

The Art of Concatenating Health IT: *The Best Way to Survive*

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System Vice President, Palmetto Health

Medical Director, South Carolina Dept of Health and Human Services



SOUTH CAROLINA

Healthy Connections
MEDICAID



Report Fraud

SEARCH

GETTING MEDICAID

FOR PROVIDERS

MEDIA ROOM

USEFUL TOOLS

ABOUT US



Apply for South Carolina Medicaid

Use the new online application for Healthy Connections,
our program for better care, better value and better health.

Visit the Federal Marketplace

Learn if you qualify for federal assistance in purchasing
health insurance at HealthCare.gov.

LATEST NEWS

October 7, 2014 - 4:11pm

SCDHHS Offers Free Provider Workshops

Medicaid Basics, Comprehensive Web Tool,
Overview of Third Party Liability and Overview of
Claim-...

October 7, 2014 - 3:24am

RESOURCES

South Carolina Birth Outcomes Initiative

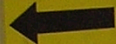
2014 SCBOI Symposium Registration Brochure
Supporting Vaginal Birth Webinar #1 Presentation
Supporting Vaginal Birth Webinar #2 An ounce of...

HEALTH DATA TRANSPARENCY

South Carolina Health Data

Visit the agency's new health data transparency
website, SCHealthData.org

Please Use Center
door to enter
Trauma Bays



DO NOT
PUSH
AUTOMATIC DOOR



THE Golden Years of Health IT



THE Golden Years of Health IT



[illegible]







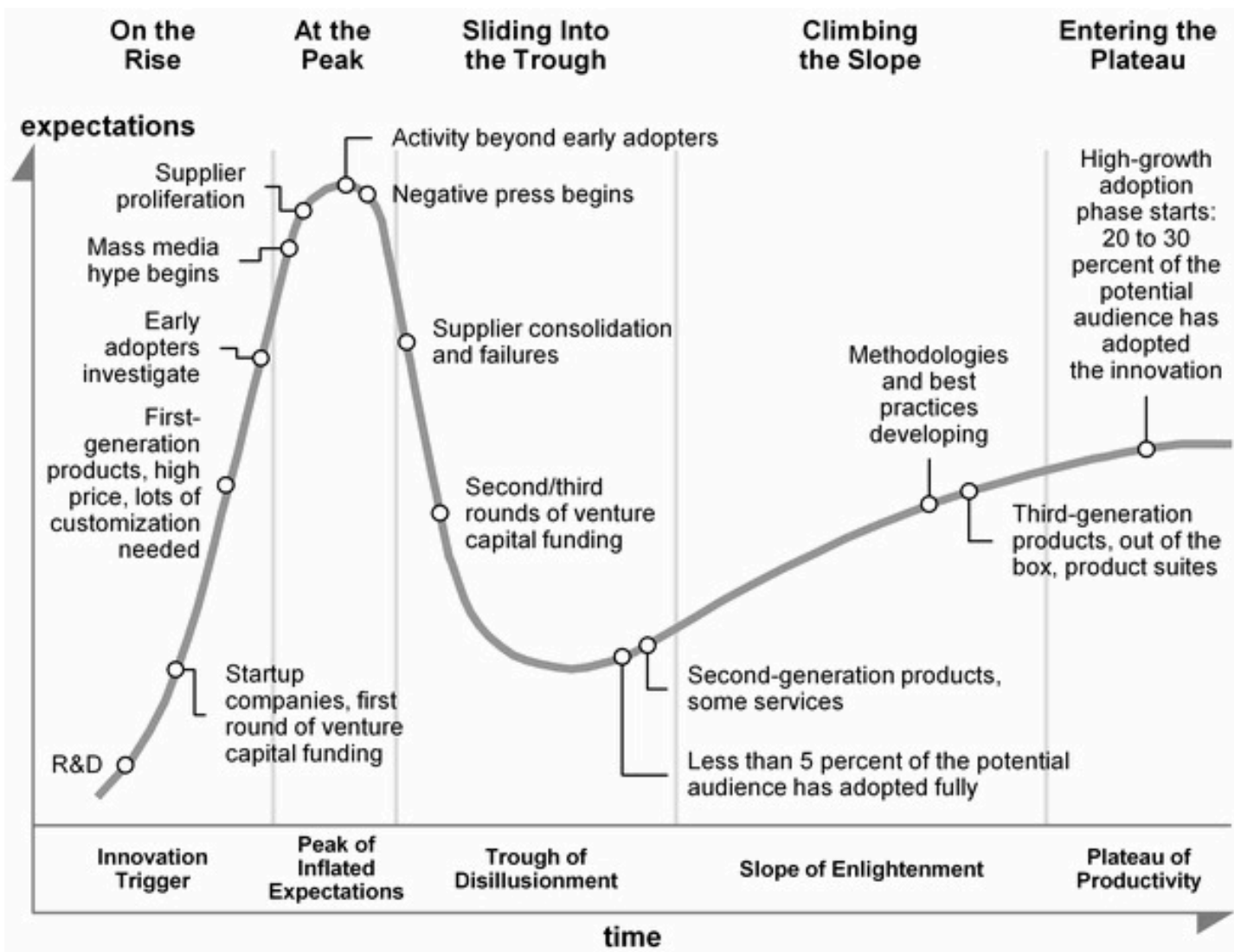
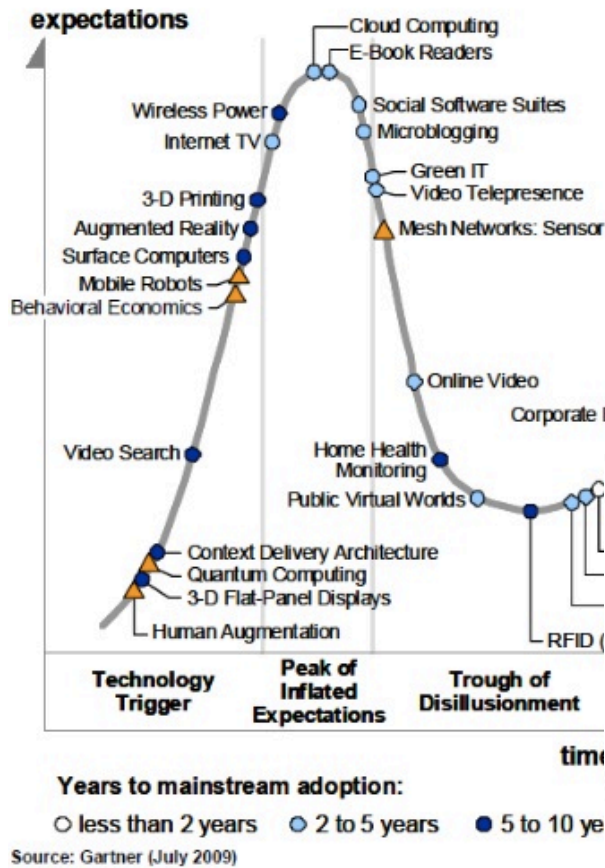
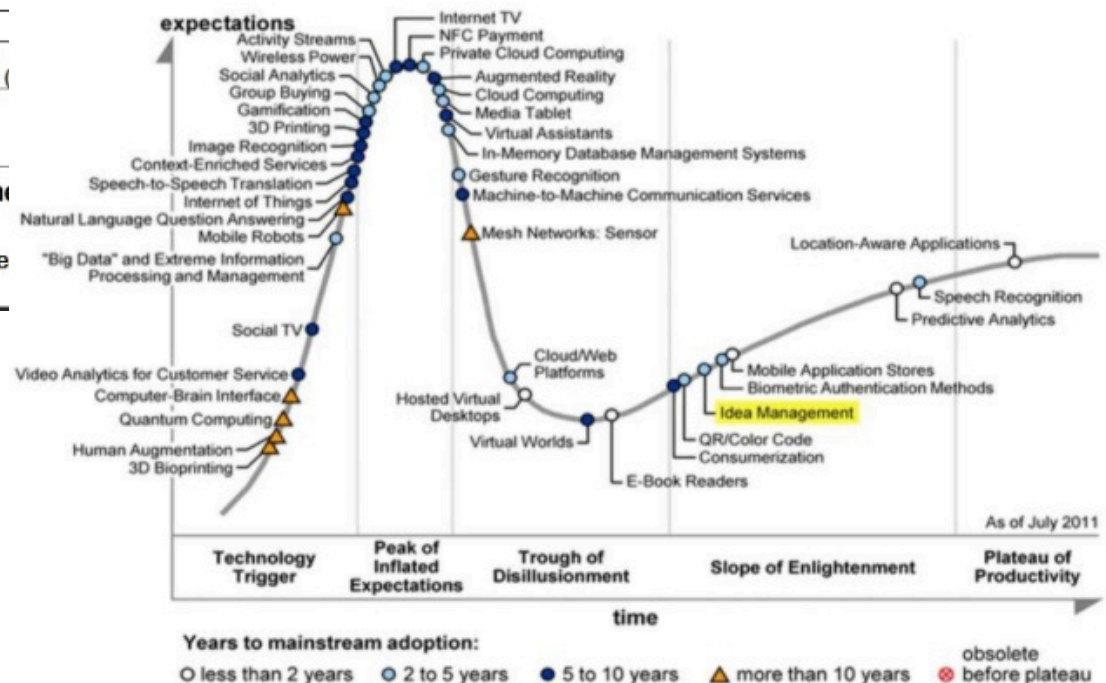
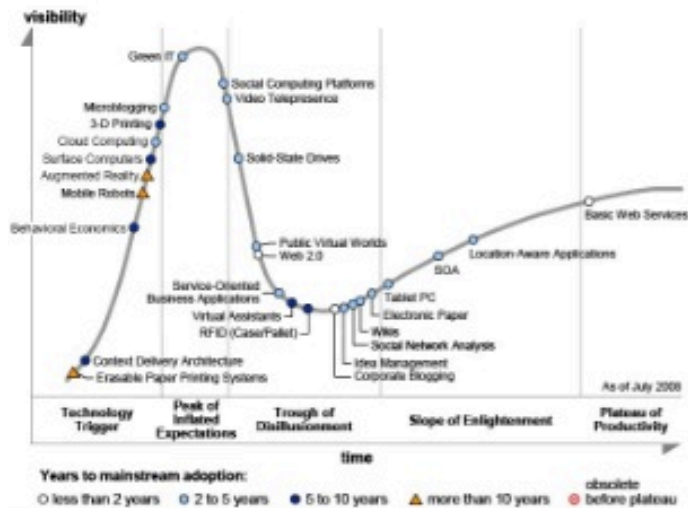


