



Commonwealth of Kentucky
Cabinet for Health and Family Services



**Kentucky Health Care Workforce
Capacity Study Report Out**

March 21-22, 2013

Agenda

Introductions	5 mins
Project Background	5 mins
Methodology & Data Quality	15 mins
Overview of Visualization Tool	10 mins
Report Findings by Provider Type	25 mins
Recommendations & Prioritization	45 mins
Q&A	15 mins

Introductions

Introductions

Deloitte Project Team	Commonwealth Project Team
<ul style="list-style-type: none">• David Plocher – Population Health Lead• Peter MacLean – Talent Strategy Lead• Jonathan Felix – Population Health Support• Neil Alger – Talent Strategy Support• Amanda Holland – Actuarial and Deloitte Reform Model Support	<ul style="list-style-type: none">• Carrie Banahan• Bill Nold• Lee Barnard• Brenda Parker• Charlie Kendell• Chris Workman• Lisa Jagnow• Martha Campbell

Project Background

Background and Understanding

Kentucky currently has an estimated 640,000 uninsured individuals (~16% of the state's 4.4 M population) and it is expected that:

- 300,000 could be eligible for Medicaid expansion
- 220,000 could be eligible for some type of premium assistance

Pent up demand from this uninsured group may exacerbate workforce shortages that include:

- Primary Care
- Oral health care
- Chronic/long-term behavioral health

KHBE secured Deloitte to assist in a 10-week study to identify:

- Current and future health care workforce shortage areas
- Legislative and administrative policy changes that may be needed to increase the supply of health care providers to improve population health
- Recommendations and strategies for recruiting, reconfiguring through leverage, and maintaining an adequate and available health care workforce

Overview of Workforce Groups

The following clinician groups were determined to be essential to the study with licensing data and benchmarks adequate enough to determine potential workforce shortages at the county and/or state level:

- Physicians
- Dentists
- Advanced Practice Registered Nurses (APRNs)
- Physician Assistants (PAs)
- Registered Nurses (RNs)
- Licensed Practical Nurses (LPNs)
- Nurse Aides (NAs)
- Optometrists
- Mental Health Providers (MHPs) including:
 - Psychologists
 - Licensed Clinical Social Workers (LCSWs)
 - Licensed Professional Counselors (LPCs)
 - Marriage & Family Therapists (MFTs)
 - Alcohol & Drug Counselors (ADCs)

Methodology & Data Quality

Tiered Analysis Approach

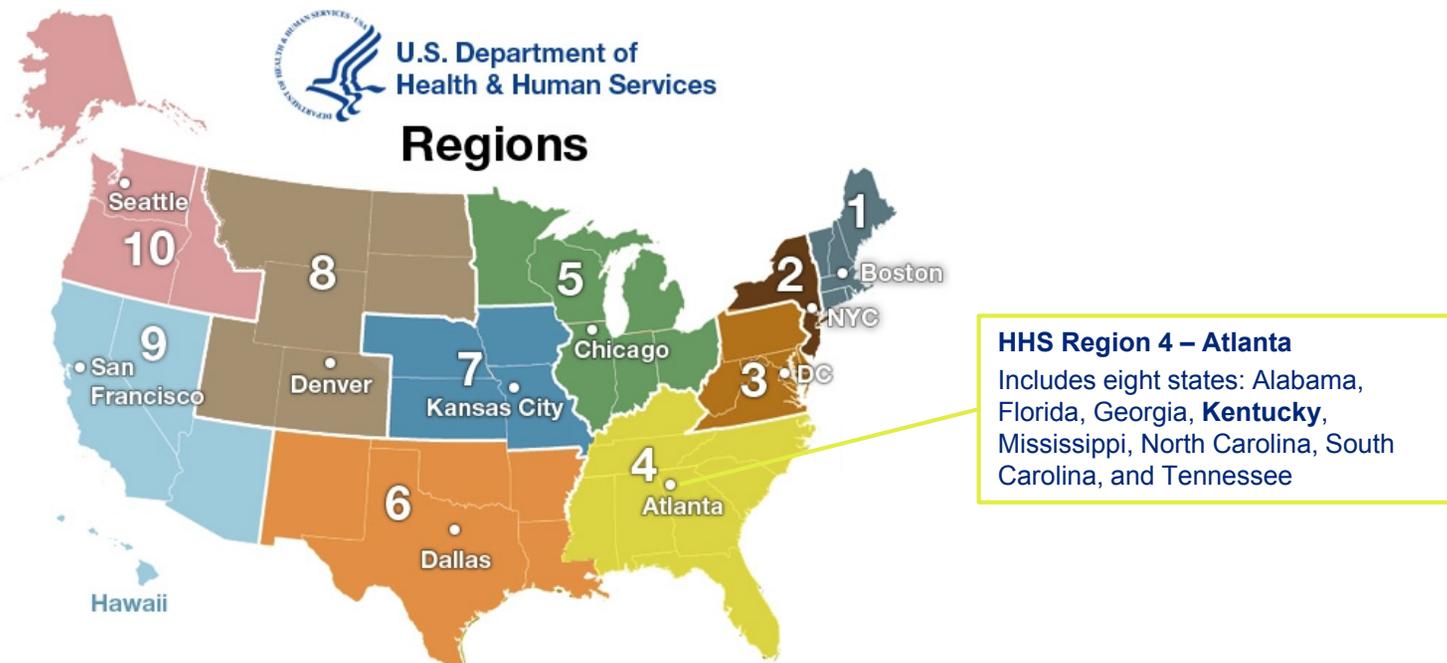
Tiers were assigned to each clinician group depending on the relative importance to an uninsured/Medicaid population, availability of comparable benchmarks, and the accuracy of the corresponding group’s licensing database:

Tier	Clinician Group(s)	Reasoning
I	Physicians	<ul style="list-style-type: none"> • PCPs are vital to an uninsured/Medicaid population • Benchmarks are widely available down to the specialty level • Licensing database has detail including specialty, updated county of practice, and graduation date/school
II	Dentists, Advanced Practice Registered Nurses (APRNs), Physician Assistants (PAs), Registered Nurses (RNs), Licensed Practical Nurses (LPNs), Nurse Aides (NAs)	<ul style="list-style-type: none"> • Dentists, Mid-Levels, and Nurses will be important in the discussion of expanding primary care access to an uninsured/Medicaid population • Benchmarks are widely available and reported for most groups • Licensing databases have detail including updated county of practice (except for Nurse Aides and Physicians Assistants)
III	Psychologists, Optometrists, Licensed Clinical Social Workers (LCSWs), Licensed Professional Counselors (LPCs), Marriage & Family Therapists (MFTs), Alcohol & Drug Counselors (ADCs)	<ul style="list-style-type: none"> • Behavioral health will help support the primary care providers and is a recognized need in the uninsured/Medicaid population • Benchmarks are not as widely reported for these groups • Quality and accuracy of licensing databases are problematic and missing current practice locations

Overview of “Adequacy” and Level of Benchmarking

Early in the process, it was decided:

- U.S. Department of Health & Human Services (HHS) Region 4 median benchmarks would be used, where available and statistically valid, as a measure of “adequacy” because they contain the population most similar to Kentucky and allow for outside reporting comparisons
- County level analysis would be conducted where licensing and benchmarking data supported, otherwise state or national would be used



Master Database behind the visualization

Cross-maps of Congressional, Medicaid, and ADD regions to counties



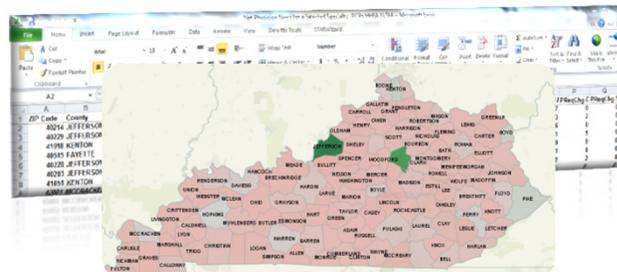
USPS Zip code and US Census Bureau Demographics database

KY License Database

Zipcode	County	Medicaid Region	Congressional District	ADD Region	Population	Household	Medicaid	ADD	Population	Household	Medicaid	ADD
40004	Shelby	3	2	4	1702	487	1000	20	11	4	10	10
40006	Nelson	3	2	4	1384	2170	2278	468	261	73	108	101
40008	Tandem	3	2	4	4000	4000	4000	4000	4000	4000	4000	4000

License Type	County	Specialty	MD Name	MD Title	MD Address	MD Phone	MD Fax	MD Email
MD	Shelby	Family Medicine	Dr. [Name]	MD	[Address]	[Phone]	[Fax]	[Email]
MD	Madison	Anesthesiology	Dr. [Name]	MD	[Address]	[Phone]	[Fax]	[Email]
MD	Jefferson	Neurological Surgery	Dr. [Name]	MD	[Address]	[Phone]	[Fax]	[Email]
MD	Franklin	Family Medicine	Dr. [Name]	MD	[Address]	[Phone]	[Fax]	[Email]
MD	Madison	Internal Medicine	Dr. [Name]	MD	[Address]	[Phone]	[Fax]	[Email]
MD	Madison	Internal Medicine	Dr. [Name]	MD	[Address]	[Phone]	[Fax]	[Email]

Master Database & Tableau Visual Data Engine



Supply/Demand calculated from agreed on benchmarks

Overview of Licensing Data Cleansing

Each licensing database went through a detailed cleansing process, which was then vetted with the core team to determine appropriate exclusions. In general, a provider was excluded if he or she could not be accessed by the general public.

