The National Telehealth Webinar Series

Presented by
The National Network of Telehealth Resource Centers

Telehealth Resource Centers
http://www.telehealthresourcecenters.org

- **California Telemedicine & eHealth Center (CTEC)**

- **Great Plains Telehealth Resource & Assistance Center (GPTRAC)**

- **Heartland Telehealth Resource Center (HTRC)**

- **Mid Atlantic Telehealth Resource Center (MATRC)**

- **National Telehealth Policy Resource Center (TPRC)**

- **National Telehealth Technology Assessment Resource Center (TTAC)**

- **Northeast Telehealth Resource Center (NETRC)**

- **Northwest Regional Telehealth Resource Center (NRTRC)**

- **Pacific Basin Telehealth Center (PBTRC)**

- **South Central Telehealth Resource Center (SCTRC)**

- **Southeastern Telehealth Resource Center (SETRC)**

- **Southwest Telehealth Resource Center (SWTRC)**

- **TexLa Telehealth Resource Center (TLTRC)**

- **Upper Midwest Telehealth Resource Center (UMTRC)**

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IMPROVING ACADEMIC OUTCOMES THROUGH SCHOOL-BASED TELEMEDICINE
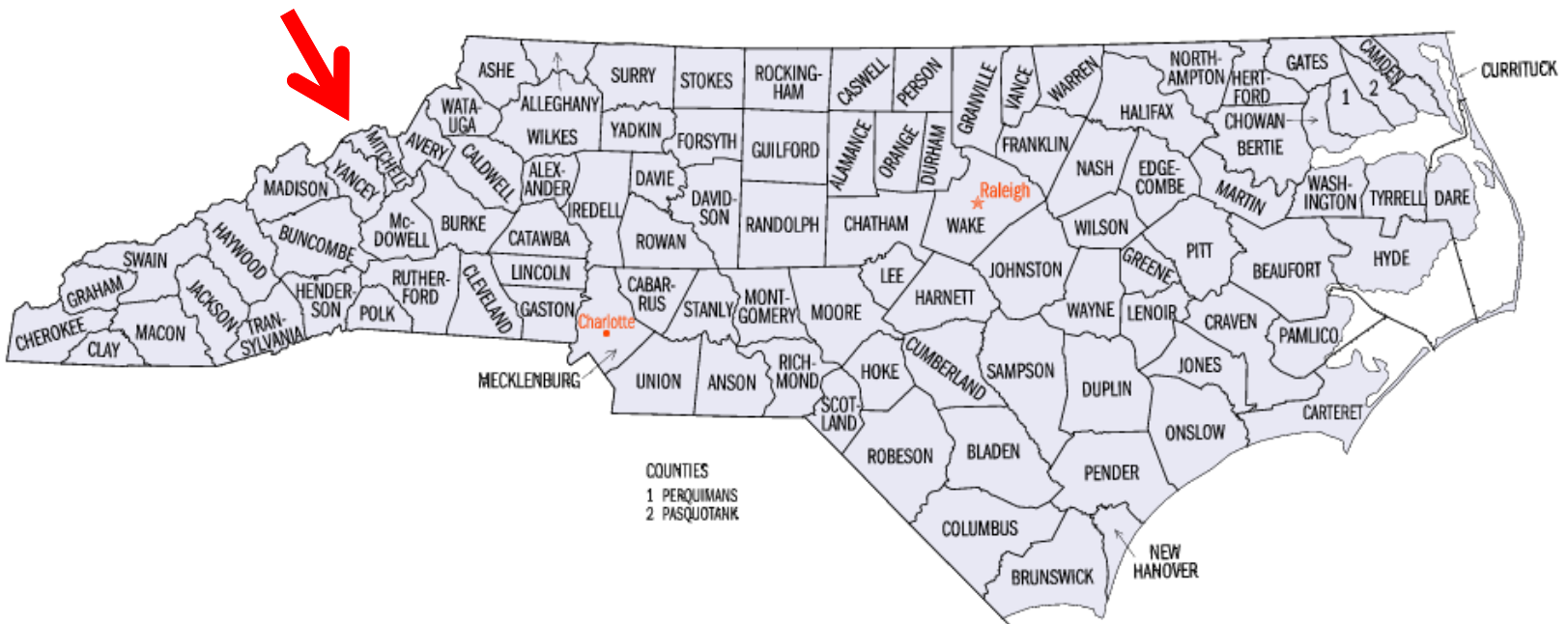
Presented by:

Steve North, MD
Founder and President,
Center for Rural Health Innovation

Produced by: **The Mid-Atlantic Telehealth Resource Center**

Mitchell and Yancey Counties

School-Based Health Centers

No matter how good schools are, students won't be able to learn if they're not healthy.
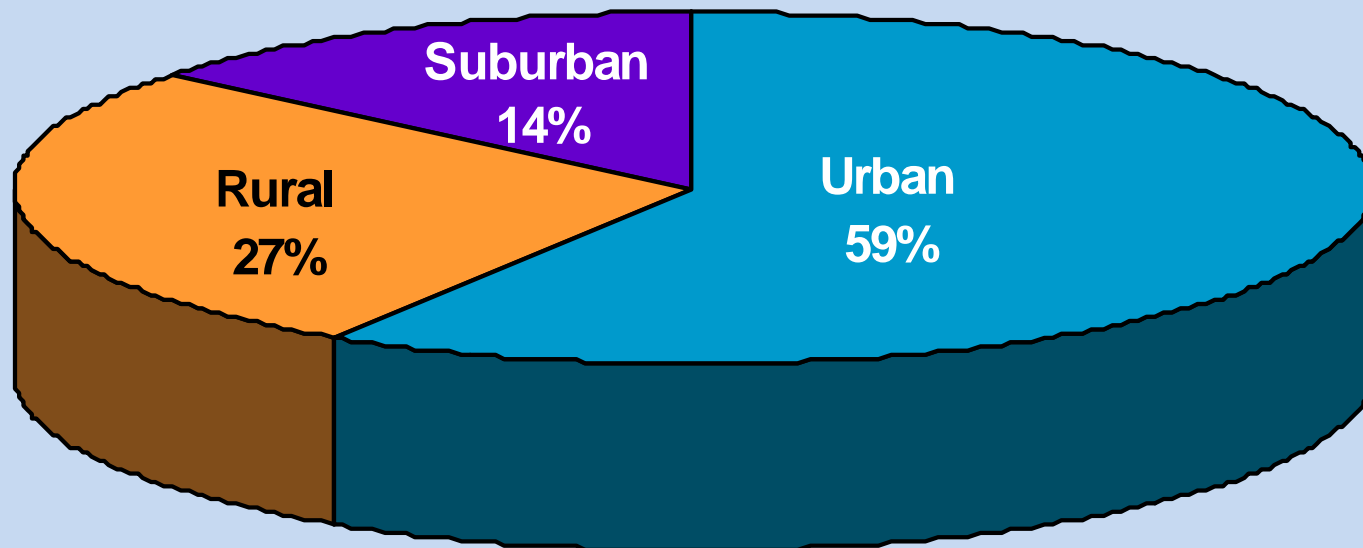
- Secretary of Education Arne Duncan

SBHCs Health Outcomes

- Higher quality adolescent care
- Improved adolescent mental health access
- Decreased use of urgent and emergency care
- Increase in risk assessments and health care maintenance
- Reduction in Medicaid expenditures and cost of hospitalizations
- Decrease in risk behaviors and increase in health promoting behaviors