Figure 1. Hype Cycle for Emerging Technologies, 2009



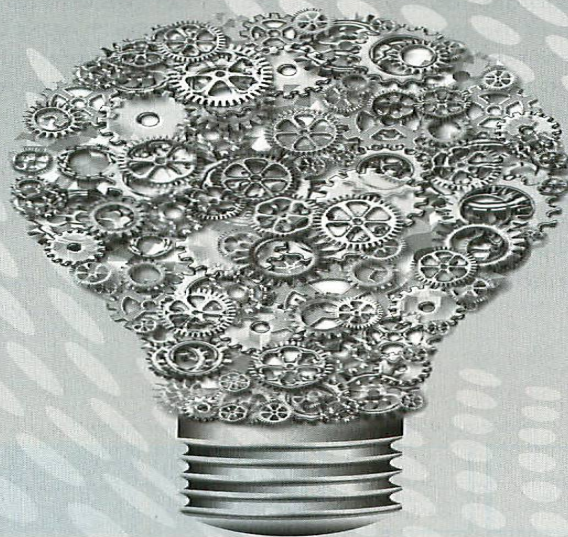
Gartner Hype Cycle for Emerging Technologies 2011







INNOVATION IN HEALTHCARE



IT IS POSSIBLE, AND IT IS HAPPENING

Concatenate

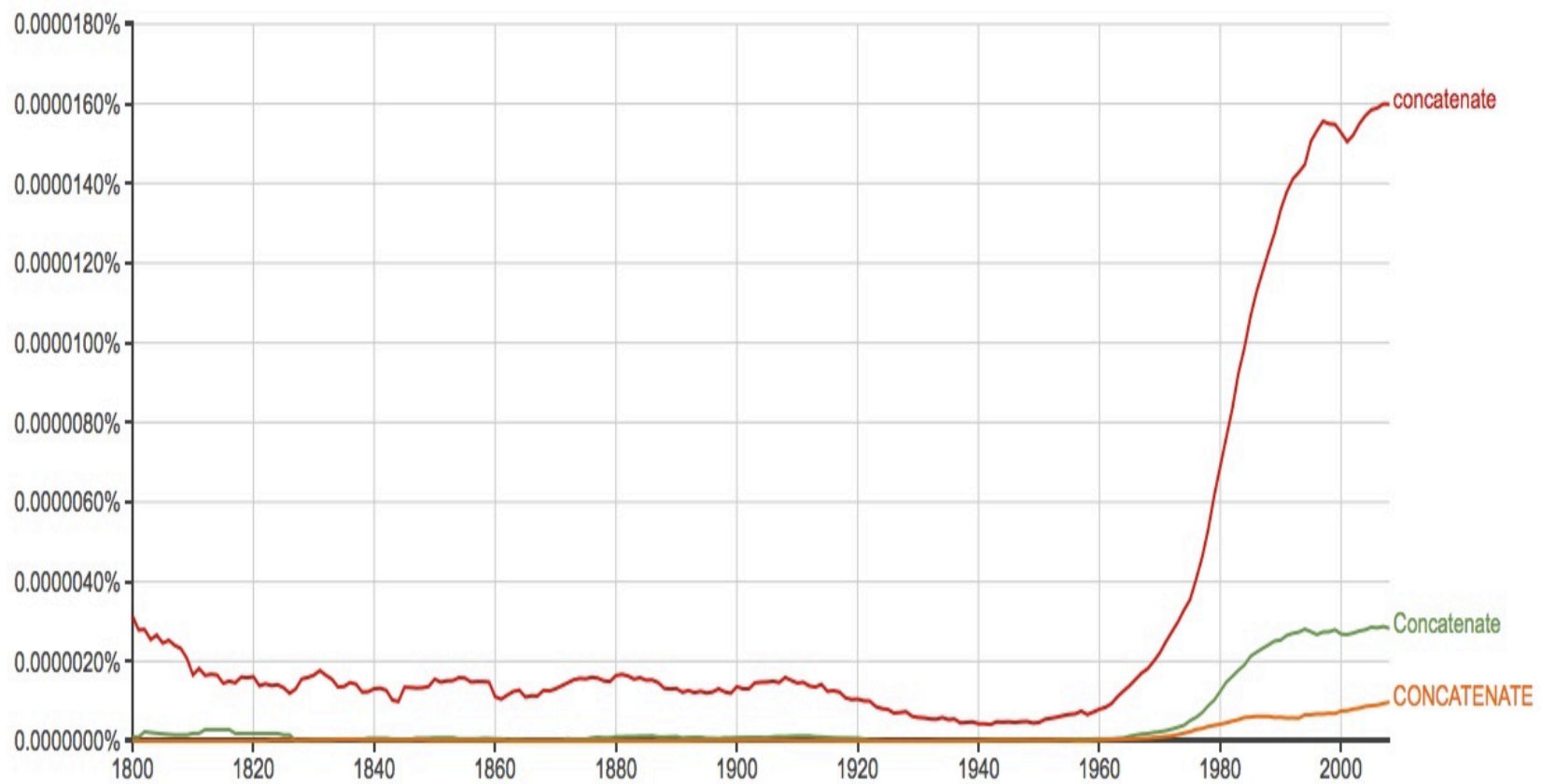
- In computer programming, string concatenation is the operation of joining character strings end-to-end.
- To link together in a series or chain.