Provider Group	Initial Count	Removed the following:	Final Count	% Retained
Physicians	25,013	<ul style="list-style-type: none"> Duplicates Retirees Semi-retired (% FTE) Deceased Out of state Locum tenens Inactive Military Provisional Administration Faculty (% FTE) Public health Research No status 	10,475	42%
Dentists	3,933		1,711	44%
APRNs	4,343		3,057	70%
PAs	1,047		985	94%
RNs & LPNs	64,593		59,863	93%
Optometrists	782		568	73%
Psychologists	1,549		1,330	86%
LCSWs	4,536		4,067	90%
LPCs	2,878		1,516	53%
MFTs	505		436	86%
ADCs	814		727	89%

Benchmarking Sources (Tier I & II)

Provider Type ("Tier I")	Provider FTEs	KY Ratio per Population	Current Benchmark	
			Ratio per Population	Source
All Physicians	10,475	238.1 / 100K	258.7 / 100K	AAMC State Physician Workforce Data Book (2011)
• PCPs	4,081 (39%)	See Appendix for PCP and PCPs Accepting Medicaid benchmarking		
• PCPs Accepting Medicaid	2,285 (22%)			
• Specialties (Non-PCP)	6,394 (61%)	See Appendix for specialty specific benchmarking		

Provider Type ("Tier II")	Provider Count	KY Ratio per Population	Current Benchmark	
			Ratio per Population	Source
Dentists	1,711	38.9 / 100K	49.0 / 100K	CDC, HHS Region Four (2010)
Advanced Practice Registered Nurses (APRNs)	3,057	69.5 / 100K	39.6 / 100K	ANA & U of Washington, HHS Region Four (2012)
Physician Assistants (PAs)	985	22.4 / 100K	20.6 / 100K	AAPA Census Report, HHS Region Four (2010)
Registered Nurses (RNs)	48,093	1,093.1 / 100K	792.1 / 100K	BLS, HHS Region Four (2011)
Licensed Practical Nurses (LPNs)	11,770	267.5 / 100K	210.7 / 100K	
Nurse Aides (NAs)	43,619	991.4 / 100K	411.7 / 100K	

Benchmarking Sources (Tier III)

Provider Type ("Tier III")	Provider Count	KY Ratio per Population	Current Benchmark	
			Ratio per Population	Source
Optometrists	568	12.9 / 100K	18.4 / 100K	HIPAA Space, HHS Region Four (2012)
Mental Health Providers (MHPs) which includes: <ul style="list-style-type: none"> • Psychiatrists 462 (5%) • Psychologists 1,330 (16%) • Licensed Clinical Social Workers (LCSWs) 4,067 (48%) • Licensed Professional Counselors (LPCs) 1,516 (18%) • Marriage & Family Therapists (MFTs) 436 (5%) • Alcohol & Drug Counselors (ADCs) 727 (8%) 		194.1 / 100K	182.0 / 100K	Clinical Psychology Review 26 sourcing information from Substance Abuse and Mental Health Services Administration / DHHS (2006)

Data Quality & Accuracy

A number of challenges were encountered when attempting to estimate workforce of clinically active providers and should be taken into consideration when interpreting the results of this report:

- Assumptions, which are based on licensure or combinations of sources, may or may not have yielded underestimates or overestimates:
 - Some professionals may practice >1 location or county and/or may have >1 professional degree or type of license for which Individuals' clinical efforts vary
 - State licensing databases record varying amounts of information, as do Medicaid and other state bureaus and agencies, and crucial estimation fields were missing on some data sets (e.g. “county of practice”, “practice address”, “FTE”, “degree type”, and “institution / date of graduation”)
 - Data may not have been refreshed and validated at regular intervals which led some data sets to contain duplication or inaccurate attrition status (e.g. death, retirement, and semi-retirement)
 - Sources of adequacy benchmarks are often imprecise, conflicting, and lack comprehensiveness for full workforce – great effort was taken to select and compare the most appropriate benchmarks and methodology for this analysis

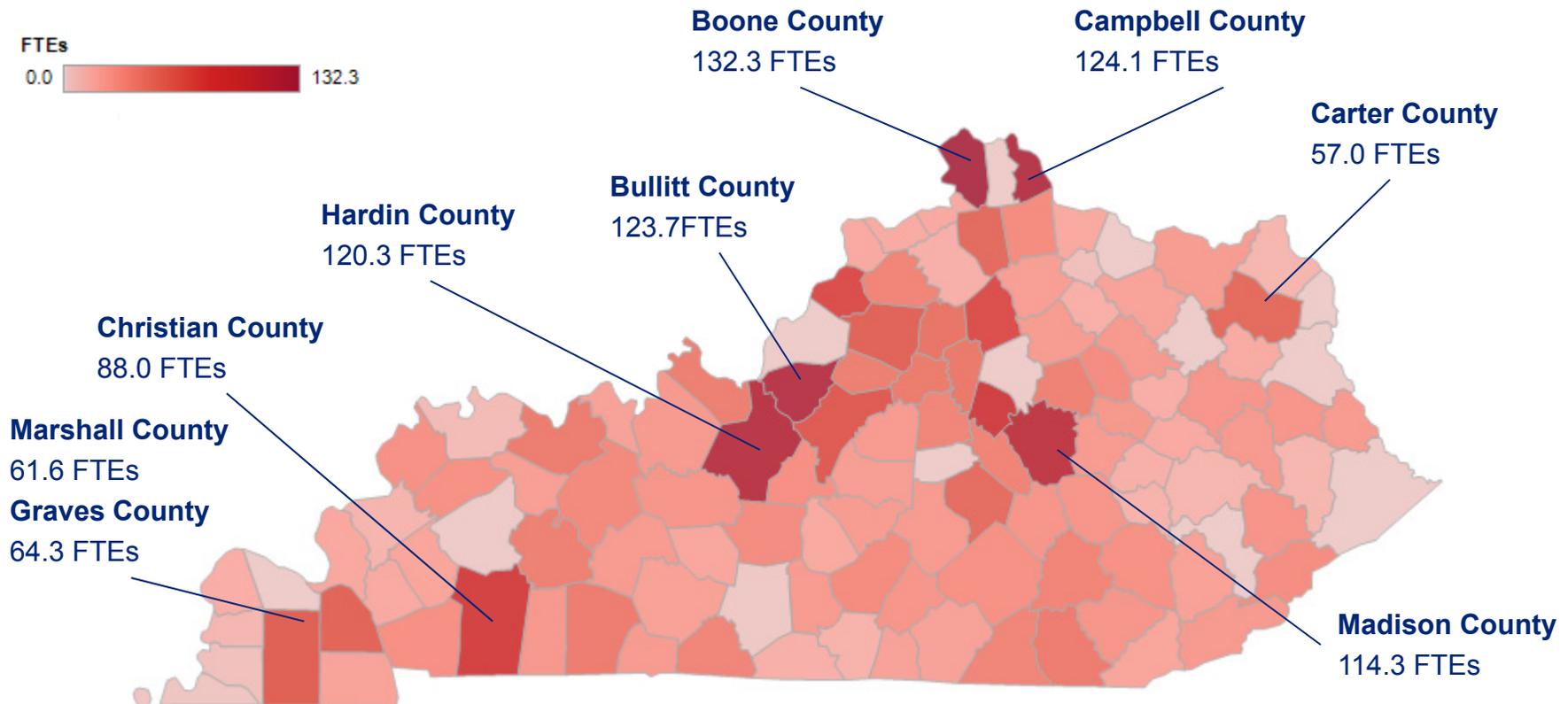
Overview of Visualization Tool

Report Findings by Provider Type

Overall Physician Need

Overall physician need in 2012 across all needy counties is 3,790 FTEs. Of those FTEs, 61% are needed in rural counties. Note: specific specialties should be benchmarked at the state level and will be available in the final report.

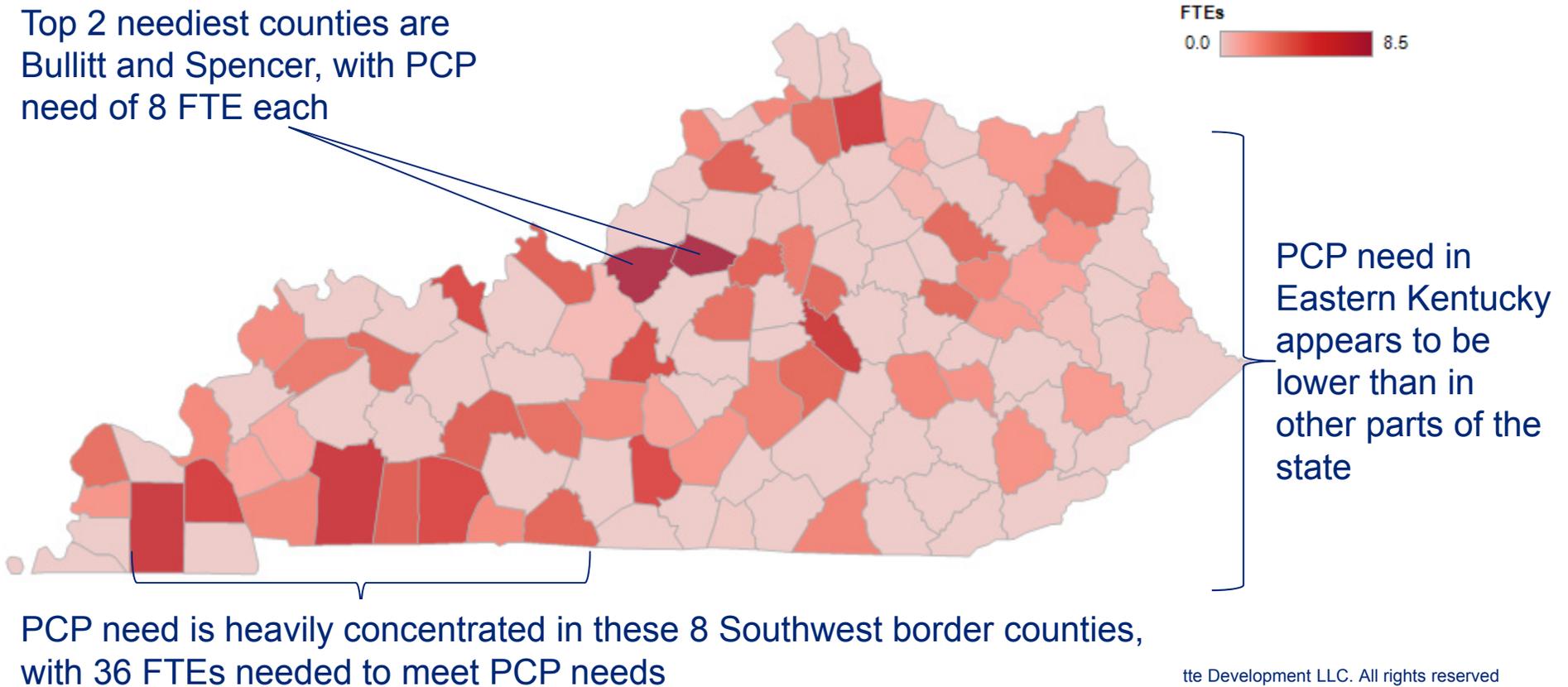
Kentucky-Wide Physician Need – 2012 (Excludes Surpluses)



PCP Need

Across the Commonwealth, PCP need in 2012 is 183 FTEs, representing 5% of the current state-wide supply. This gap is expected to widen to 205 FTEs by 2017. Overall, PCP need is concentrated towards the western half of the state.

