve Quality Integrated Healthcare, Rural Healthcare Providers and Their Community Stakeholders Require the Highest Broadband Infrastructure to Consolidate, Collaborate and Clinically Align**
- **In Essence, We Must Technologically Shrink America**

(1.) IOM (2008). *Quality Through Collaboration, The Future of Rural Health (2nd Ed.)*. The National Academies Press: Washington, D.C.

Demographics of Rural America



Note: The White House Blog (April 27, 2010). Posted by Christina Romer and Ann Wolvert, Strengthening the Rural Economy. Retrieved from The White House Blog.

Demographics of Rural America

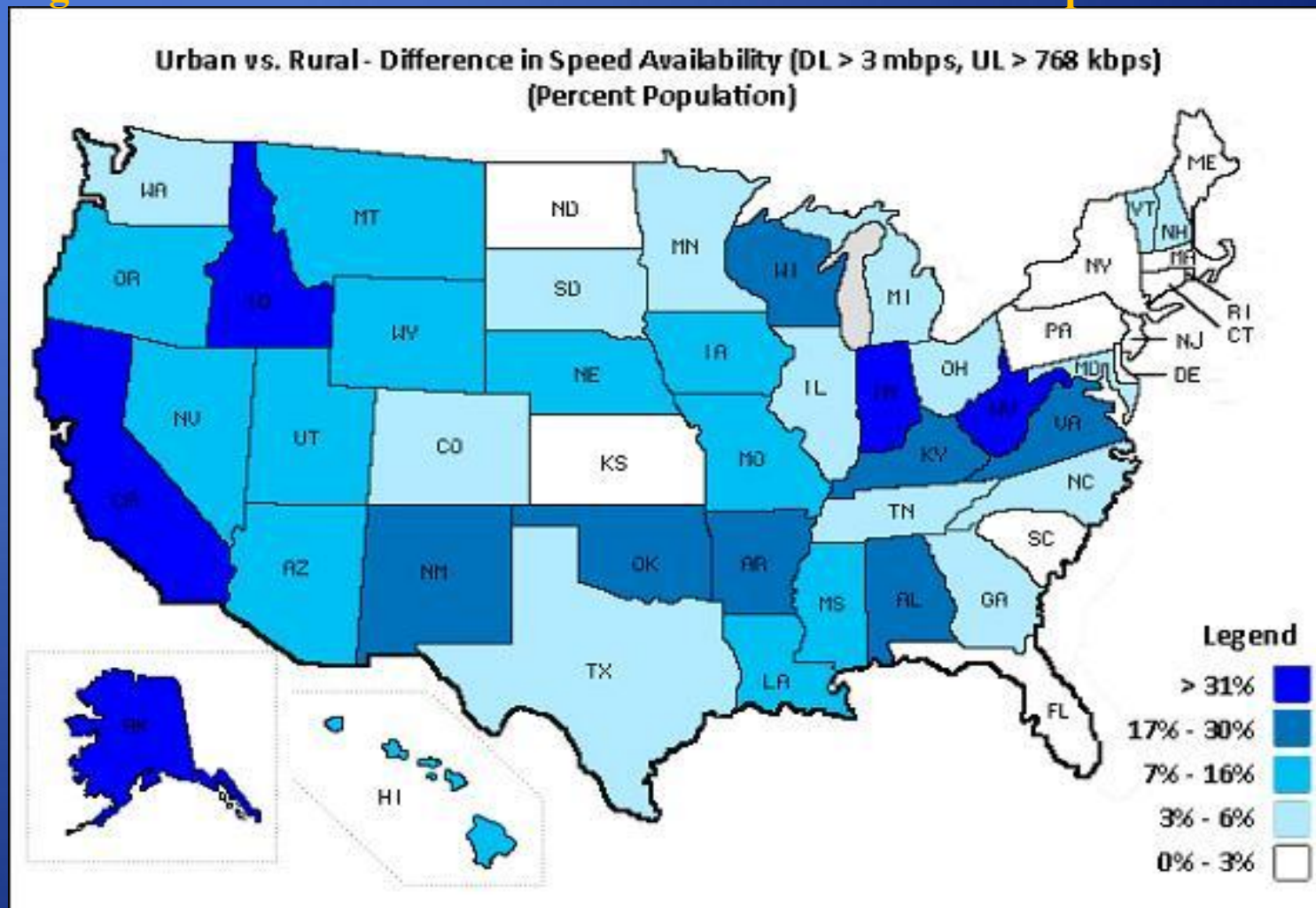
Table 1: A 2010 Demographic Analysis of Urban and Rural America