170 words per minute X 42 minutes = 7,140

1 word

.014%

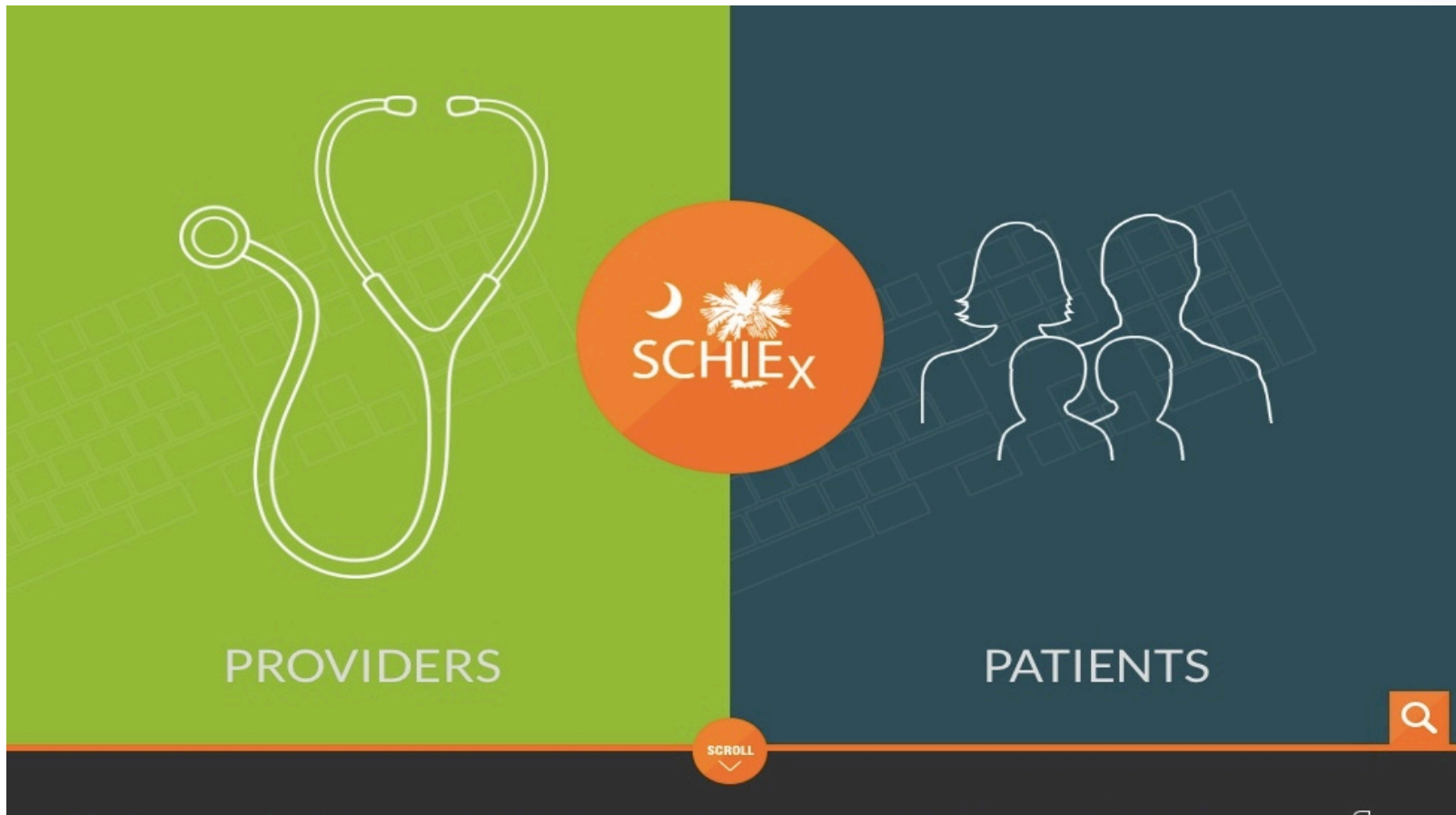
Concatenate



HIEs



SCHIEx



Distinct Patients:518,183 Documents Registered:1,874,778 Organizations:33

PROVIDER HIE

Discharge Summary (8)

Summary

Report Name	Performed by	Date Completed	Source
Discharge Summary	Barron, Keith R	10/08/2014	PHR
Discharge Summary	Moua, Kattie K	09/18/2014	PHR
Discharge Summary	Kanwisher, Michael	09/18/2014	PHR
Discharge Summary	Koon, Heather A	08/28/2014	PHR
Discharge Summary	Jenkins, Karin M	03/26/2014	PHR
Discharge Summary	Dunn, Allyson P	03/20/2014	PHR
Discharge Summary	Rivers, Cedric M	10/01/2013	PHR
Discharge Summary	Chao, Zubair H	11/22/2012	PHR

Provider Reports (8)

Summary

Report Name	Performed by	Date Completed	Source
Consultation Report	Bates, Ann Marie	10/16/2014	PHR
Emergency Room Note	Grambos, Zachary	10/05/2014	PHR
Emergency Room Note	Kanwisher, Michael	09/18/2014	PHR
Emergency Room Note	Bailey, Frances P	08/28/2014	PHR
Operative Report	Kimbrough, Edward E	06/26/2014	PHR
Emergency Room Note	Davis, Ashley L	03/19/2014	PHR
Emergency Room Note	Wyss, Brandon	09/25/2013	PHR
Emergency Room Note	Chao, Zubair H	11/22/2012	PHR

Medications (100)

Summary

Medication	Date	Source
NS 0.9% Bolus	10/11/2014	PH
Sodium Chloride 0.154 MEQ/ML Injectable Solution	10/11/2014	PH
Dulcolax Laxative	10/10/2014	PH
Simethicone	10/09/2014	PH
vancomycin 125 mg oral capsule	10/08/2014	PH
KCl (IV additive)	10/06/2014	PH
Ranitidine	10/05/2014	PH
multivitamin tablet	10/05/2014	PH
Xopenex 1.25mg/0.5mL conc UD	10/05/2014	PH
Atrovent 0.02% 2.5mL UD	10/05/2014	PH
KCl (IV additive)	10/05/2014	PH
ranitidine 15 mg/ml oral syrup	10/05/2014	PH
metoprolol tartrate (Lopressor)	10/05/2014	PH
Vancomycin	10/05/2014	PH
Lisinopril	10/05/2014	PH
Glycopyrrolate	10/05/2014	PH
Ascorbic Acid / Biotin / Folic Acid / Niacin / pantothenate / pyridoxine / Riboflavin / Thiamine / Vitamin B 12	10/05/2014	PH
Water	10/05/2014	PH
Zoloft	10/05/2014	PH
Vitamin C	10/05/2014	PH
Magnesium Oxide	10/05/2014	PH
Lovenox	10/05/2014	PH

Show all data

Show all data

Lab results (200)