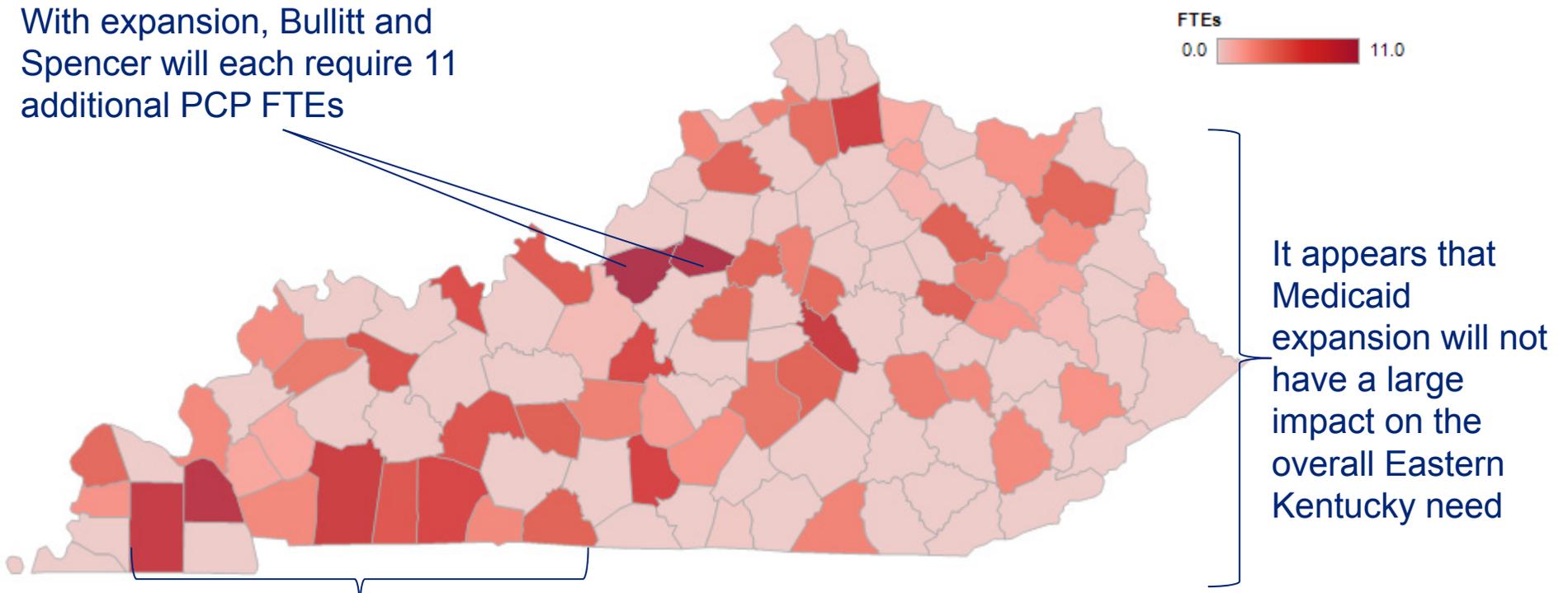
Kentucky-Wide PCP Need – 2012 (Excludes Surpluses)



PCP Need – Medicaid Expansion & HBE View

Accounting for Medicaid expansion and the HBE, PCP need across the Commonwealth increases to 256 FTEs at the highest end of the range. This view incorporates all 640,000 currently uninsured, which includes both additional Medicaid and premium assistance. Of the 256 FTE need, 63% comes from rural counties. Note: this is the worst-case scenario for Medicaid PCP need.

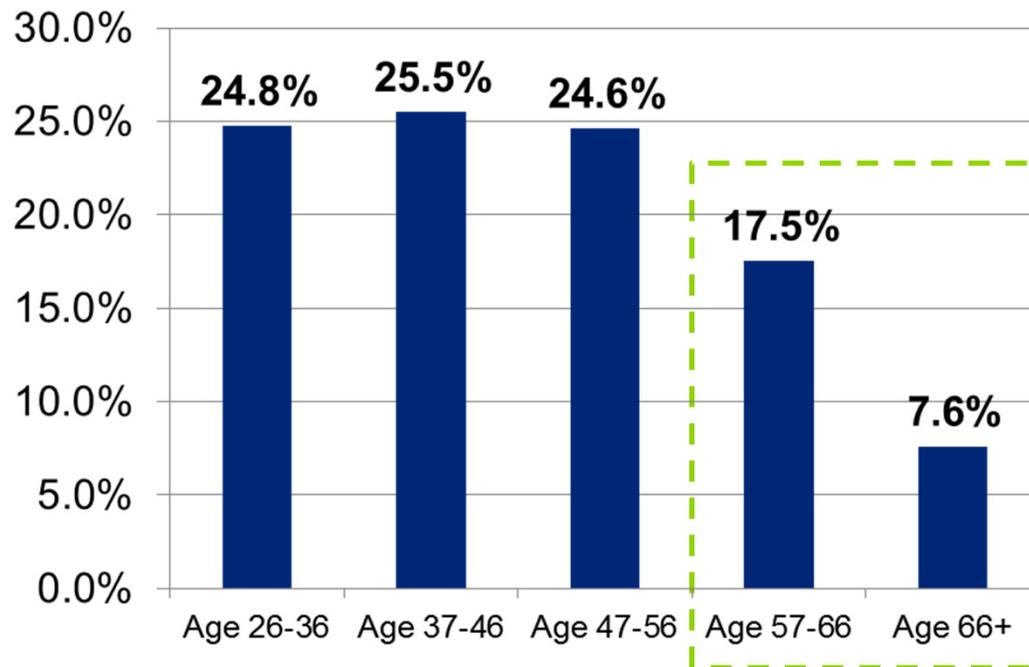
Kentucky-Wide PCP Need – 2012 (Excludes Surpluses)



With Medicaid expansion, the need in these 8 counties rises by 42% to a total of 51 PCPs

PCP Retirement Risk by age cohort

Using the data field Graduation Year, we can estimate physician age, and as a result, retirement risk. We have incorporated this estimated age field into the modeling tool, which yields the below view of potential PCP retirement risk.

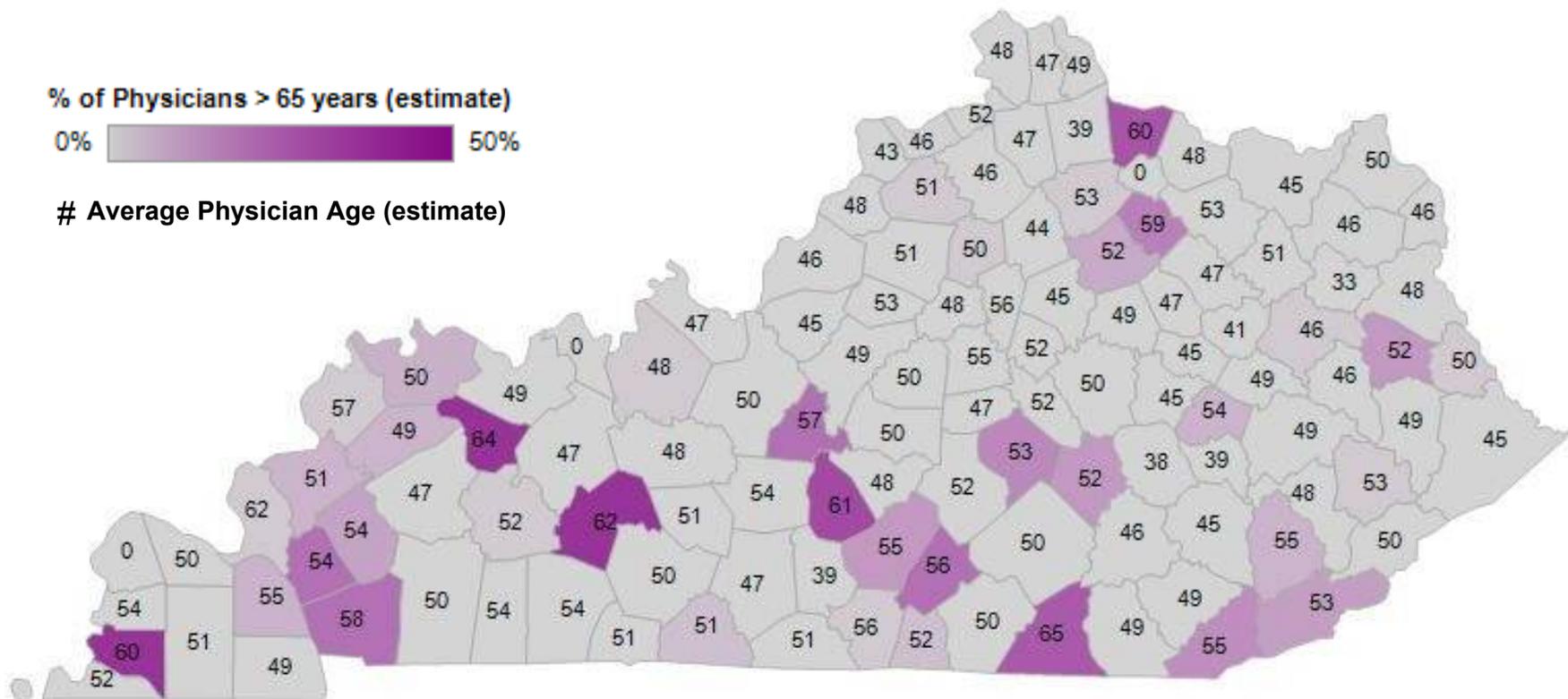


**25% of PCPs
(~1,000) at risk for
early or average
retirement¹ in next
five years**

Physician Retirement Risk by geographic distribution

Using the data field Graduation Year, we can estimate physician age, and as a result, retirement risk. We have incorporated this estimated age field into the modeling tool, which yields the below view of potential physician retirement risk.