	Urban America	Rural America	Total
Estimated US Population:	258,745,538	50,000,000	308,745,538
Estimated Percentage of Urban/Rural: US Population	84%	16%	100%
US Land Mass	25%	75%	100%
Physicians	90%	10%	100%
Physicians Coverage Rural/Urban:			
Estimated Number of Physicians:Urban/Rural	789,300	87,700	877,000
Estimated Physicians Per Thousand Population	3.050	1.754	2.841
Estimated Number of Physicians Per Square Mile	0.223	0.025	0.248
Estimated Without Broadband Coverage-3 megabits ("mbps") Download/768 Kbps Upload or Faster:	3.0%	28.2%	8.4%

Note: Weintraub, P. & Ellingson, J. (2011). Shrinking America to Deliver Integrated Healthcare.

Current State of Rural Healthcare and ICT

Figure 2: Urban Versus Rural Differences in Broadband Speed



Note: Federal Communications Commission (“FCC”) & The National Telecommunications and Information Administration (“NTIA”), (2011). *National Broadband Map, Broadband Statistics Report, February 2011.*

Population in Rural America By Race/Ethnicity

Table 2: Estimated Population in Rural America By Race/Ethnicity

	Estimated Rural Population
Total.....	48, 841,966
White	41,522,080
Black	4,150,069
American Indian/ Alaskan Native.....	953,232
Asian.....	359,361
Hispanic.....	2,632,515
Non-Hispanic White.....	40,184,690
Black, American Indian and Hispanic.....	7,735,816
Black, American Indian and Hispanic Percent (%) of Total.....	16%

Note: Adapted from CARSEY INSTITUTE, UNIVERSITY of NEW HAMPSHIRE, (Winter, 2010). *Rural Areas Risk Being Overlooked in 2010 Census* (Issue Brief NO.12). Durham, NH: William P. O'Hare

Characterization of Access to Quality Healthcare in Rural America in 2011

- **Long Travel Times and Distances**
- **Shortages of Primary Care Physicians and Medical Specialists**
- **Clinicians in Underserved Market Areas Who Must Serve a Broad Array of Complex Patients located over a Wide Geographic Area**
- **Critical Need For Improved ICT Supported by Telecommunications Fiber Backhaul with a High Speed Bandwidth**

Historical Perspective of Health Disparities in Rural America

- Level of Healthcare “Falls Short of What it Should Be Due to Lack of Access to “Core Healthcare Services (p.2) (2)”
- Critical Need for Improvement in Information Communications Technology (“ICT”) (2)
- Market forces Have Failed to Provide the Highest Broadband Infrastructure Necessary to Support Integrated Healthcare to Rural America