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SBHC Academic Outcomes
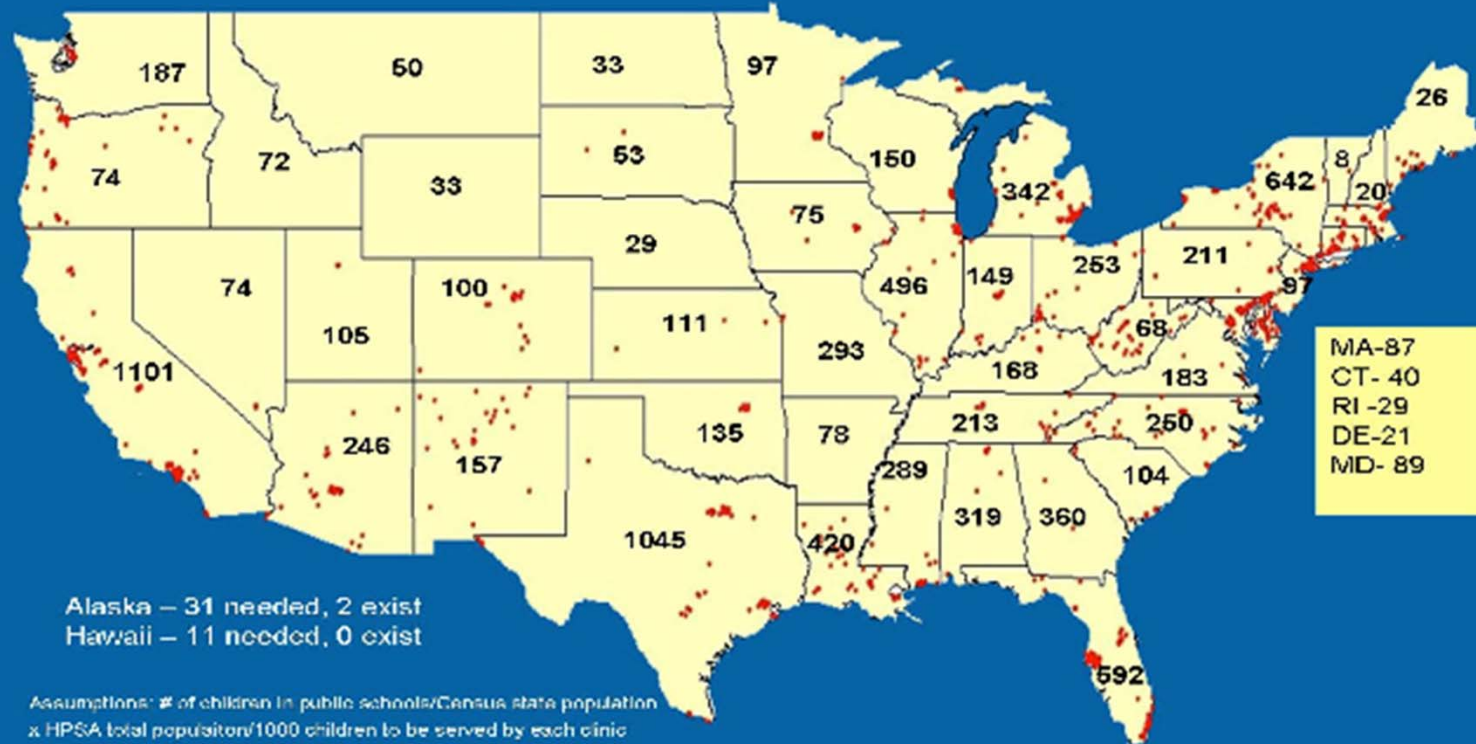
- Decrease tardiness and absenteeism
- Improved attendance
- Increased GPA
- Decrease drop-out rate
- Increased school engagement
- Increased seat time

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SBHCs by Community Characteristic

Suburban 14%

Rural 27%

Urban 59%

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NASBHC National Assembly on School-Based Health Care

LOCATION OF EXISTING PROGRAMS & NUMBER OF SBHCS NEEDED TO SERVE CHILDREN LIVING IN DESIGNATED HEALTH PROFESSIONAL SHORTAGE AREAS (Total = 9,816)

Map values:
187, 50, 33, 97, 26, 72, 53, 150, 342, 642, 8, 20, 74, 33, 75, 29, 253, 211, 97, 74, 100, 496, 149, 68, 105, 111, 293, 168, 183, 1101, 246, 157, 135, 78, 213, 250, 289, 104, 1045, 420, 319, 360, 592

MA-87
CT- 40
RI -29
DE-21
MD- 89

Alaska – 31 needed, 2 exist
Hawaii – 11 needed, 0 exist

Assumptions: # of children in public schools/Census state population
x HPSA total population/1000 children to be served by each clinic

NUMBER OF SBHCS NEEDED TO SERVE CHILDREN 6-17 YRS OF AGE WITHOUT HEALTH INSURANCE (Total= 5,808)

AL - 54	CO - 109	HI - 14	KS - 32	MA - 67	MT - 23	NM - 57	OK - 86	SD - 10	VA - 110
AK - 13	CT - 50	ID - 31	KY - 61	MI - 108	NE - 19	NY - 286	OR - 71	TN - 97	WA - 86
AZ - 161	DE - 14	IL - 240	LA - 90	MN - 57	NV - 64	NC- 184	PA - 172	TX - 880	WV - 26
AR - 46	FL - 470	IN - 108	ME - 12	MS - 71	NH - 12	ND - 9	RI - 12	UT - 59	WI - 66
CA - 891	GA - 179	IO - 26	MD - 81	MO - 79	NJ - 171	OH - 160	SC - 69	VT - 5	WY -10

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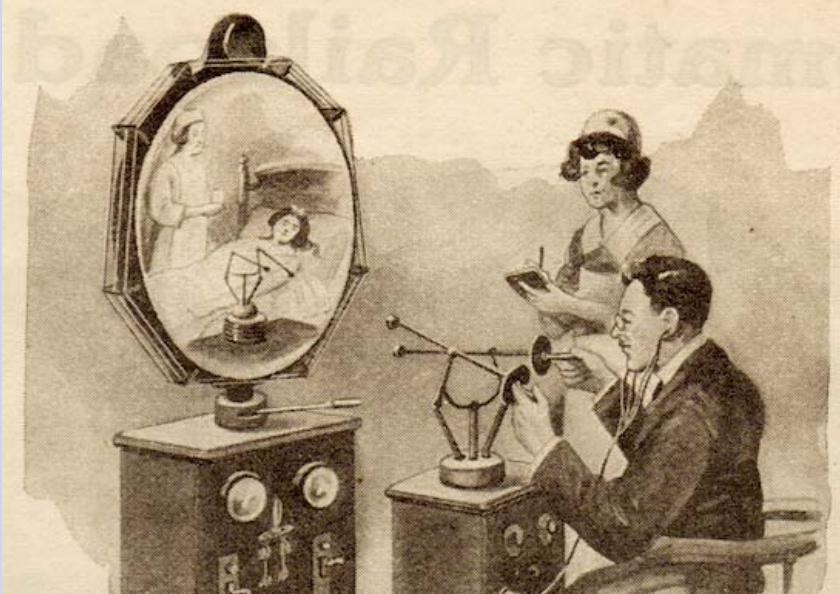
Telemedicine

- Medical care provided from a distance

Telehealth

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Hub and Spoke Model

Store and Forward

- Dermatology
- Pathology
- Radiology
- Some acute care

Real-Time Telemedicine

- Consultations
- Direct Patient Interaction
- Medical Education
- Group discussions