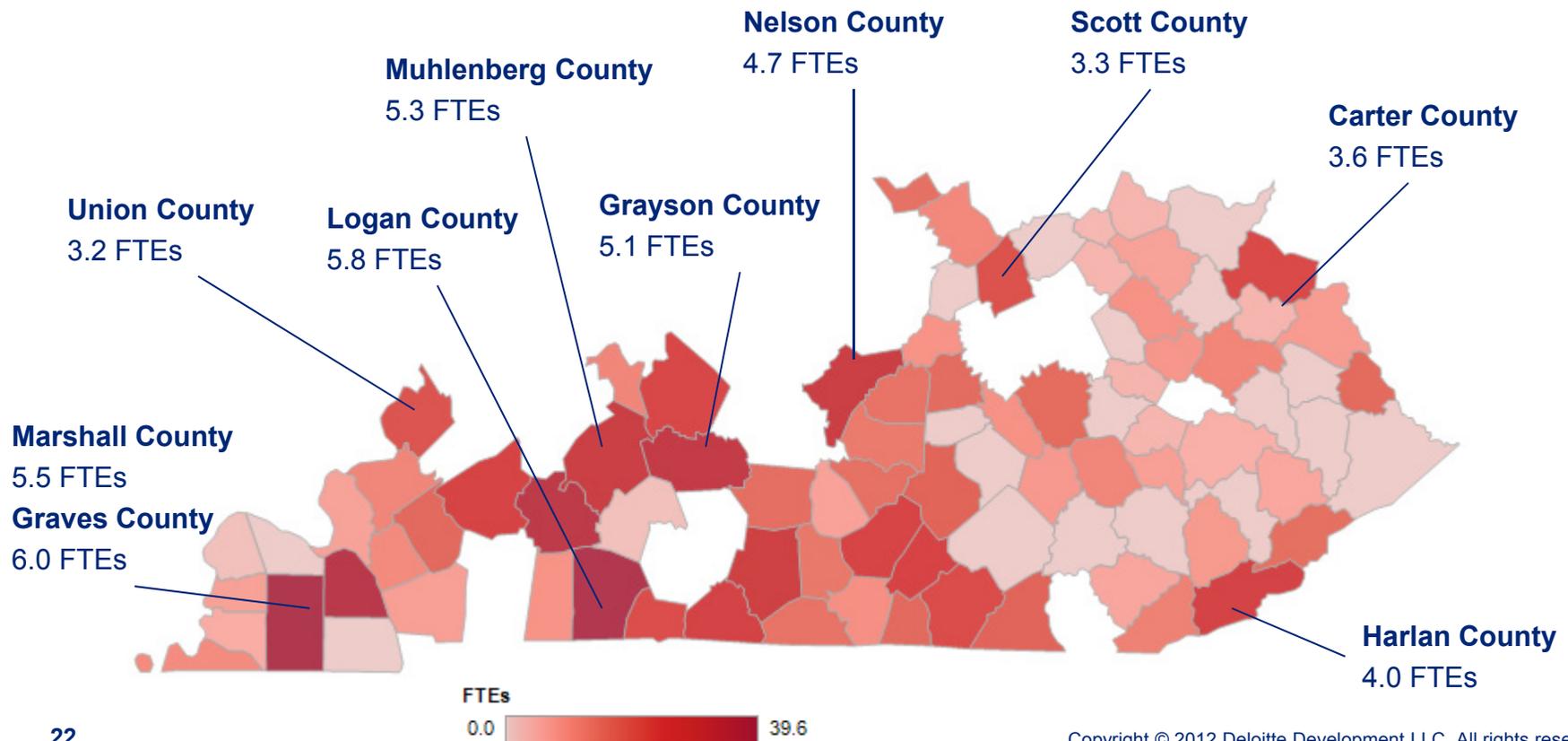
— Average Estimated Physician Age and Retirement Risk by County - 2012 —



Physician Assistant Need

Overall PA need in 2012 is 296 FTEs, or 30% of current supply, which is relatively high as a percentage compared to other groups. The need is split near even between rural and urban counties. The larger concentration of needy counties is in the rural areas in the center and western parts of the Commonwealth.

Kentucky Physician Assistant Need in Rural Counties – 2012 (Excludes Surpluses)



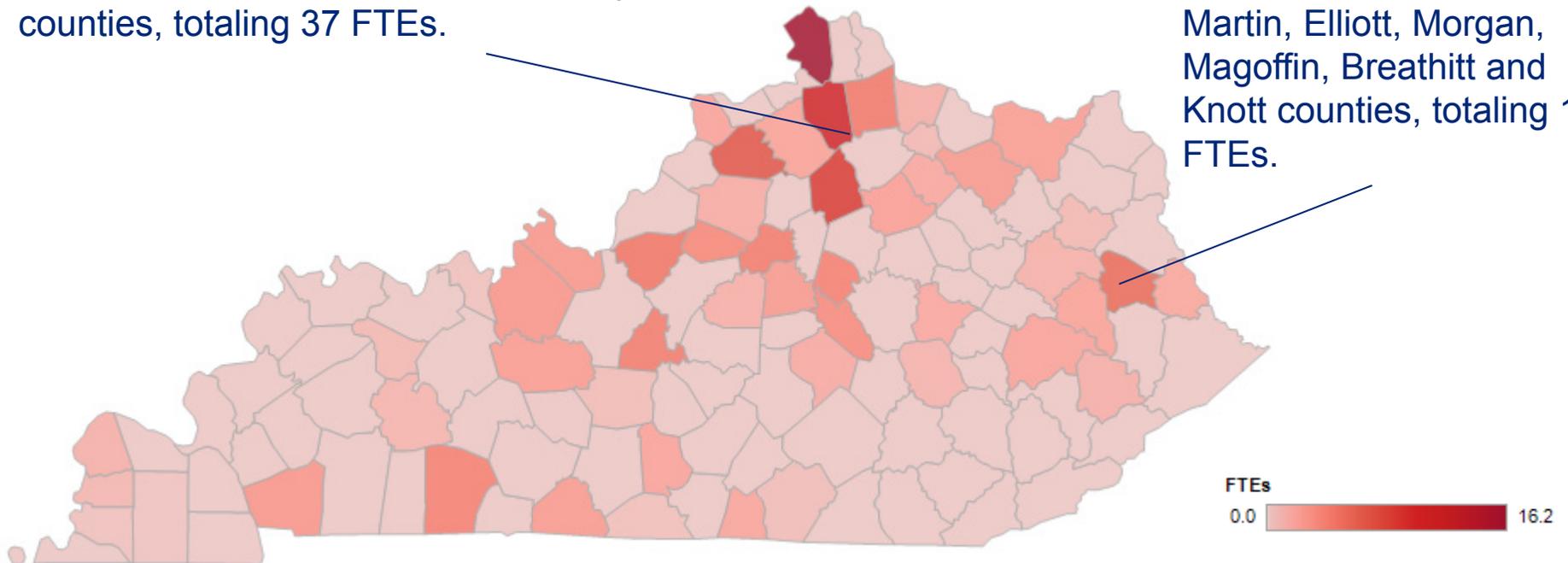
Advanced Practice Registered Nurses (APRN) Need

Overall APRN need in 2012 is also relatively low compared to many groups, with only 148 FTEs needed across the Commonwealth, split near even between rural and urban counties. The neediest county is Boone County, with a 2012 deficit of 16.2 FTEs.

Overall Kentucky APRN Need – 2012 (Excludes Surpluses)

The largest concentration of *urban* need is in Boone, Grant, Pendleton and Henry counties, totaling 37 FTEs.

The largest concentration of rural need is in Johnson, Martin, Elliott, Morgan, Magoffin, Breathitt and Knott counties, totaling 16 FTEs.



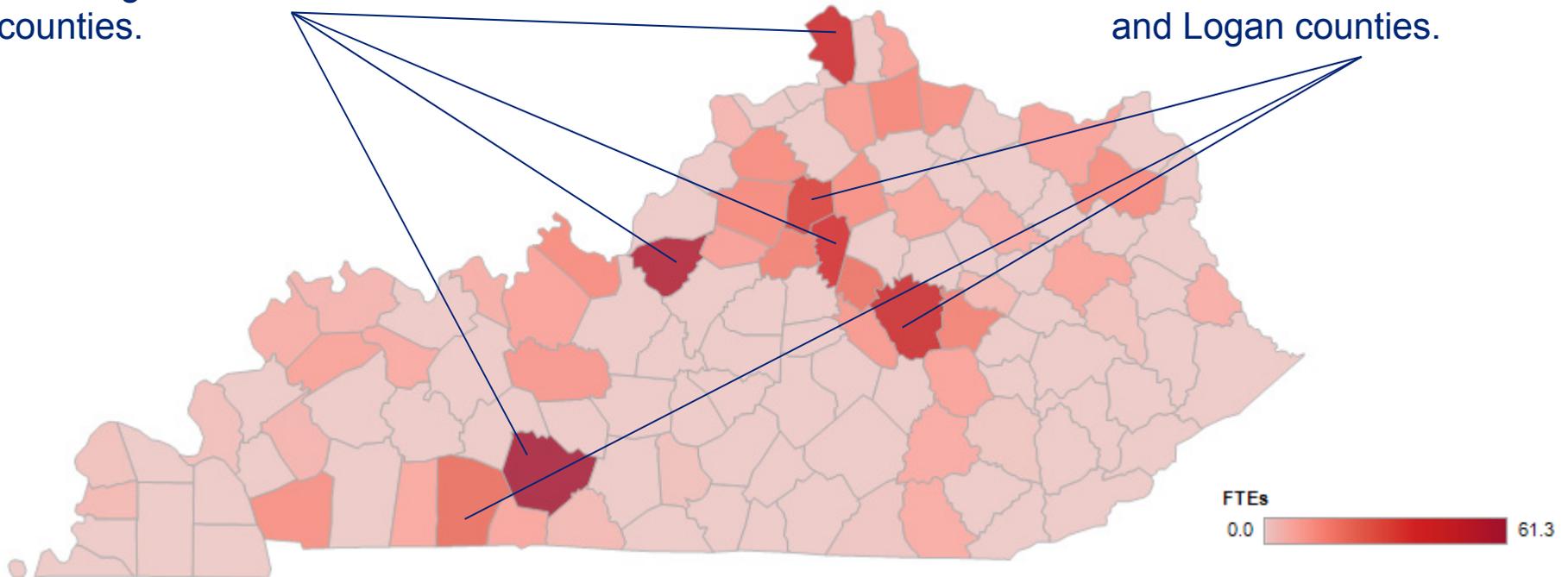
Licensed Practical Nurses (LPN) Need

Overall LPN need in 2012 is low, at only 6% growth (688 FTEs) needed over the current workforce supply to meet demand. Rural needs are evenly spread across the state, and urban needs are concentrated around Warren, Woodford, Bullitt and Boone counties.