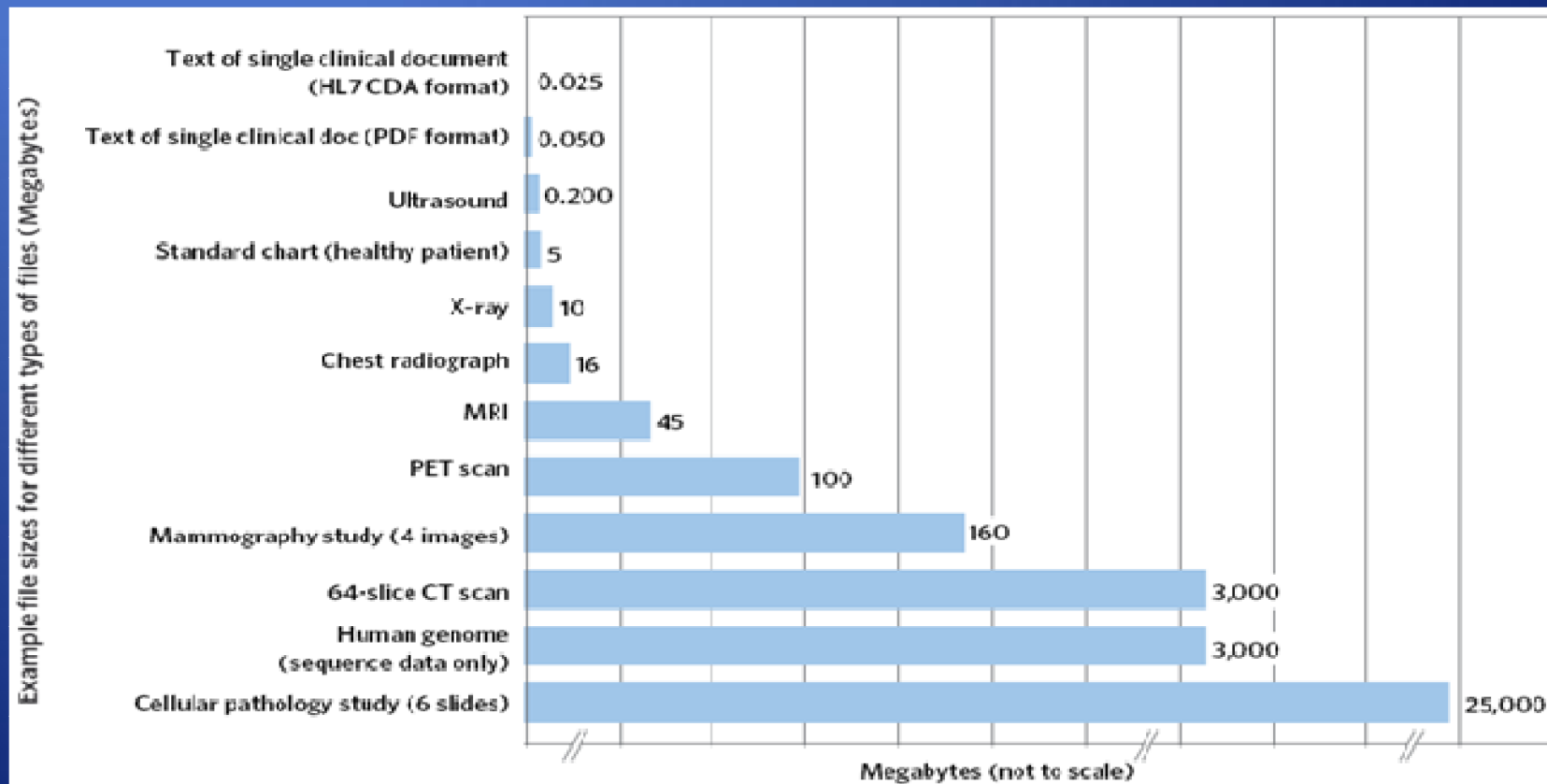
(2.) IOM (2008). *Quality Through Collaboration, The Future of Rural Health (2nd Ed.)*. The National Academies Press: Washington, D.C

Benefits of ICT Driven by the Smart Internet

- **Rural Patient Benefits**
- **Population Benefits**
- **Healthcare Provider Benefits**