Graph view

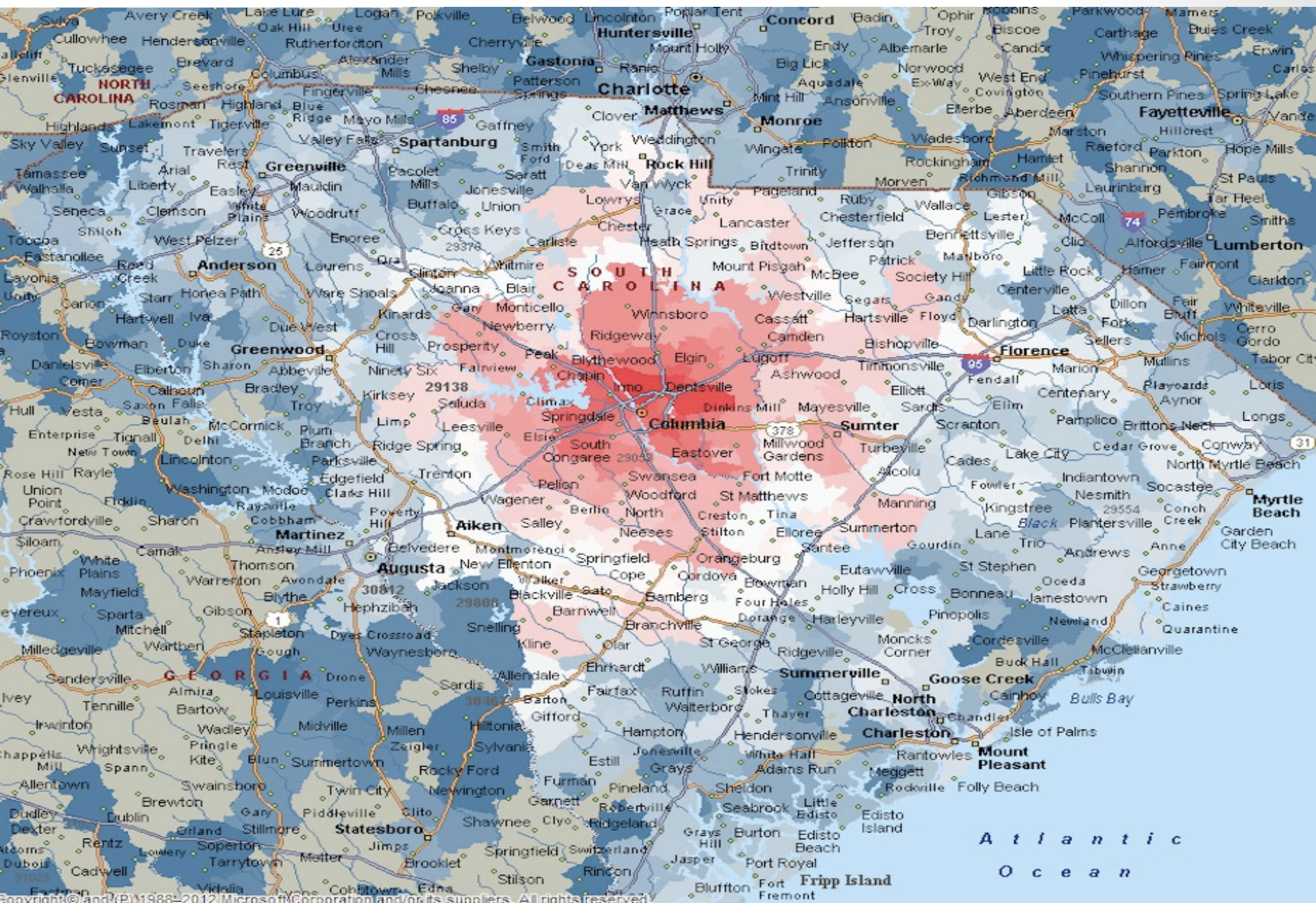
Value	Most recent	Previous	Previous	Previous
GFR Non-African American (ml/min/1.73 sq meter)	1268 ml... 10/07/2014 11:30:00 PH	1268 ml... 10/06/2014 08:30:00 PH	1268 ml... 10/05/2014 10:00:00 PH	570 ml/... 09/18/2014 01:59:00 PH
Creatinine (mg/dL)	<0.1... L 10/07/2014 11:30:00 PH	<0.1... L 10/06/2014 08:30:00 PH	<0.1... L 10/05/2014 10:00:00 PH	0.2 L 09/18/2014 01:59:00 PH
Calcium (mg/dL)	9.1 10/07/2014 11:30:00 PH	8.8 10/06/2014 08:30:00 PH	8.8 10/05/2014 10:00:00 PH	9.6 09/18/2014 01:59:00 PH
GFR African American (ml/min/1.73 sq meter)	1537 ml... 10/07/2014 11:30:00 PH	1537 ml... 10/06/2014 08:30:00 PH	1537 ml... 10/05/2014 10:00:00 PH	691 ml/... 09/18/2014 01:59:00 PH
BUN (mg/dL)	2.0 L 10/07/2014 11:30:00 PH	6.0 L 10/06/2014 08:30:00 PH	13.0 10/05/2014 10:00:00 PH	16.0 09/18/2014 01:59:00 PH

Show all data

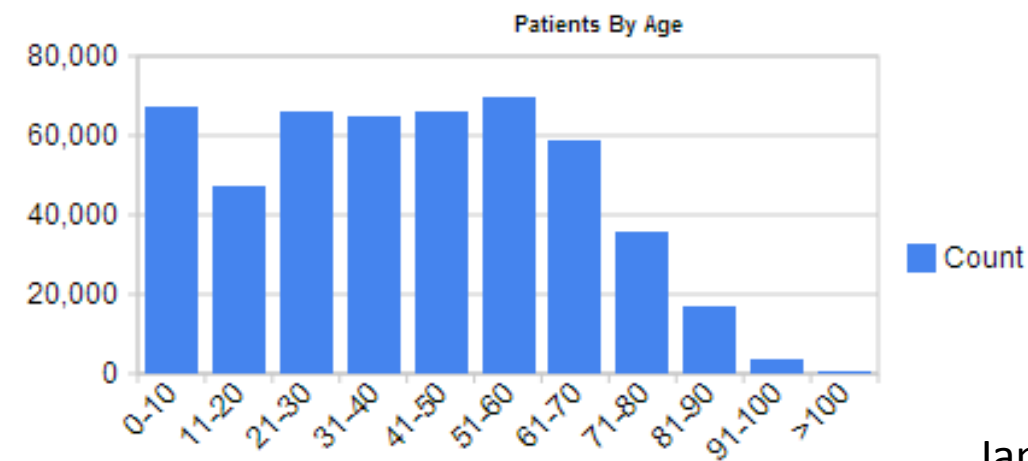
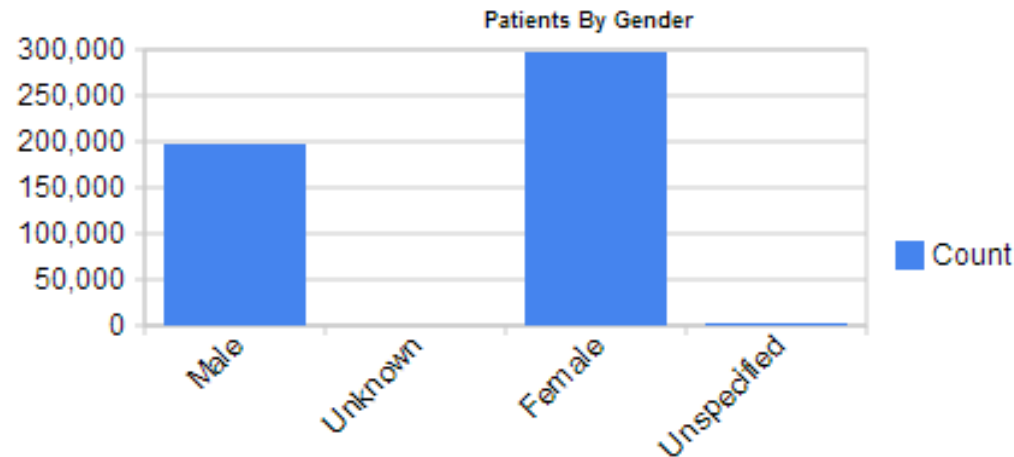
Show all data