Overall Kentucky LPN Need – 2012 (Excludes Surpluses)

Need for additional LPNs is centered in urban areas, including Warren, Bullitt, Boone and Woodford counties.

Larger rural need can also be found in Franklin, Madison and Logan counties.



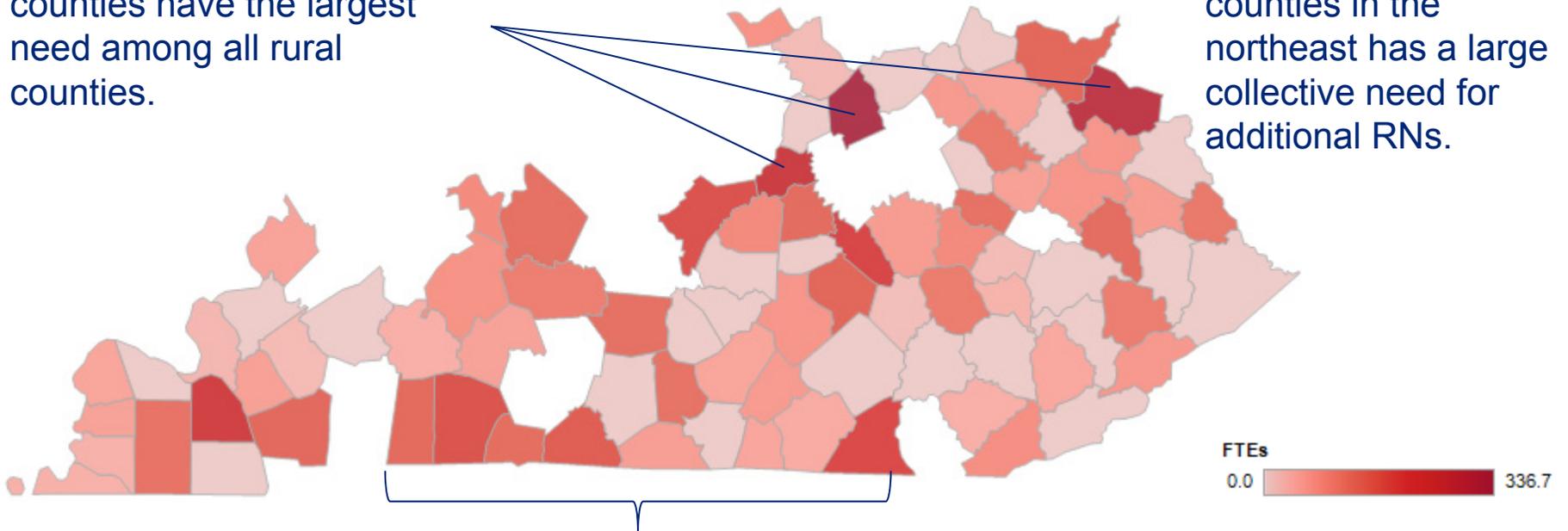
Registered Nurses (RN) Need

The current need for additional RNs across the state is 5,635 FTEs, representing a 12% increase in the total RN workforce. The need is pronounced across the southern border and in the northeastern corner of the state.

Rural Kentucky RN Need – 2012 (Excludes Surpluses)

Scott, Carter and Anderson counties have the largest need among all rural counties.

This cluster of rural counties in the northeast has a large collective need for additional RNs.



Many contiguous rural counties across the bottom of the state show a strong need for more RNs.

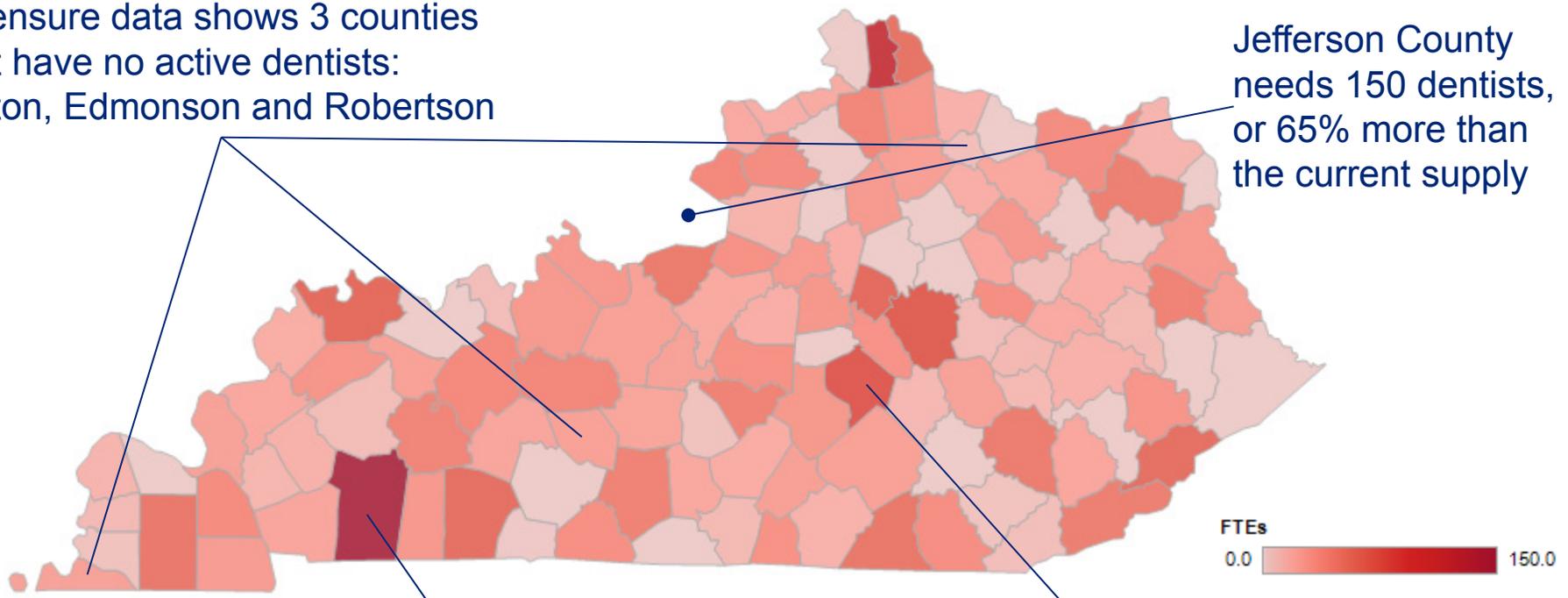
Dentist Need

Overall Dentist need in the Commonwealth is high, with 612 additional FTEs (36%) required to meet current demand. Many counties in Kentucky need greater than 100% increases in the current dentist workforce, and 3 counties appear to have no dentists currently practicing.

Overall Kentucky DDS Need – 2012 (Jefferson County and Surpluses Excluded)

Licensure data shows 3 counties that have no active dentists: Fulton, Edmonson and Robertson

Jefferson County needs 150 dentists, or 65% more than the current supply



Christian County needs 22 dentists, a 130% increase over current supply

Lincoln County needs 11 dentists, a 568% increase over current supply

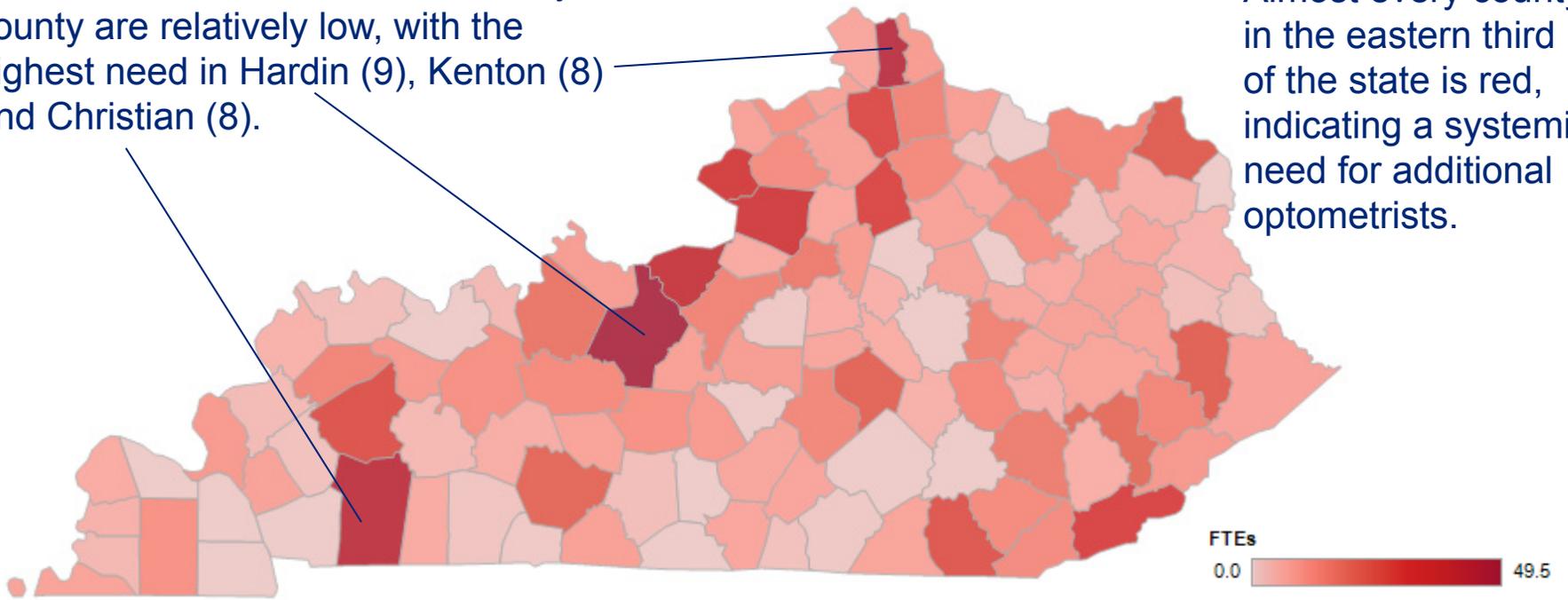
Optometrist Need

Overall optometrist need is high, with an additional 269 FTEs (47%) required to meet current need. Over 25% of the counties in Kentucky do not have a practicing Optometrist represented in the licensing database. Only 10% of counties have enough optometrists to meet the current need.

Overall Kentucky Optometrist Need – 2012 (Jefferson County and Surpluses Excluded)

Aside from Jefferson, FTE needs by county are relatively low, with the highest need in Hardin (9), Kenton (8) and Christian (8).