Estimated Health Data Size Requirements

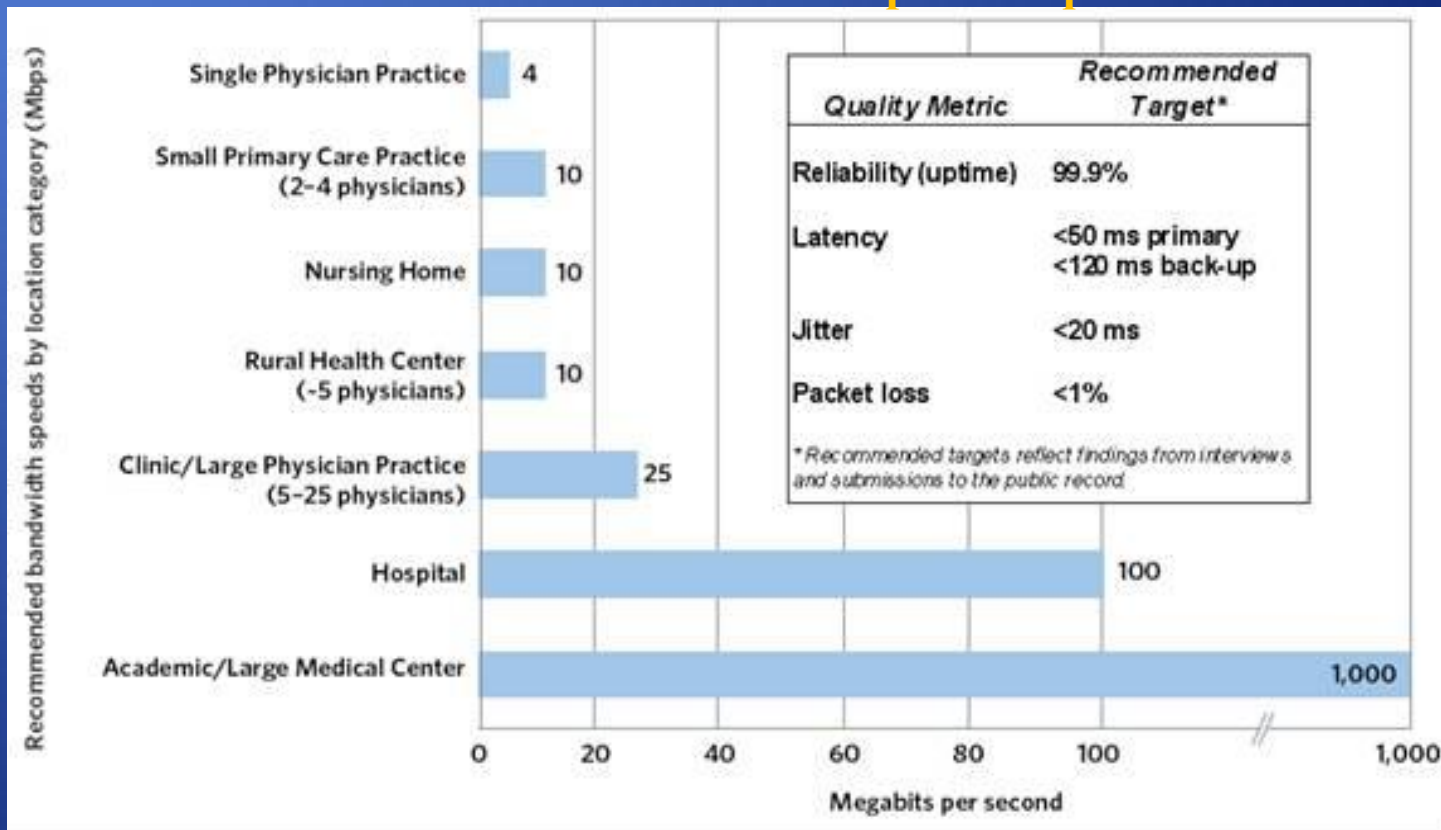
Health Data File Sizes⁷⁹



Note: Adapted from Federal Communications Commission (“FCC”), (2009). *National Broadband Plan*.

Recommended Bandwidth Speeds for Different Provider Organizations

Table 3: Healthcare Provider Broadband Speed Requirements



Note: Adapted from Federal Communications Commission (“FCC”), (2009). *National Broadband Plan*.

ICT & Federal Policy

- **Rural Health Care Program**
- **National Broadband Plan**
- **Past Federal Initiatives to Correct Market Failures**

Prior Federal Initiatives

Table 4:A Reference Case in Response to Market Failure

	Interstate Highway Cost (\$Billions)	Interstate Highway Cost per Capita (2011 US Dollars)	Next-Generation Broadband Internet ("Smart Internet") Assuming Parity With Interstate Highway Project (\$Billions)
Dwight D. Eisenhower System of Interstate and Defense Highways-Cost in 1956 Dollars not Adjusted for Inflation.....	\$114.3		
Cost in 1956 Dollars Adjusted for Inflation as of June 2011.....	\$935.0		
Cost in 1991 Dollars (Year of Project Completion) Adjusted for Inflation as of June 2011.....	\$172.6		
1956 Cost Per Capita-Cost/Estimated US Population in 1956 (168,903,031).		\$5,536	
1991 Cost Per Capita-Cost/Estimated US Population in 1991 (252,127,402).		\$685	
1956 Cost Per Capita-Cost/Estimated US Rural Population in 2010.....			\$277
1991 Cost Per Capita-Cost/Estimated US Rural Population in 2010			\$34

Note: Weintraub, P. & Ellingson, J. (2011). Across rural America, integrated care is the Cloud and the Cloud is integrated healthcare

Conclusion

- **ICT Supported by the Smart Internet can Effectively Shrink America by Addressing the characteristics of Rural Healthcare which are Effected by Constraints of Space and Time**
- **As a Result of Market Failures and Inadequate Federal Funding in the Past, the Broadband Requirements of Rural America Have Not Been Met**
- **The Federal Government Needs to Assume Responsibility and Leadership of a New National Initiative to Achieve The National Broadband Goal of at Least 1 Gigabit per second Broadband Service for Every American Community(3)**

Presentation Explanatory Note

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Questions & Comments