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Spoke Sites

Clinical Station

- Camera
- Monitor
- Stethoscope
- Horoscope
- Exam camera

Locate in an office or tutoring room

Hub Sites

Receiving Station

- Camera

- Monitor

- Computer

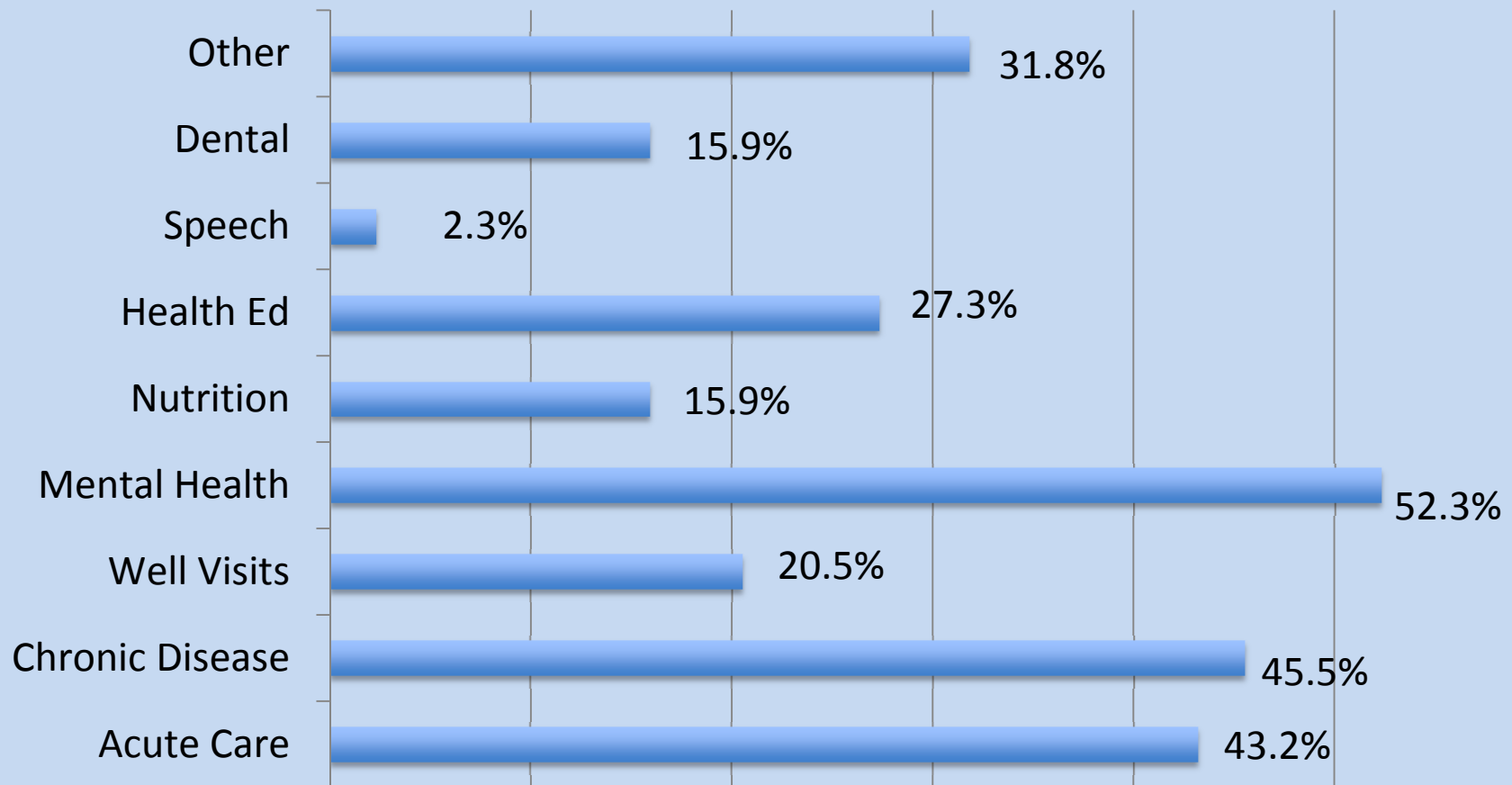- Connections to peripherals

Medical Peripherals

Otoscope

General Exam Camera

Electronic stethoscope

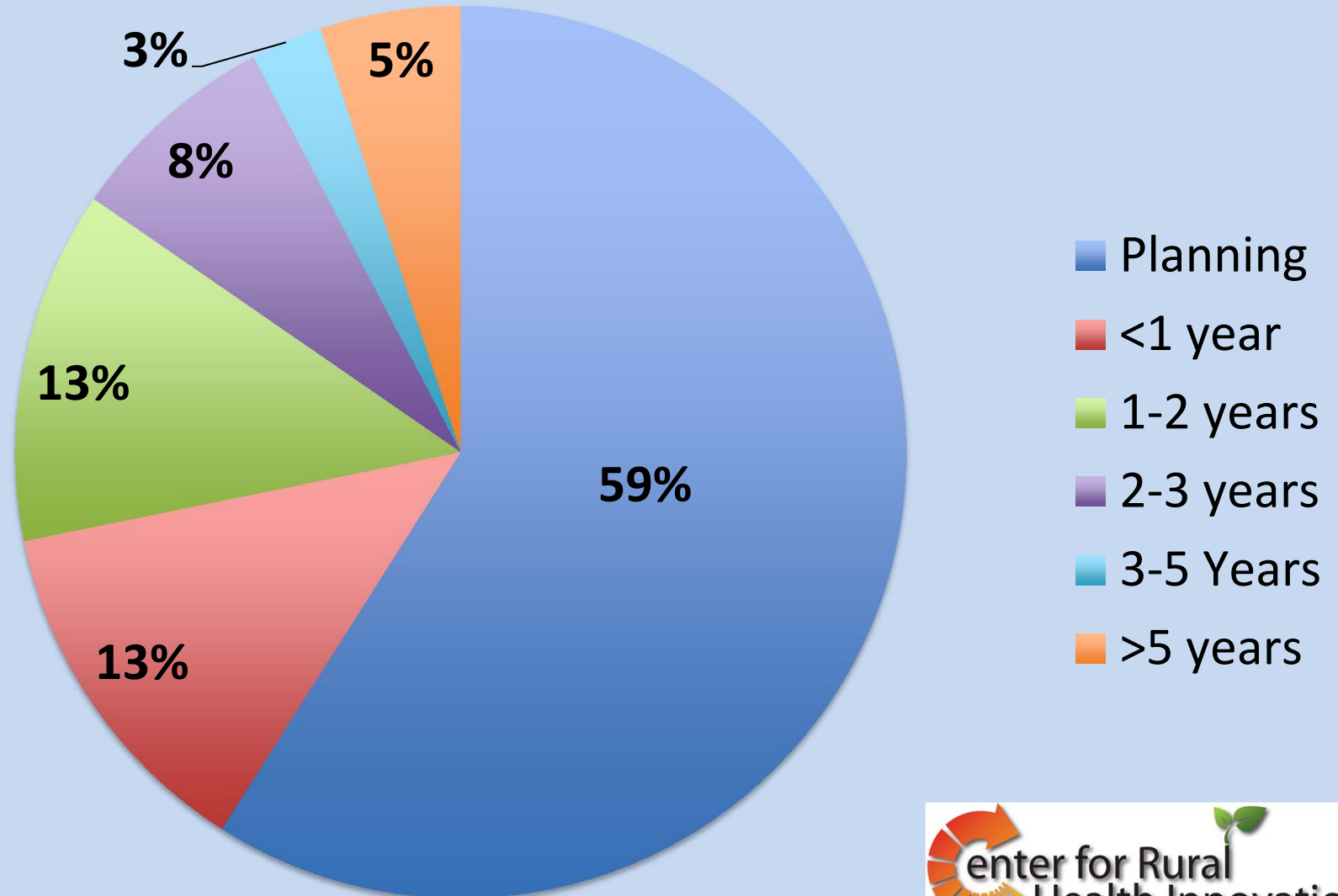Center for Rural Health Innovation