Almost every county in the eastern third of the state is red, indicating a systemic need for additional optometrists.



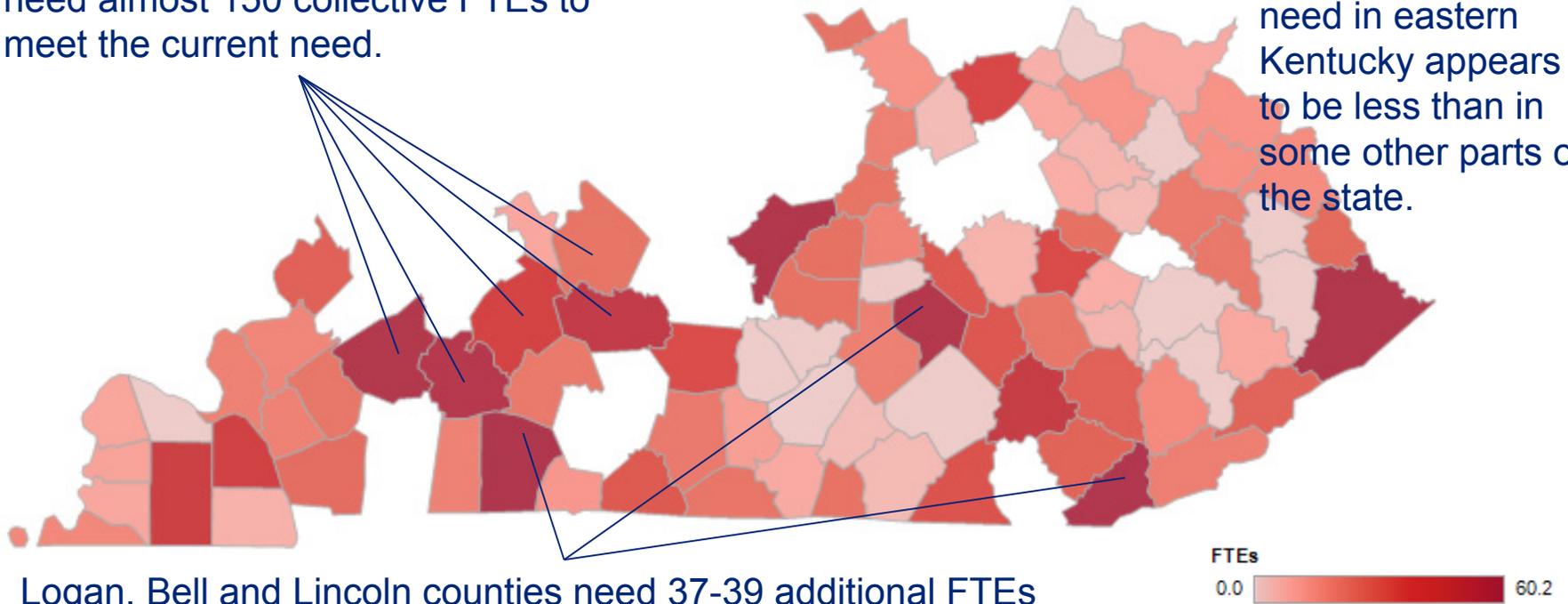
Mental Health Provider (MHP) Need

Overall need for MHPs is 1,638 FTEs (19%) to meet current Commonwealth demand. Over 80% of the counties in Kentucky have a workforce supply gap for MHPs, with 10% of counties needing at least 25 FTEs. 70% of the current need (1,154 FTEs) is located in rural counties.

Rural Kentucky MHP Need – 2012 (Surpluses Excluded)

These 5 contiguous rural counties need almost 150 collective FTEs to meet the current need.

The volume of need in eastern Kentucky appears to be less than in some other parts of the state.



Logan, Bell and Lincoln counties need 37-39 additional FTEs each, representing a nearly 300% increase over current supply

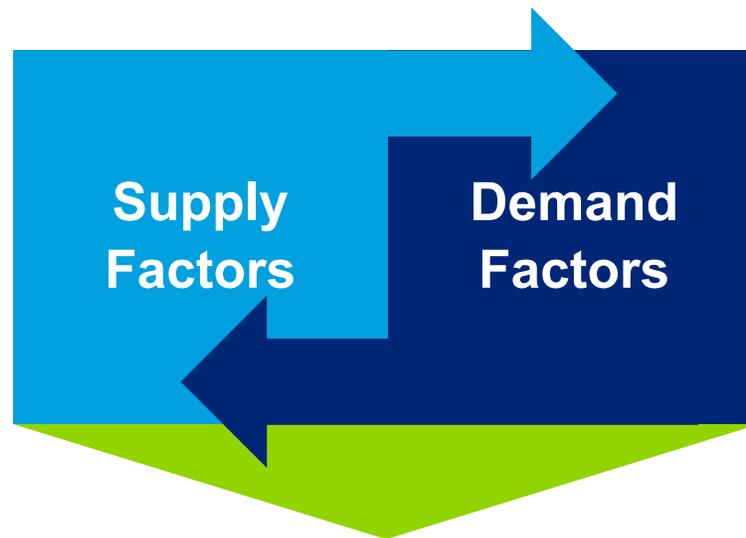
Recommendations: Overview of Key Recommendation Areas

Recommendations will focus on both supply and demand of the healthcare workforce

The healthcare workforce strategy recommendations will be focused on both enhancing the overall supply, as well as finding ways to diminish demand through more efficient use of productive workforce time.

Sample Supply Recommendation Types:

- *Legislation/Policy*: Address potential J-1 Visa shortages through State and/or Federal lobbying
- *Compensation/Benefits*: Provide additional reimbursement / salary benefits to encourage attraction and retention
- *Education*: Develop a business case for MD/OD class size expansions



Data-driven opportunities to reduce anticipated workforce gaps in specific regions and within specific workforce groups

Sample Demand Recommendation Types:

- *Process Efficiency*: Develop training programs that support more efficient sharing of responsibility between physicians and mid-levels
- *Technology*: Pilot new or enhanced uses of TeleHealth technologies in rural areas
- *Career Pathing*: Create learning opportunities for current workforce to transition into higher value roles

#1: Improving professional licensure data quality and reporting across all workforce groups

Recommendation: There is not a standardized process for obtaining data that allow for universal counts of professionals and consistency of tallying process over time. Regulatory boards (for licensed, certified, and registered professionals) operate independently from one another without central management of information and funding for workforce assessments and projections is currently limited - there is no consensus about how to integrate data across professions.

- Craft regulation requiring a number of critical fields in each licensing database (e.g. “county of practice”, “practice address”, and “FTE”)
- Plan for potential Federal data requirements in the future
- Consider development of central workforce data repository

Potential Challenges:

- Funding for centralization (including initial validation efforts)
- Sources providing data may not fully appreciate the importance of participation and provision of timely and accurate information

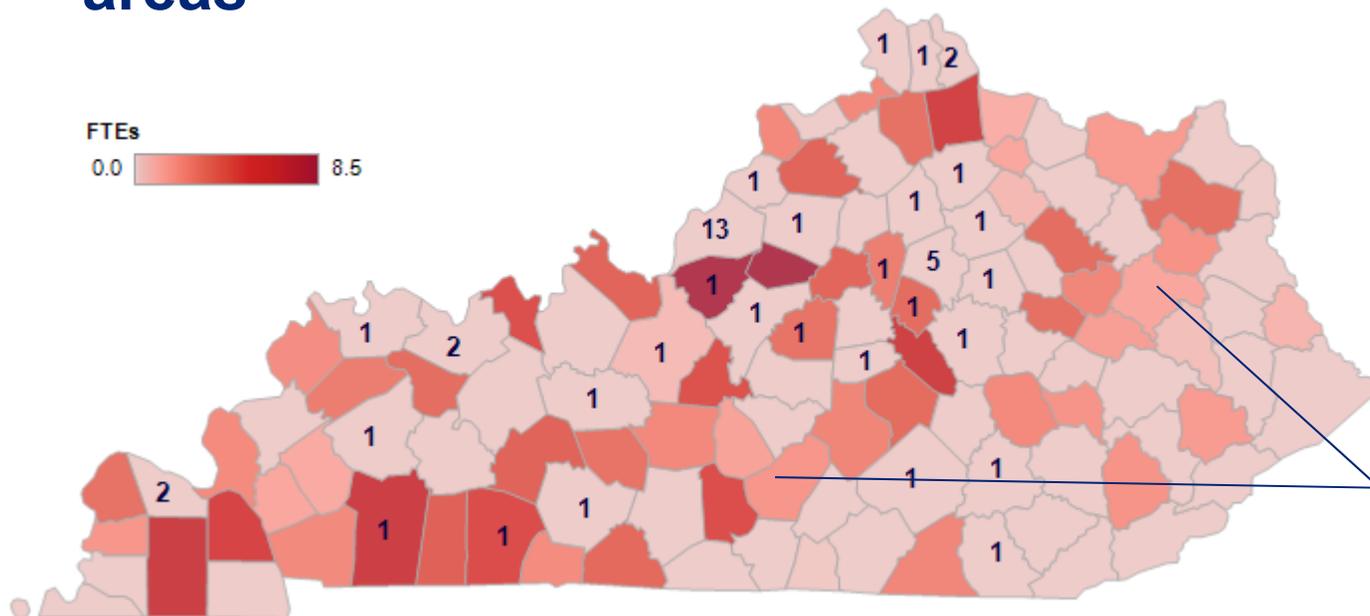
Expected Outcomes:

- Ability to quickly analyze healthcare workforce capacity
- More easily track progress on key workforce metrics
- Ability to create set of concrete KPIs
- Ability to more easily compare key provider groups (e.g. PCPs, dentists) to other databases such as Medicaid providers

Potential Next Steps:

- Craft regulation requiring handful of critical fields into each licensing database (e.g. county of practice)
- Plan for potential Federal data requirements
- Consider development of central workforce data repository

#2: Expand / Promote additional limited service clinics (LSCs) to expand access in rural and underserved areas



Of the 49 existing Limited Service Clinics (LSCs), none are located in the eastern or south central regions where there is high PCP demand, indicating an opportunity for additional expansion

Challenges:

- Physicians have expressed concerns about coordination of care and follow-up protocols
- Mid-level scope of practice limitations may limit expansion
- Reimbursement and enrollment policies may limit expansion
- Potential locations may be limited by adequate in-store infrastructure (e.g. sinks)