PROVIDER

HIE

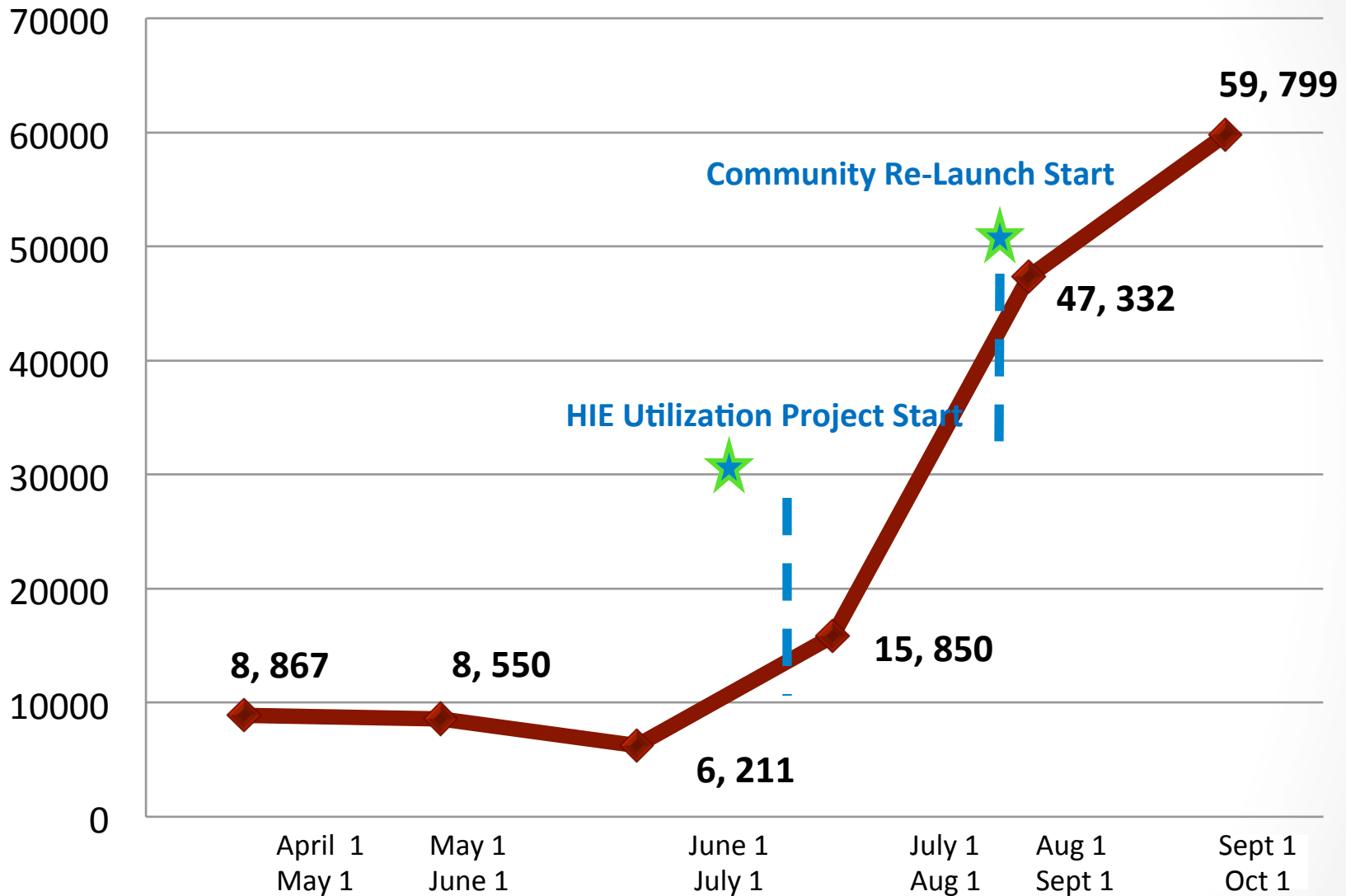


Patients By Gender & Age

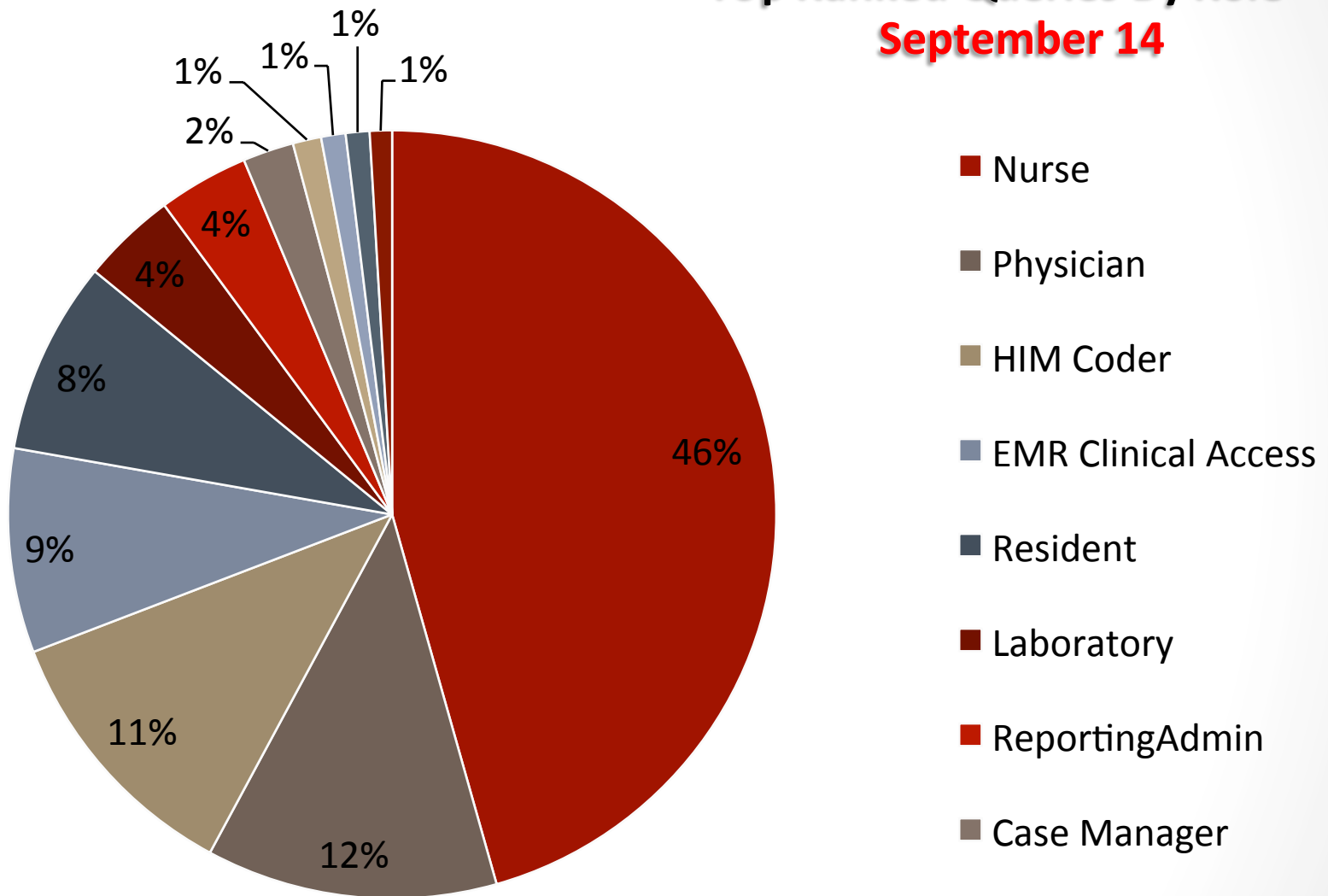


Jan 2010-Pres

HIE Tab Usage Tracker



Top Ranked Queries By Role September 14





Founding Members



Contributing Members



HEALTH SCIENCES SOUTH CAROLINA



A Collaborative To Advance Health Sciences

**GOOD HEALTH
MADE POSSIBLE™**



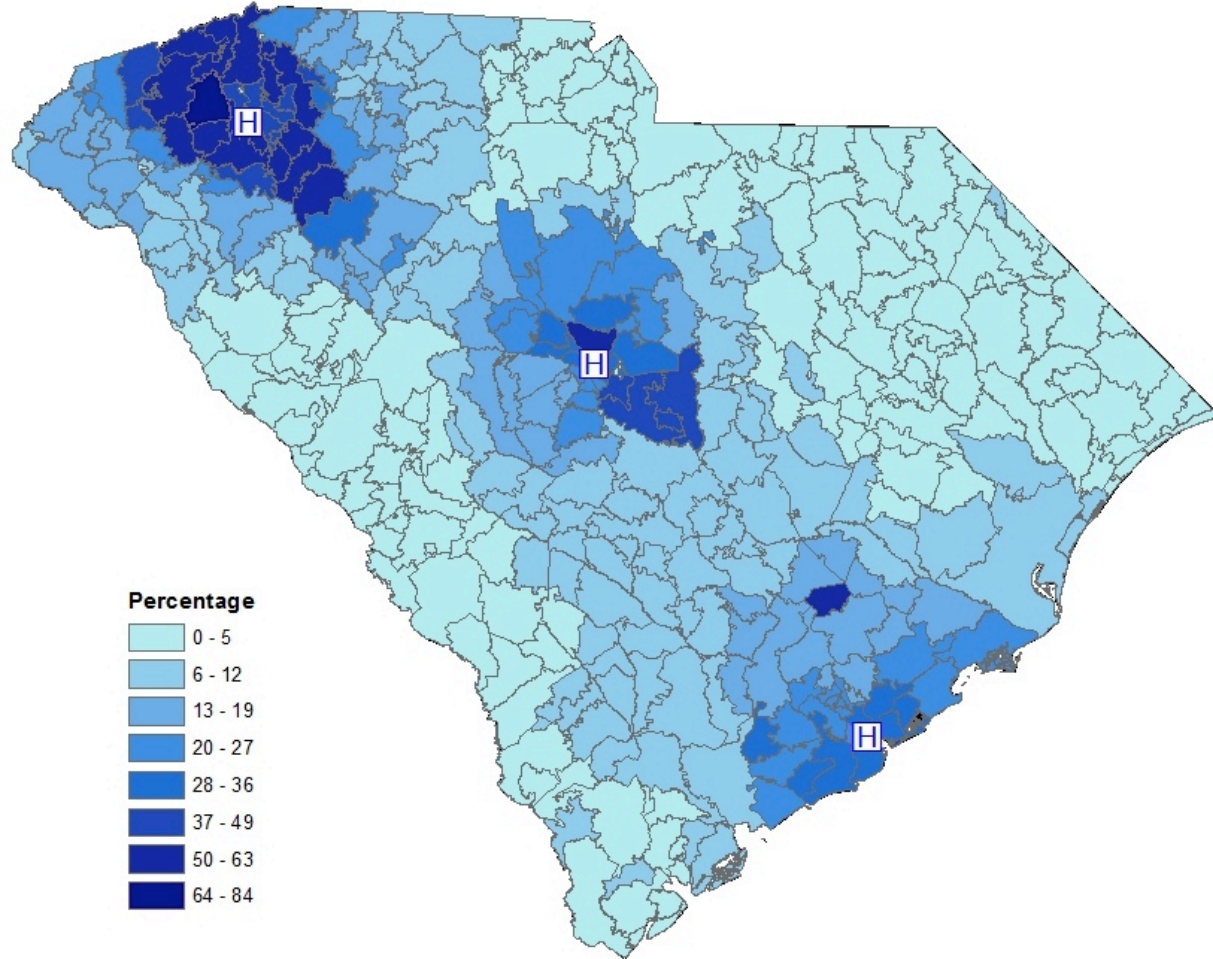
HSSC Clinical Data Warehouse

- CDW live September 1, 2013
- Training across the state in i2b2 and CDW
 - Over 160 users
- More than 2,000 queries over first year
- >3.4 Million patients
- Aggregated, all institution data
- Patient level demographics
- Visit information
- Diagnoses: incidence of common diseases/conditions
- Procedures: commonly performed surgeries
- Comprehensive Governance

CDW Patient Distribution: 2012

Total unique patients: 878,403* across all 3 institutions

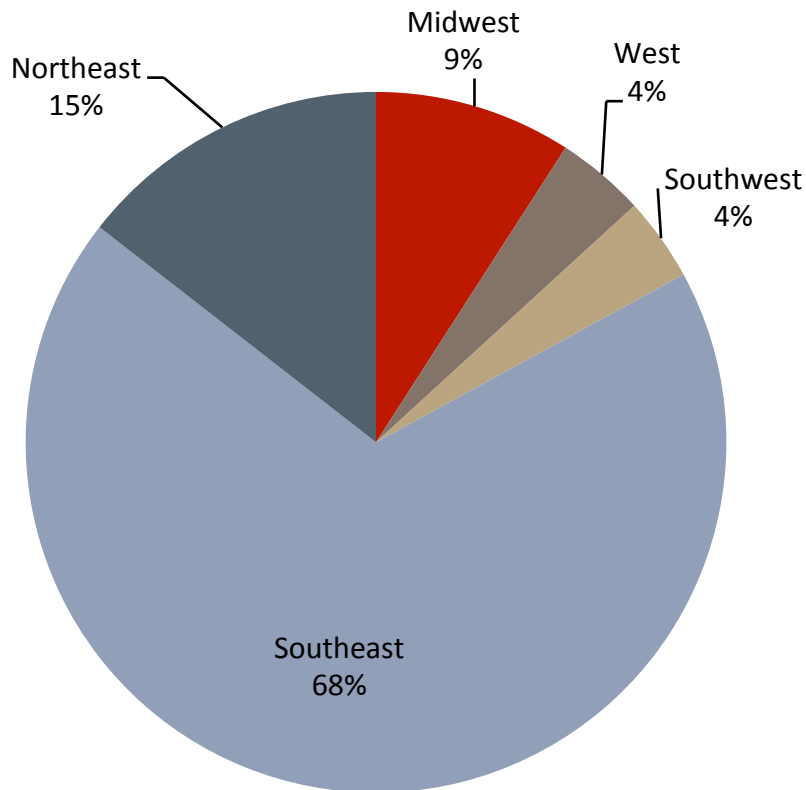
- Normalized by Zip Code population data from 2012



*with
available
SC zip
code

Geographic Distribution

Regions of the US Represented by Patients in CDW



As of
July 24,
2014

Note: South Carolina is **not** included as part of the Southeast region for this chart.

Frequency of states other than SC:

State	Frequency
North Carolina (NC)	46,303
Georgia (GA)	36,778
Florida (FL)	15,931
Virginia (VA)	8,951
Tennessee (TN)	7,556
New York (NY)	7,441
Pennsylvania (PA)	5,310
Ohio (OH)	5,137
Texas (TX)	4,993

Top Chronic Diseases: 2008-2013

ICD-9 Code	Code description:	Unique patients	Unique Visits