2011 School-Based Telemedicine Survey

- Informal distribution via Survey Monkey
  - ATA Pediatric Special Interest Group
  - National Assembly on School-Based Health Care
  - Telehealth Resource Centers newsletters
- 46 organizations completed some or all of the survey
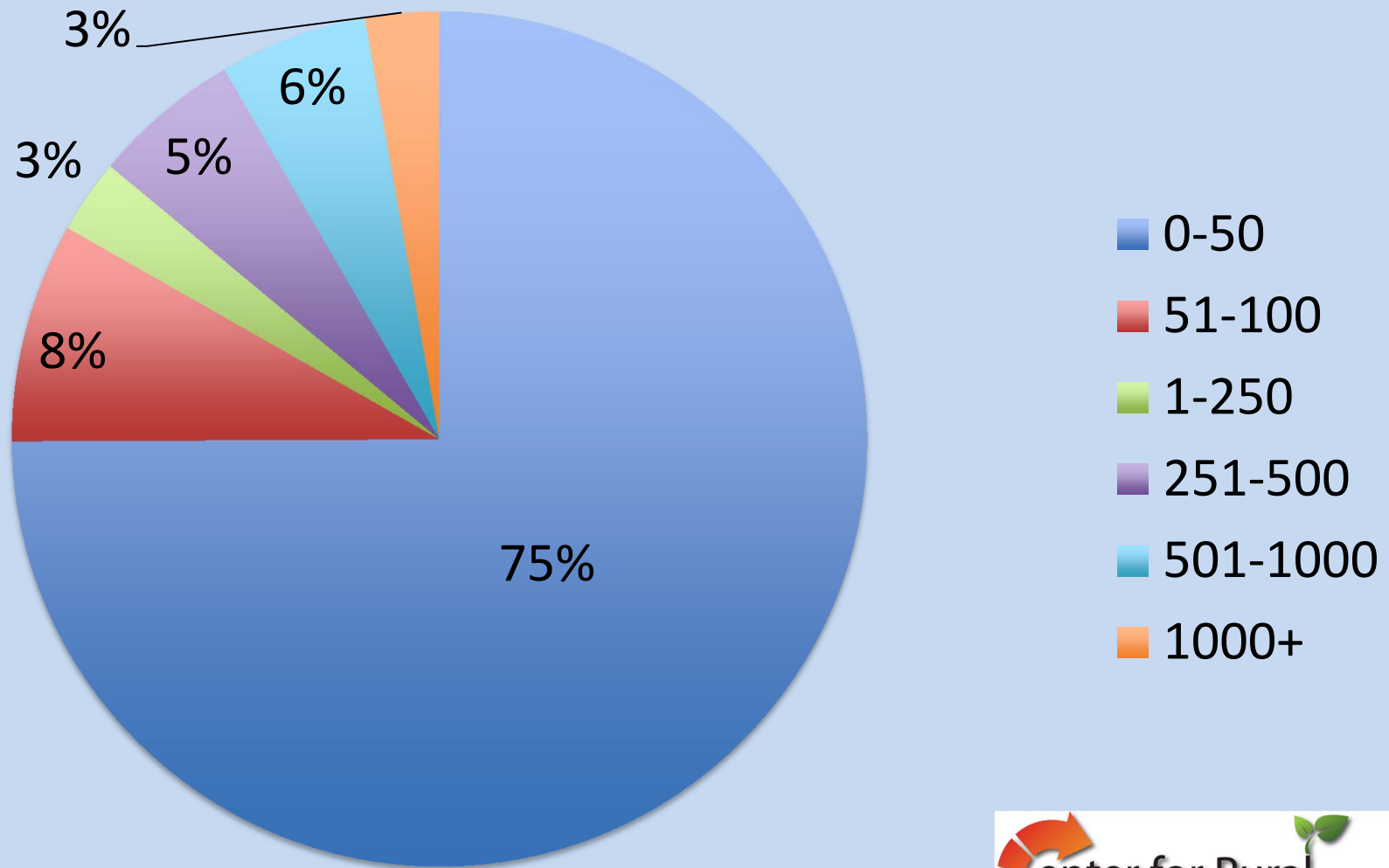- Considering becoming an annual survey

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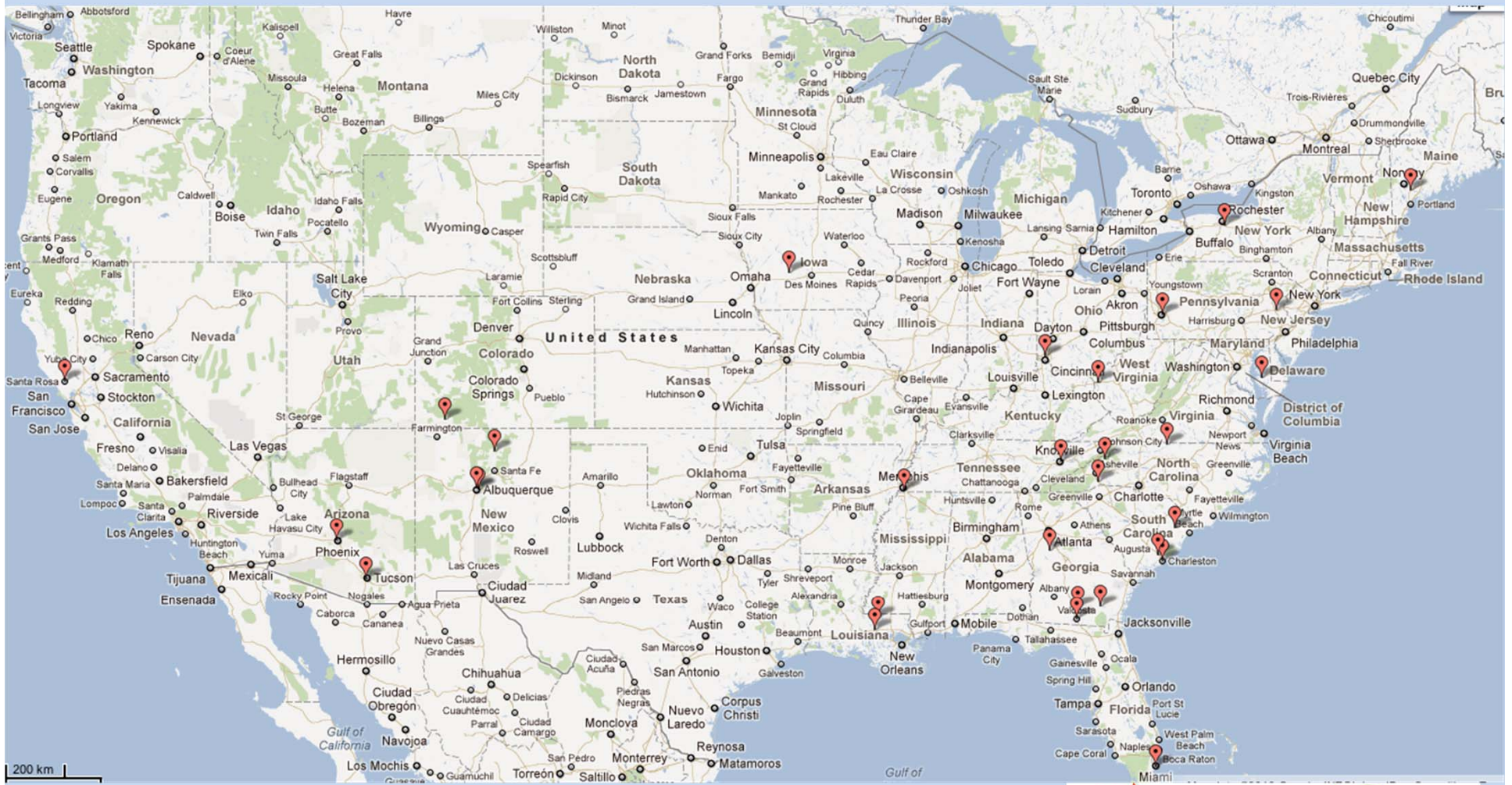
Types School-based Care (n=44)