Expected Outcomes / Measures:

- Improved access will reduce over- use of ER for minor symptoms
- Improved access for rural population to some basic services (e.g. vaccinations)

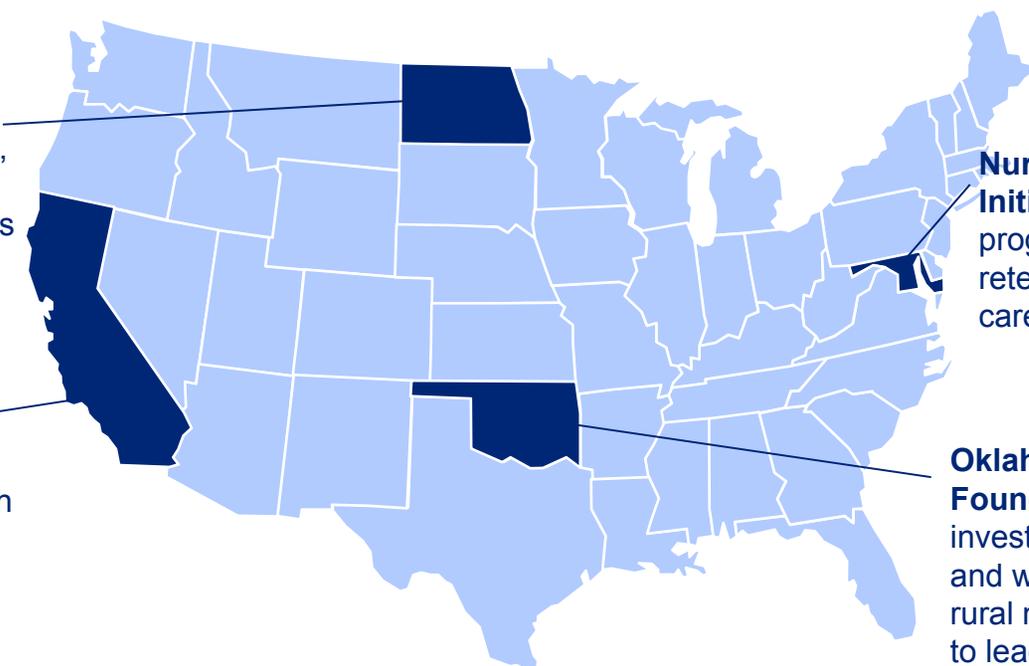
Potential Next Steps:

- Map current retail clinic locations to identify expansion targets
- Convene LSC to discuss incentives and partnerships
- Commission a study to explore continuity of care / interoperability options
- Coordinate with Chamber of Commerce to identify potential commercial sponsors for services

#3: Creating support programs for small practices in rural and underserved areas

North Dakota Nursing Career Lattice Consortium Project: Establishes strategic partnerships between educators, healthcare providers, economic development entities, businesses and health organizations to better recruit and place nurses into a rural region.

Ventura Nursing Legacy Project: Developing shared strategies for recruitment, health policy and diversity through public forums, stakeholder meetings, advocacy and communications.



Nursing Careers Support Initiative: Mentorship-driven program to address nurse retention and support effective career path development

Oklahoma Hospital Research Foundation Trust: This trust is investing in telecommunications and web-based tools to connect rural nurses and nurse educators to leadership training courses

Challenges:

- Financial and operational challenges may differ across practice areas, making it difficult to develop state-wide programs
- May be difficult to find funding to support more robust online presence for support services
- Requires the active participation of practitioners in order to have a measurable impact

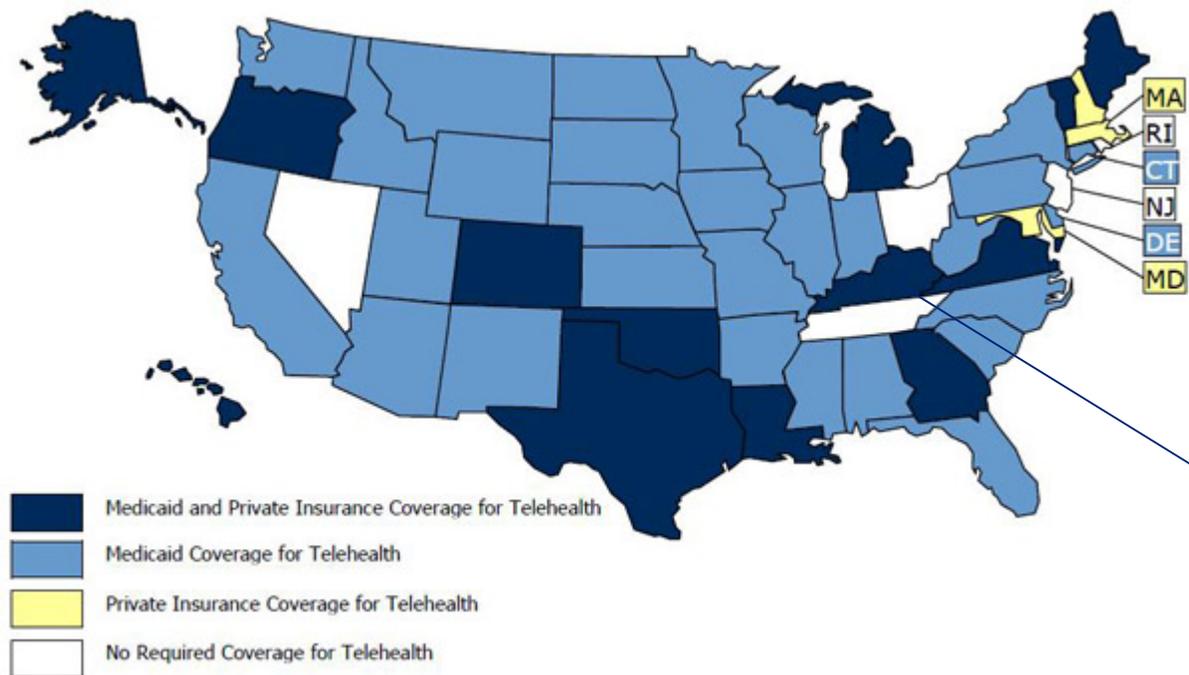
Expected Outcomes / Measures:

- Removing risk should increase both the longevity of current practices and the establishment of new practices in rural and underserved areas
- Each 1% increase of practitioners operating in needy areas would address:
 - 22% of overall PCP need
 - 21% of overall APRN need

Potential Next Steps:

- Convene working group of representative practitioners to identify common challenges for practices in rural and underserved areas
- Evaluate programs in other states
- Develop pilot support programs in specific areas; refine based on participant feedback and then invest in full-scale toolkit

#4: Expanding/Increasing Medicaid reimbursement for rural areas and technology-driven care



Kentucky is one of the handful of states that already reimburses for mental health and specialty services delivered via telehealth

Potential Challenges:

- Some physician groups have expressed concerns on quality and coordination of care
- Retail-based quality outcomes have not been widely studied
- Mid-level scope of practice limitations may limit expansion in rural areas

Expected Outcomes / Measures:

- One of the fastest methods to serve rural underserved since physical locations can be flexible
- A recent telehealth pilot cut hospital admissions by 17% in one year and a 15% drop in readmissions over two years
- Telehealth can decrease ED wait and treatment times

Potential Next Steps:

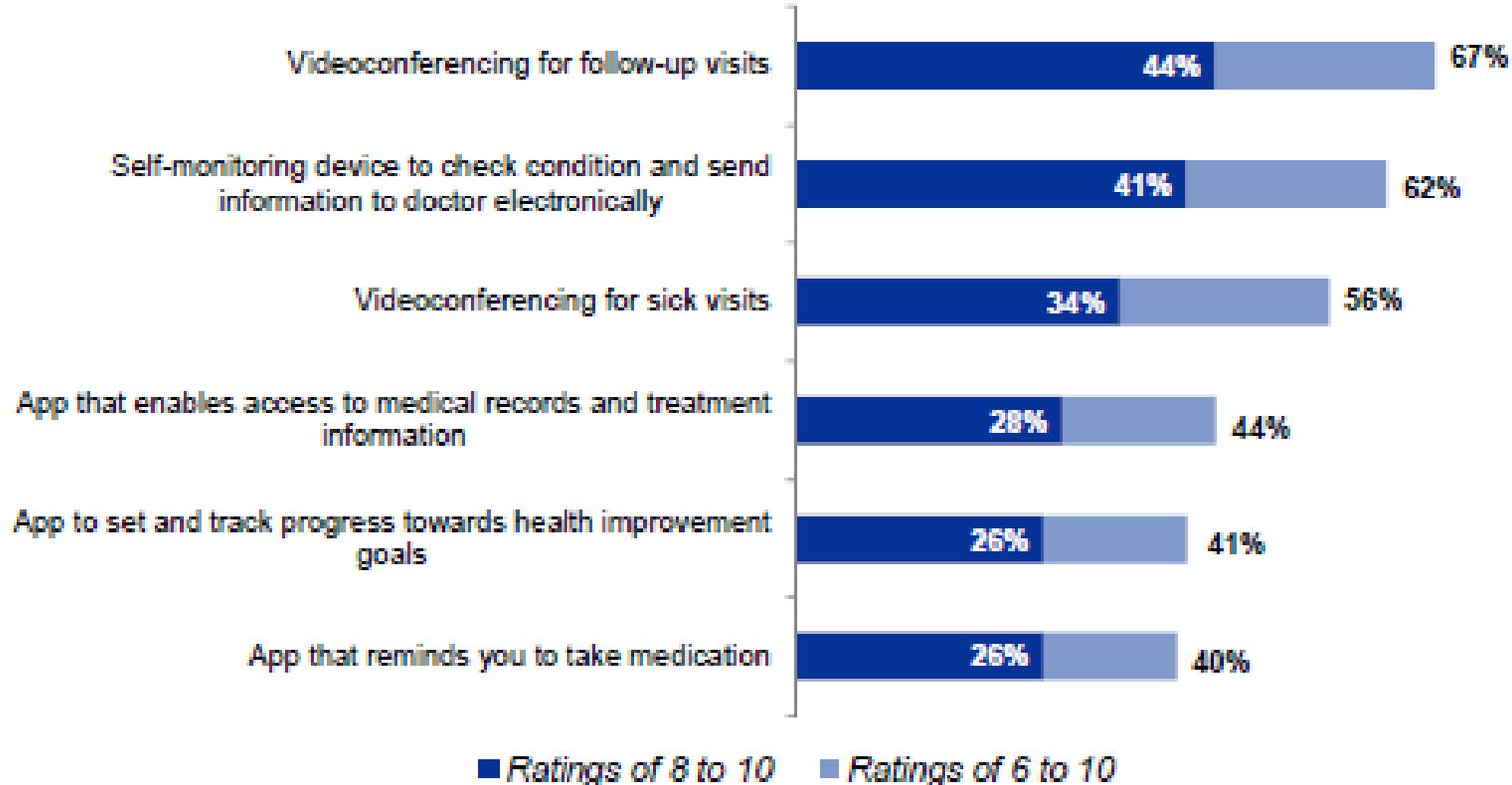
- Convene a conference of key payers, practitioners, and telehealth industry experts to determine the current and future environment of KY's telehealth
- Medicaid should expand billing acceptance of telehealth services to primary care visits
- Consideration of Pay for Performance programs for telehealth