401	Essential hypertension	303,758	1,376,089
250	Diabetes	131,440	777,750
272	Disorders of Lipid metabolism	197,803	795,927
427	Cardiac dysrhythmias	84,774	264,000
414	Other forms of chronic ischemic heart disease	86,001	294,406
493	Asthma	100,049	309,831
300; 311	Anxiety, dissociative, an somatoform disorders; Depressive disorder, not elsewhere classified	142,462	376,606
285	Other and unspecified anemias	93,536	250,535
428	Heart failure	42,037	180,755
585	Chronic kidney disease	37,330	204,265

Top Infectious Diseases: 2008-2013

ICD-9 Code	Code description	Unique Patients	Unique Visits
462.0; 34.0	Pharyngitis; Streptococcal sore throat and scarlatina	84,410	130,327
382.0-382.9	Otitis media	67,692	136,132
682.9; 682.6; 682.2; 682.3	Cellulitis	4,354	5,847
70.54, 70.70	Chronic or unspecified Hepatitis C	9,402	37,395
577.0; 577.1	Pancreatitis	9,739	39,193
616.1; 112.1; 112.0	Vaginitis, vulvitis, Candidasis	41,664	66,479
486.0; 466.0; 487.10; 466.19	Bronchiolitis, Bronchitis, Pneumonia	96,295	145,831
465.9; 461.9; 79.99	Sinusitis, unspecified viral infection, Upper respiratory infection	158,399	281,277
38.90	Septicemia	8,085	10,108
42.0	HIV	4,539	47,392

Highest-impact diseases

Top 5 in terms of **patients**:

1. Essential Hypertension
2. Disorders of lipid metabolism
3. Sinusitis, upper respiratory, or unspecified viral infection
4. Anxiety, depression, similar disorders
5. Diabetes

Top 5 in terms of **visits**:

1. Essential Hypertension
2. Disorders of lipid metabolism
3. Diabetes
4. Anxiety, depression, and somatoform disorders
5. Asthma