- Other: 31.8%
- Dental: 15.9%
- Speech: 2.3%
- Health Ed: 27.3%
- Nutrition: 15.9%
- Mental Health: 52.3%
- Well Visits: 20.5%
- Chronic Disease: 45.5%
- Acute Care: 43.2%

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Time in Operation (n=39)

Planning 59%
<1 year 13%
1-2 years 13%
2-3 years 8%
3-5 Years 3%
>5 years 5%

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Number of Visits Provided Last Year (n=36)

- 3%
- 3%
- 8%
- 5%
- 6%
- 75%

Legend:
- 0-50
- 51-100
- 1-250
- 251-500
- 501-1000
- 1000+

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Locations of Telemedicine SBHCs (n=30)
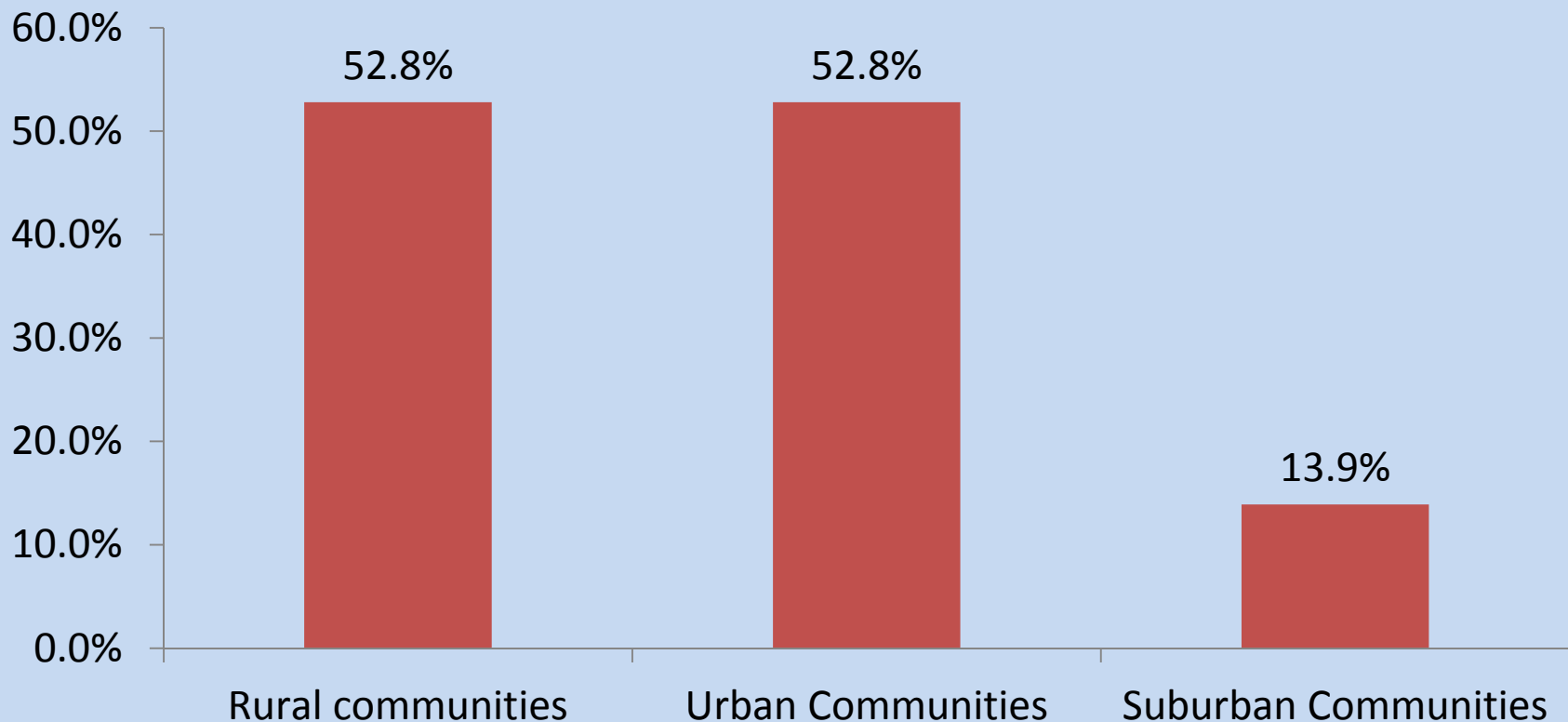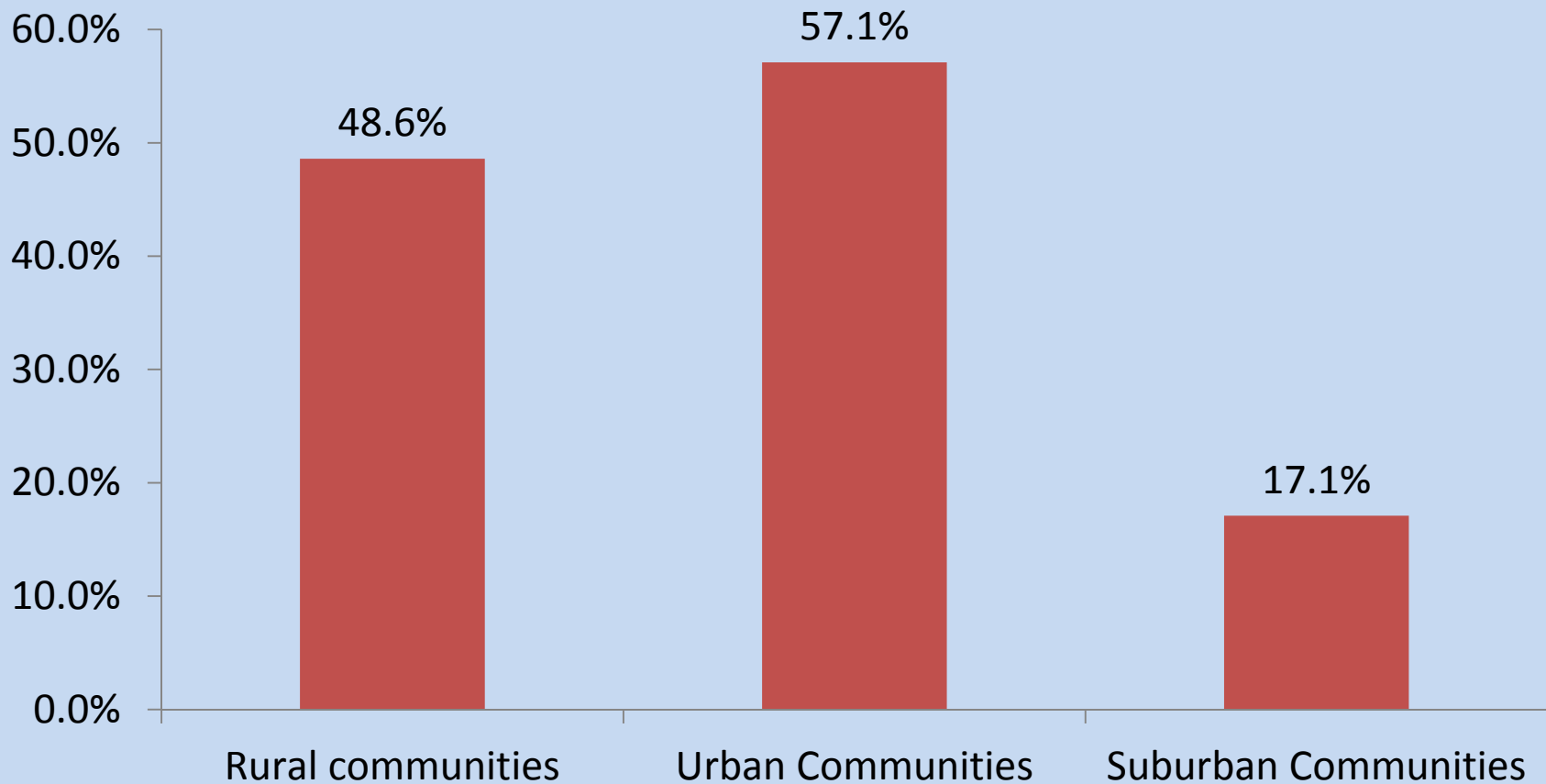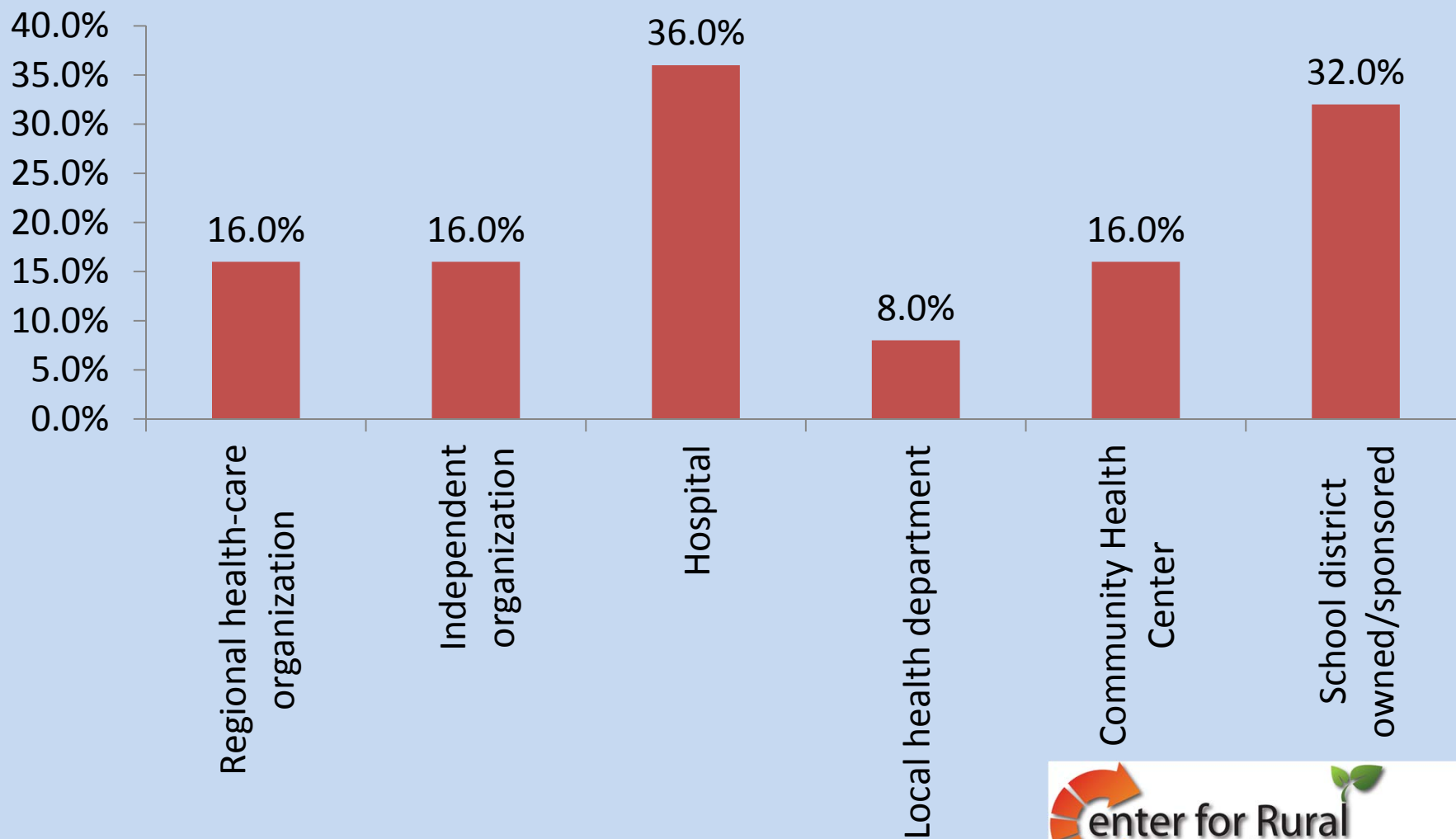
Student Population (n=38)
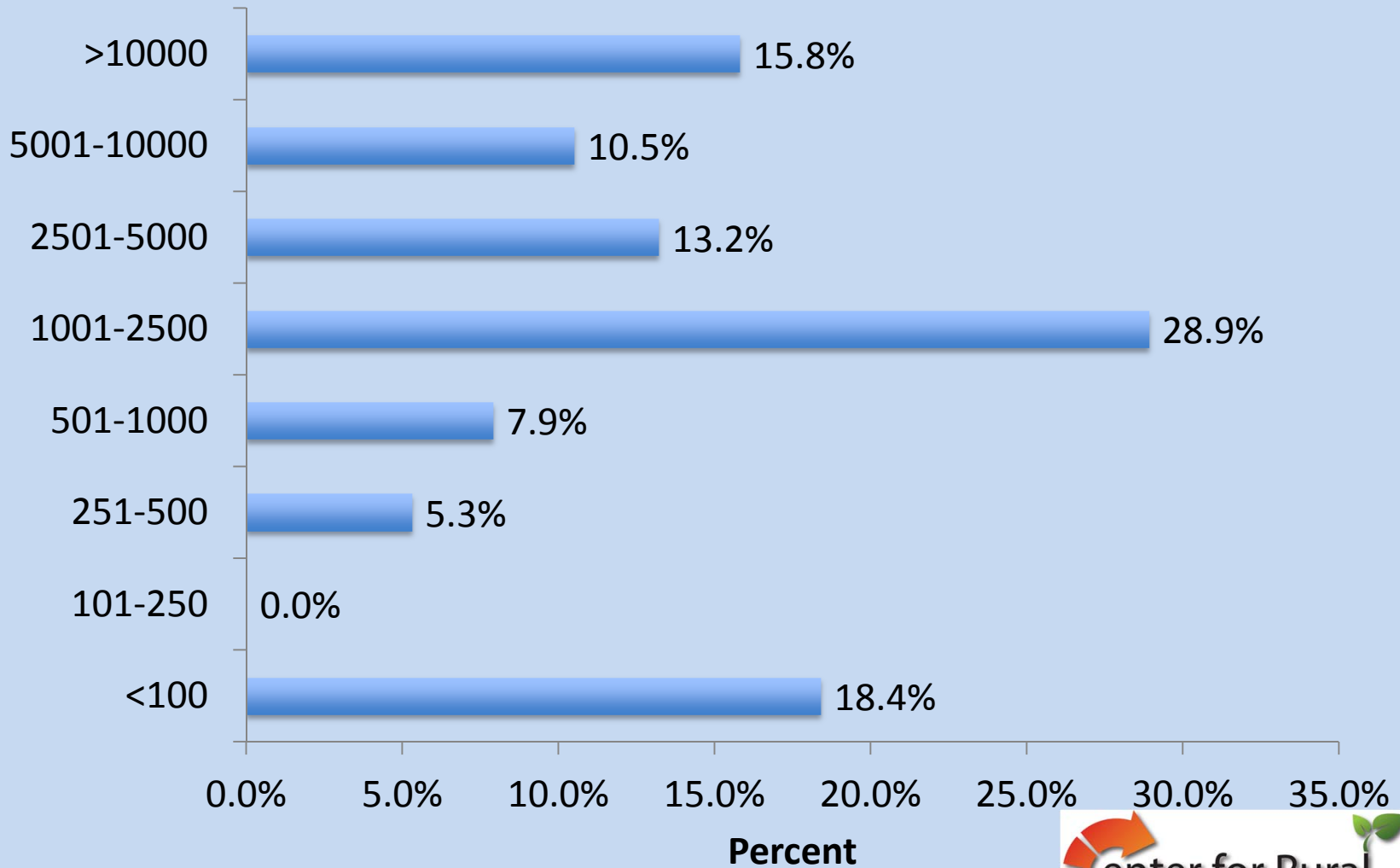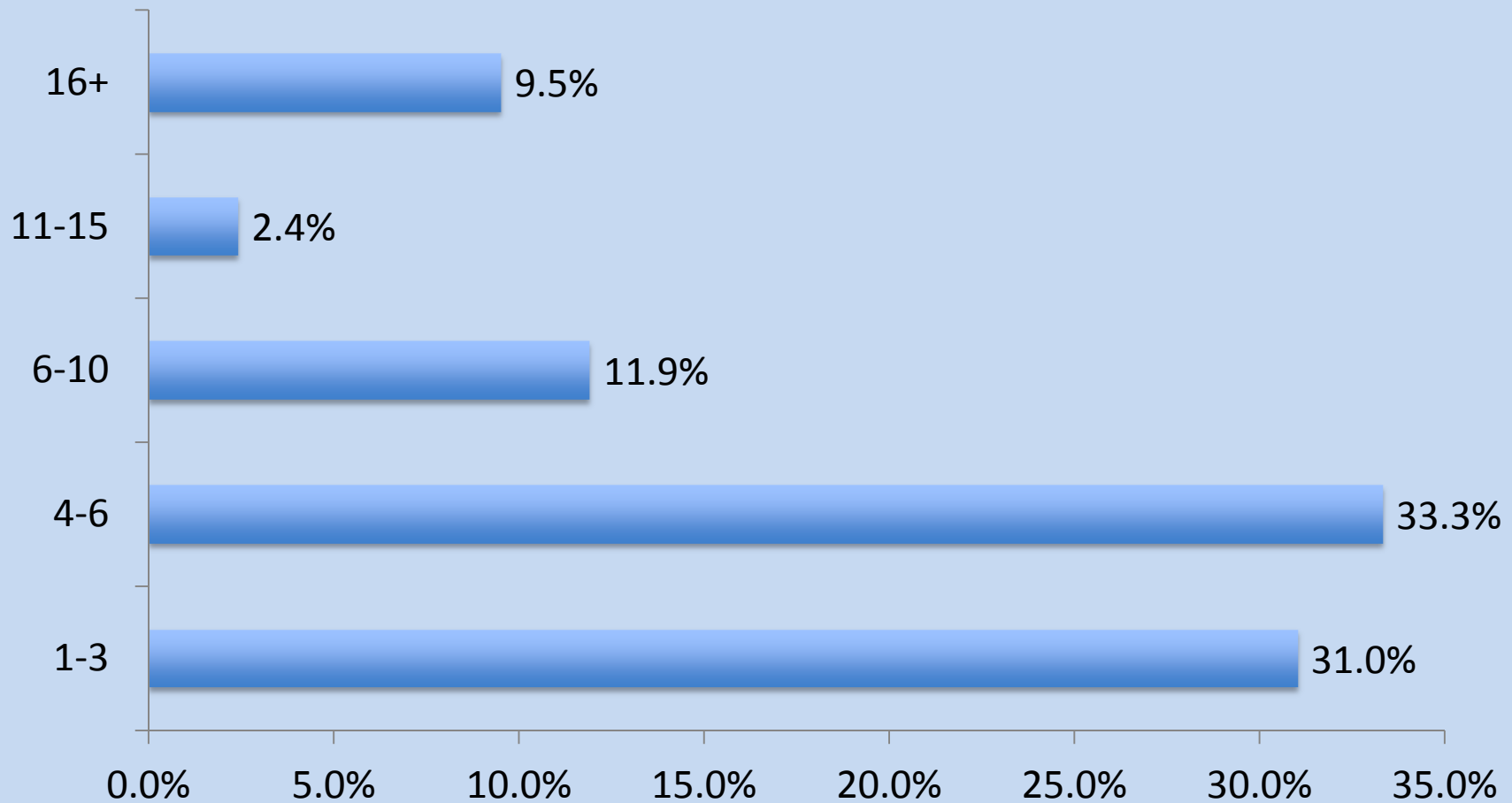
School-based Telemedicine Survey

If you want to be included in this year's survey please email contact information to:

info@crhi.org

Supported by:

The Development Process

Insert video here

Examined existing models

- University of Rochester
  - Link 33 daycare centers to 10 physician practices
- Akron Children's Hospital
  - Links 2 schools to a children's hospital
- Kansas University Medical Center
  - 10 schools in 7 counties in Kansas

Initial Planning

- Building local relationships
- Research
- UC-Davis Telemedicine Course
- American Telemedicine Association
- Launching the plan

Organizational Development

- 501c3 partnership
- Advisory board
- Hiring a STAFF PERSON
- Developing image
- Social media

Needs Assessment

Listening Sessions

- School Nurses
- Teachers
- Parents
- At-risk students
- Local healthcare providers

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Needs Assessment

Family Survey

- Sent home with students
- 30%+ response rate
- Complemented with a teacher survey

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Desired health services at school

	Response Percent	Response Count
Acute injury or illness care	85.5%	954
Physical exams, including sports physicals	61.3%	684
Learn about healthy living	53.7%	599
Health Education	44.4%	496
Dermatology	38.8%	433
Counseling for depression, drug abuse, family problems	36.7%	410
Disease management	36.5%	407
Help to quit smoking	16.1%	180
	N=	1116

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Would you consider letting your child use school-based telemedicine services?