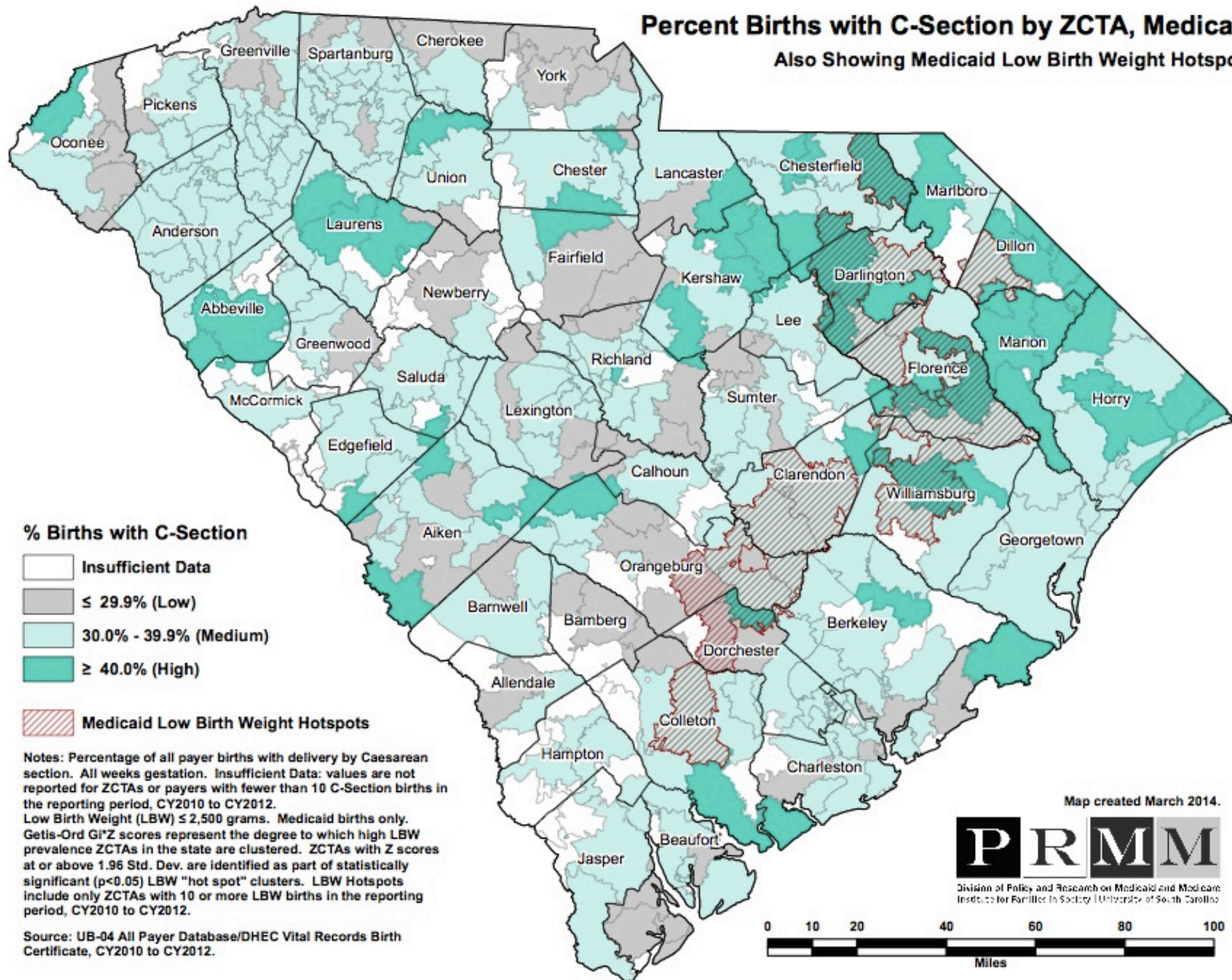
Highest-impact diseases

Ratio of encounters to patients:

1. Cancer of Lymphatic / Hematopoietic tissue
2. HIV
3. Cancer of lip, oral cavity, and pharynx
4. Cancer of digestive organs and peritoneum
5. Cancer of respiratory and intrathoracic organs
6. Cancer of genitourinary organs
7. Cancer of other/unspecified sites
8. Diabetes
9. Chronic kidney disease
10. Cancer of bone, connective tissue, skin, and breast
11. Hypertension
12. Heart Failure

Percent Births with C-Section by ZCTA, Medicaid

Also Showing Medicaid Low Birth Weight Hotspots



Medicaid Benefits and Services

Emergency Room

The reports below provide counts of the number of visits to the emergency room by Medicaid recipients by paid fiscal year and plan type by various attributes such as race and age group. There were approximately 778,000 emergency room visits in 2014, which represented 1.9 visits per emergency room patient.



Fiscal Years ?

☒ All☒ 2008☒ 2012☒ 2009☒ 2013☒ 2010☒ 2014☒ 2011

Counties ?

☐ All☒ Selected☒ Richland

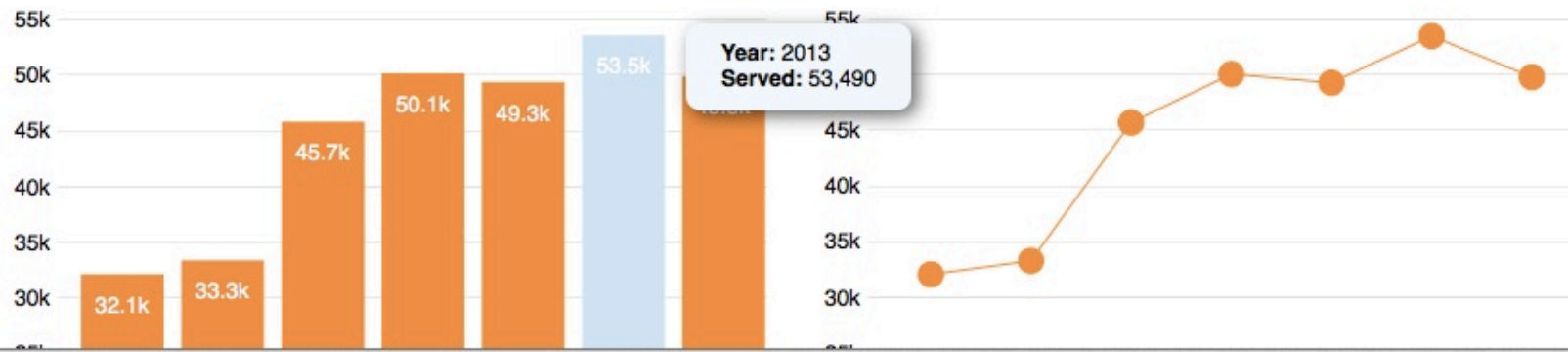
Plan Type ?

☒ All☐ Fee-For-Service☐ Managed Care☐ Compare MCO and FFS☐ Special Programs

Demographics ?

☒ None☐ Age Group☐ Gender☐ Qualifying Category☐ Race

Emergency Room Visits for Richland

☐ Grouped ☒ Stacked

Select Year

2013

hospitals

[Compare Selected Facilities](#)

Hover over a column name for more information

		Name	Beds	Bed Days	Occupancy	Medicaid Occupancy	Total Revenue	Profit/Loss – All	Medicaid DSH Payments	Five-Year Profit/Loss
1	<input type="checkbox"/>	Abbeville Area Medical Center	25	2,047	22.43%	8.35%	\$31,933,199	-\$1,380,538	\$895,713	\$18,145
2	<input type="checkbox"/>	Allendale County Hospital	25	832	9.12%	10.58%	\$12,955,677	\$355,101	\$541,653	\$835,890
3	<input type="checkbox"/>	Edgefield County Hospital	25	1,056	11.57%	4.64%	\$11,977,819	-\$363,382	\$237,844	-\$1,577,657
4	<input type="checkbox"/>	Fairfield Memorial Hospital	25	1,056	11.57%	10.98%	\$18,723,522	-\$1,098,382	\$914,727	\$1,720,768
5	<input type="checkbox"/>	Williamsburg Regional Hospital	25	4,300	47.12%	13.79%	\$20,483,327	-\$2,158,781	\$950,619	-\$1,793,882
6	<input type="checkbox"/>	Lake City Community Hospital	28	2,887	28.25%	13.37%	\$28,884,937	-\$418,272	\$616,956	\$924,630
7	<input type="checkbox"/>	Barnwell County Hospital	30	2,240	16.37%	7.54%	\$17,290,814	-\$79,304	\$948,210	-\$1,037,756
8	<input type="checkbox"/>	Hampton Regional Medical Center	32	2,611	22.35%	9.15%	\$19,016,832	-\$1,056,040	\$1,111,449	\$365,704
9	<input type="checkbox"/>	Coastal Carolina Hospital	41	6,733	44.99%	7.04%	\$35,337,528	-\$220,194	\$1,799,524	-\$16,341,407
10	<input type="checkbox"/>	Cannon Memorial Hospital	42	3,032	19.78%	6.37%	\$37,660,392	-\$1,959,986	\$1,113,635	-\$97,314
11	<input type="checkbox"/>	Hillcrest Memorial Hospital	43	6,477	41.27%	3.81%	\$70,371,216	\$18,316,203	\$1,652,423	\$38,251,682
12	<input type="checkbox"/>	North Greenville Hospital	45	7,626	46.43%	10.56%	\$22,679,829	-\$4,143,511	\$403,507	-\$24,384,273
13	<input type="checkbox"/>	Clarendon Memorial Hospital	47	10,141	59.11%	30.39%	\$49,738,307	-\$8,906,898	\$1,936,374	-\$21,659,089
14	<input type="checkbox"/>	Village at Pelham	48	5,843	33.35%	2.65%	\$51,187,383	\$7,718,523	\$2,363,352	-\$16,035,531
15	<input type="checkbox"/>	Greer Memorial Hospital	58	13,011	53.83%	17.40%	\$90,331,854	\$16,253,362	\$3,211,952	\$35,951,597
16	<input type="checkbox"/>	Chesterfield General Hospital	59	6,903	32.05%	18.75%	\$35,328,762	\$182,951	\$1,484,430	\$8,509,847

Abbeville Area Medical Center

ABBEVILLE AREA MEDICAL CENTER
ABBEVILLE, SC 29620

<http://www.abbevilleareamc.com/>

Facility Overview

Select Year 2013

Beds ?	25	
Occupied Bed Days ?	2,047	
Occupancy Rate ?	22.43%	
Medicaid Bed Days ?	171 (8.35%)	
Medicare Bed Days ?	1,236 (60.38%)	
Other Payor Bed Days ?	640 (31.27%)	

Financials Summary

Total Revenue ?	\$31,933,199	
Profit/Loss – All (Patient Services + Other) ?	-\$1,380,538	
Profit/Loss (Patient Services Only) ?	-\$1,663,242	
Medicaid DSH Payments ?	\$895,713	
Five-Year Profit/Loss ?	\$18,145	

Characteristics

Designation	Rural
Teaching Facility	No
For-Profit	No

Document Library

Document	Year
Cost Report ?	2013
Five-Year Financial Summary ?	2013
Healthy Outcomes Plan ?	2013
Cost Report ?	2012
Five-Year Financial Summary ?	2012
Foundation 990 ?	2011

? Hover over for more information

Click to view a graph of data over time

The background of the slide features a photograph of a woman and a young child looking at a tablet together. The image is overlaid with a semi-transparent blue gradient. The woman is on the left, and the child is in the center, both looking down at the tablet which is held by the child. The tablet screen shows some data or a chart. The overall tone is professional and family-oriented.

EHR SmartZone

NARxCheck and PDMP

Physician Innovations



Component Concepts

- Module to query PMP Interconnect
- Reply score, links to secure page, and discrete medication information
 - Optimally based on codification, could compare to existing chart and Surescripts data to determine commonalities.

NARxCHECK Person record match

701 Narcotics	Detailed history
310 Sedatives	Score history
0 Stimulants	PMP report

▶ [Controlled Substance History \(4\)](#)

NARxCHECK Person record match

701 Narcotics	Detailed history
310 Sedatives	Score history
0 Stimulants	PMP report

▲ [Controlled Substance History \(4\)](#)

Rx	e APAP/HYDROCODONE 750MG-7.5MG TAB	3/30/2013
	e APAP/HYDROCODONE 750MG-7.5MG TAB	3/19/2013
	e APAP/HYDROCODONE 750MG-7.5MG TAB	2/20/2013
Hx	TEMAZEPAM 30MG CAP	2/12/2013
	APAP/HYDROCODONE 750MG-7.5MG TAB	1/23/2013

[Load 2012...](#)

Telehealth

≡ The Post and Courier

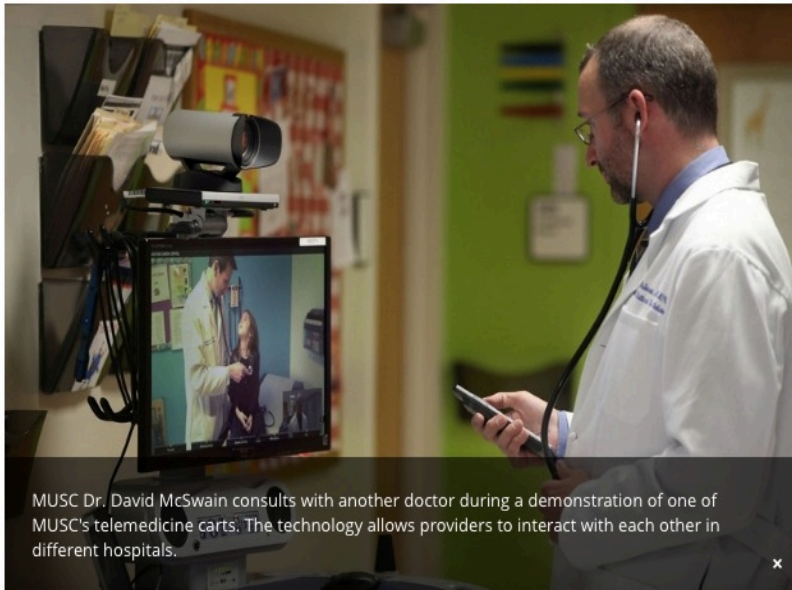
☀ Clear 63° 🔍 Search

Hospitals test different approaches to improve access in rural areas of South Carolina



Lauren Sausser ✉ Email 🐦 @laurenmsausser

Jun 23 2014 12:01 am



MUSC Dr. David McSwain consults with another doctor during a demonstration of one of MUSC's telemedicine carts. The technology allows providers to interact with each other in different hospitals.

Some of the sickest residents live and die early in rural South Carolina.

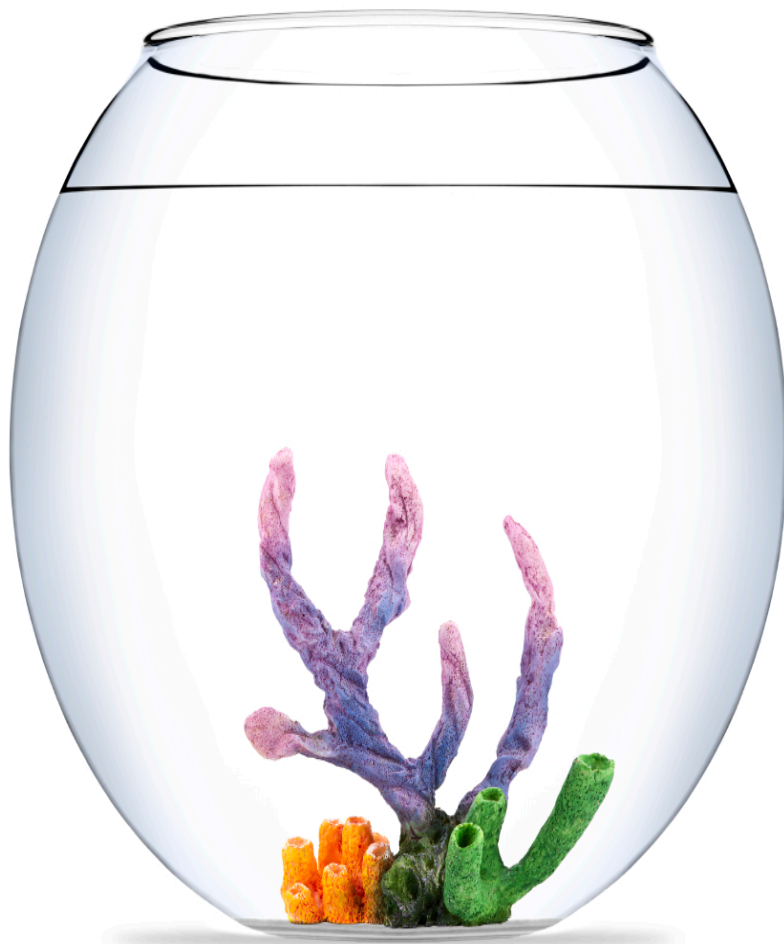


Most Poj
Jury awards
of former Co

911 calls cap
were fired ar
Chuck E. Ch

Police: Man
refusing to p
Charleston p







The Art of Concatenating Health IT



*Thank You
Tripp Jennings, MD, FACEP
@trippjennings*