	Response Percent	Response Count
Yes	32.3%	408
Probably	25.8%	326
I don't know	32.4%	410
Probably not	3.8%	48
No	5.8%	73
	N=	1265

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I would consider letting my child use telemedicine if…. (n=376)

	Response Percent	Response Count
Received more information	34%	128
Parents were informed and involved	14.7%	54
The provider was qualified	11.4%	43
There was a true need or an emergency	5.6%	21
Confidence in the care and the providers	5.3%	20
If it was provided	5.1%	19
Affordable and/or free if no insurance	4%	15

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Bivariate analyses

- Created a dependent variable based on likelihood to use telemedicine

Would use/ probably would use	755	58.2%
Not sure/ probably would not use/ would not use	542	41.8%

Private/Public Insurance vs. Telemedicine Support (p<.05)

	Private Insurance	Public Insurance	Total Support Measures
Do not support TM	19.3%	23.6%	42.8%
Support TM	21.9%	35.3%	57.2%
Total Private vs Public	41.1%	58.9%	100

Improving attendance vs. Telemedicine Support (p<.001)

	Will not improve attendance	Will improve attendance	Total Support Measures
Do not support Telemedicine	23.9%	16.9%	40.8%
Support Telemedicine	17.7%	41.5%	59.2%
Attendance Total	41.6%	58.4%	

Missing school vs. Telemedicine Support (p>.1)

	Did not miss school	Did miss school	Total Support
Do not support Telemedicine	11.7%	29.9%	41.5%
Support Telemedicine	15.3%	43.1%	58.4%
	27.0%	73.0%	

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Missing work and
Telemedicine support (p>.1)

	Did not miss work	Missed work	Total Support Measures
Do not support TM	21.1 %	20.5 %	41.6 %
Support TM	29.6	28.8 %	58.4 %
Total Work	50.7 %	49.3 %	

Grade level vs.
Telemedicine Support (p<.001)

	Grades 1-6	Grades 7-12	Total Support Measures
Do not support TM	32.9 %	11.9 %	44.8 %
Support TM	34.3 %	20.9 %	55.2 %
Grade Level Total	67.2 %	32.8 %	

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Feasibility Study

- At full capacity the network would need to see each enrolled student **2.5x** annually to break even

Program Design

- Looked at survey results
- Strong desire to be real time
  - Insurance purposes
  - Prevention/ health education
- How do we involve school nurses
- Connection to local MDs
- State credentialing
- Partnerships

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Pilot Network Components

mitchell & yancey
health-e-schools
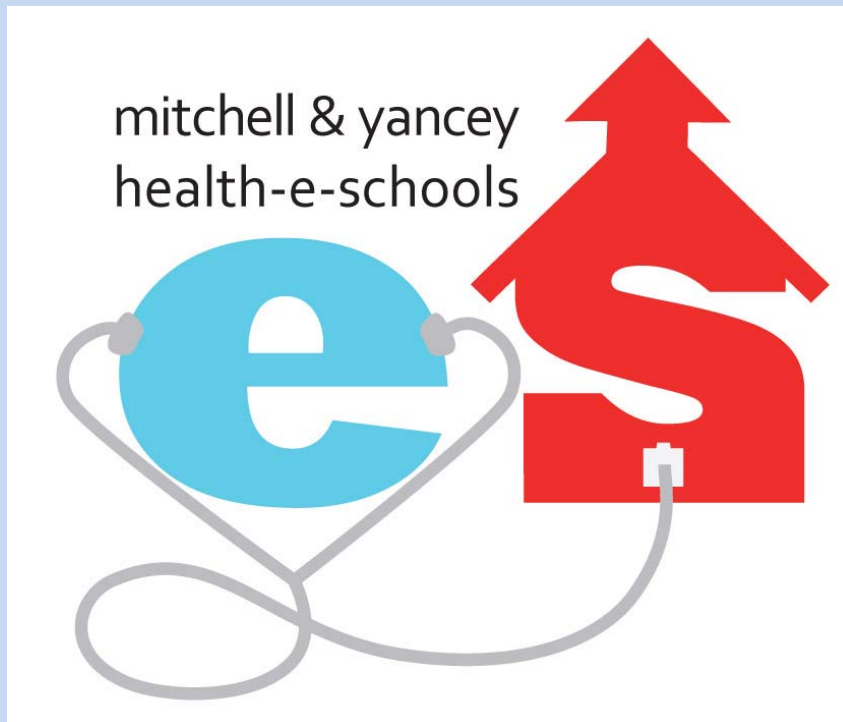
- 700 students have access
- ~225 enrolled
- 45 Hispanic students

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2011-2012 Pilot Network

- Small steps to work out the bugs
- Segment the funding
- Grow based on demands and finances
- Multiple challenges, limited number of patients

Equipment Grants

Year	Source	Match	Amount
2009	Local Foundation	0	$40,000
2010	App. Regional Comm.	70:30	$90,000
2011	USDA-RUS	2:1	$260,000
2011	HRSA SBHC	0	$54,000
2011	HRSA SBHC	0	$145,000

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Operational funds

- Essential to cover start-up costs

- Feasibility study was very beneficial in helping get these grants

- Be honest with your funders if you are not hitting your targets

Staffing needs

- Nurse Practitioner
- Program manager
- Mental Health Provider
- IT Person??

Implementation Plan

School Year	Sites	Other
2011-2012	3	
2012-2013	10	Changed equipment
Early 2013	14	
2014-2015	????	Expand to new counties?

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Challenges

- Enrollment
- School nurses
- Legal issues
- HIPPA-FERPA
- Electronic Health Record
- Staffing
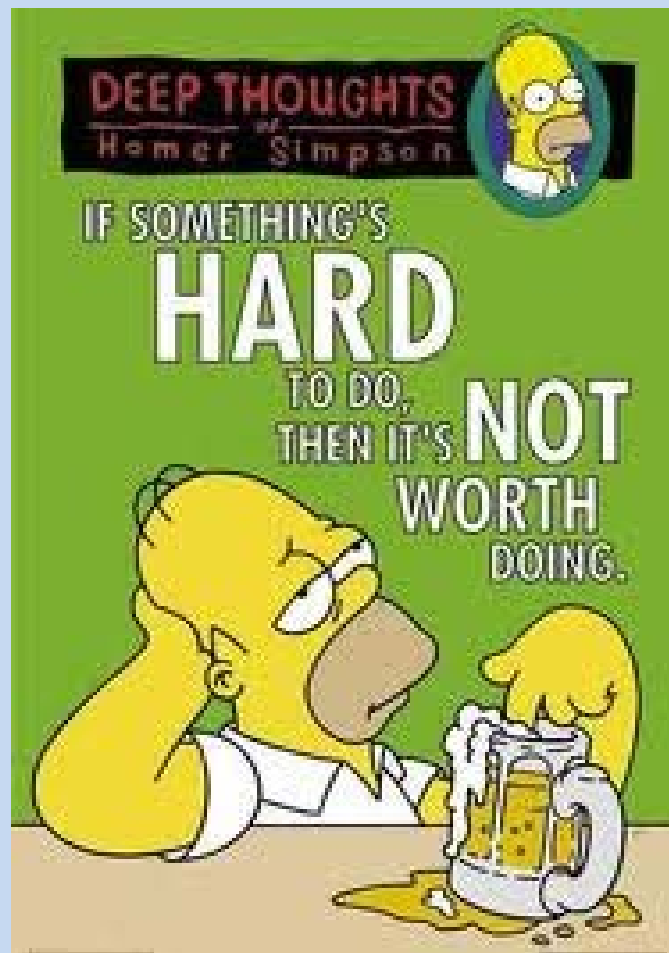
Successes

- FREE Electronic Health Record
- Growing community interest
- Research
- New grants

Benefits to School Districts

- Tele-speech pathology
- IT Backbone
- Videoconferencing
- Improved Care

Outcome measures

- Attendance
- Coordination of Care
- Satisfaction Measures
- Cost-savings to Medicaid
- Health outcomes
- Annual preventive care
- Financial viability

Resources

Steve North, MD, MPH

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The National Telehealth Resource Center Webinar Series

3rd Thursday of every month

Next Webinar:

Date: Thursday, October 18th, 2012

Times: 2:00 P. M. Eastern Standard Time

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