#4: Expanding/Increasing Medicaid reimbursement for rural areas and technology-driven care

2012 U.S. Survey of Health Care Consumers

Consumers surveyed rated their interest in the following innovative technologies from a scale of 1 to 10

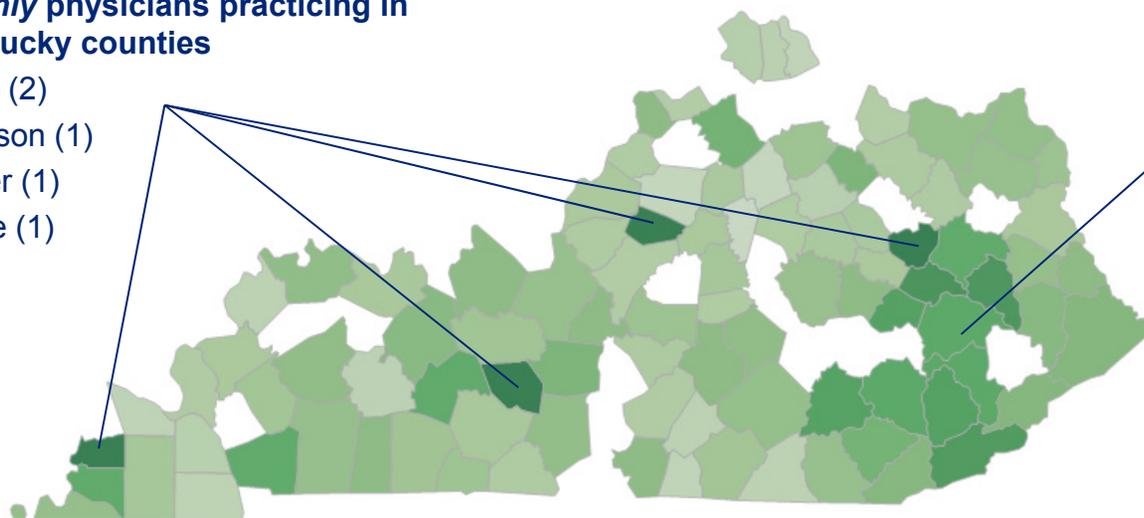
Interest in using innovative health information technologies



#5: Expanding programs to engage international medical graduates in rural and underserved areas

Foreign-trained medical graduates are the *only* physicians practicing in four Kentucky counties

- Carlisle (2)
- Edmonson (1)
- Spencer (1)
- Menifee (1)



Foreign-trained medical graduates make up a substantial percentage of the total physician population across Eastern Kentucky

Challenges:

- Quotas for some J-1 programs are limited at the Federal level
- IMGs may not stay in rural or underserved areas once initial incentives expire (e.g. completion of J-1 obligations)
- Immigration rules could change at the Federal level and complicate programs

Expected Outcomes / Measures:

- A 1% increase in the total active IMG PCPs would add 9 practitioners representing 5% of the total 2012 PCP need
- Additional IMG supply in rural and underserved areas
- Access to dormant in-state healthcare workforce supply

Potential Next Steps:

- Partner with KMA to survey current IMG population to identify key challenges
- Connect with AHECs to discuss opportunities to create direct partnerships with core international programs
- Evaluate opportunities to encourage certification support programs through new incentives

#5: Expanding programs to engage international medical graduates in rural and underserved areas (cont'd)

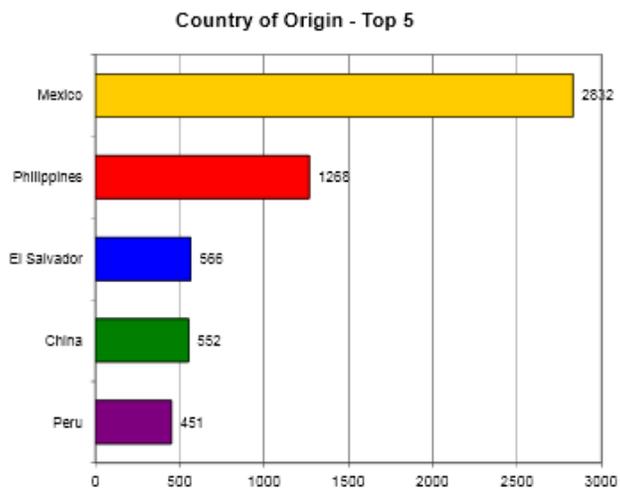
Case Study: Increasing Supply by Targeting Inactive Foreign-Trained Healthcare Workers

- The Welcome Back Initiative is a worker assistance organization that provides support services for internationally trained healthcare workers who are not certified to practice in the US
- The organization has created assistance centers in 8 states, leading to over 3,000 validated credentials and over 100 MDs accepted into medical residency programs

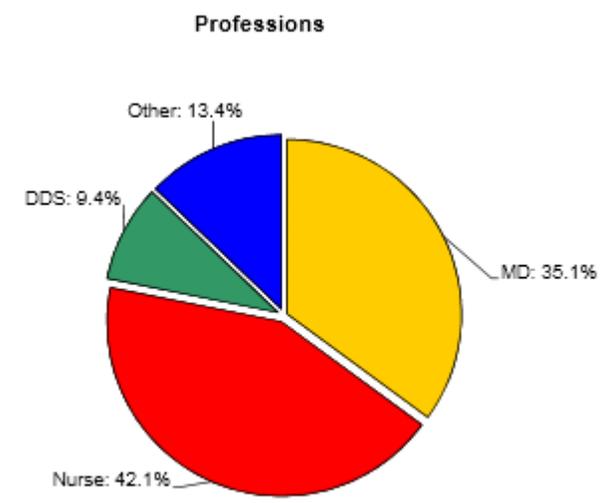
Services primarily target individuals currently outside the healthcare workforce...



...who are from a diverse set of home countries...

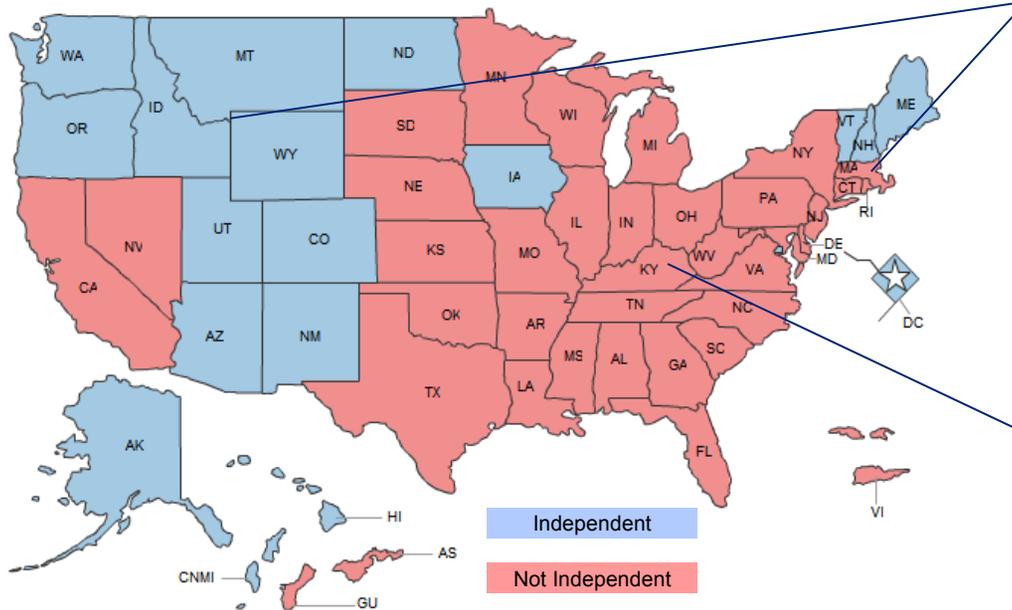


...and develop supply in a range of healthcare professions.



#6: Addressing scope of practice limitations for mid-level practitioners

Independent Prescribing - CNP
Can CNPs prescribe independently?



Seventeen states and D.C. allow full prescribing authority for non-scheduled medications — in other words, they do *not* require a signed agreement with a physician. This is also true for nurse practitioners working in the military.

Kentucky is positioned to make a progressive impact in the surrounding 7-state region and overall South with SB 43, which would remove collaborative agreement requirements for prescriptions for APRNs

Potential Challenges:

- APRNs are concentrated in urban areas with 44 counties, mostly underserved, showing a total APRN deficit of 97 FTEs
- Perception of decreased quality and outcomes
- Requires legislative change
- Need to support broad acceptance of move to patient-centered practice

Expected Outcomes / Measures:

- If 6% of the APRN workforce were added to PCP supply, it would fully mitigate the currently calculated PCP workforce gap
- Increased access to PCP providers would decrease underserved from using emergency room for non-emergency occurrences

Potential Next Steps:

- Support passage of bill similar to SB 43
- Work to make language in laws more flexible but targeted to include “qualified practitioners” versus “physician” (death certificates)

#7: Evaluate potential reform of statute related to medical malpractice caps

Indiana: \$1.25M cap for any act of malpractice, but providers not liable for awards in excess of **\$250k**; remainder paid through Patient Compensation Fund.

Ohio: Sliding cap on non-economic damages, not to exceed the greater of \$250k or 3 times plaintiff's economic loss up to \$350k or \$500k per occurrence. Cap increases to \$500k per plaintiff or \$1M per occurrence for permanent physical deformity or permanent inability to care for self.

Illinois; **\$500k** cap in non-economic damages for awards in a medical liability cause of action, including wrongful death, against a physician, the physician's business or corporate entity, and personnel or health care professionals.

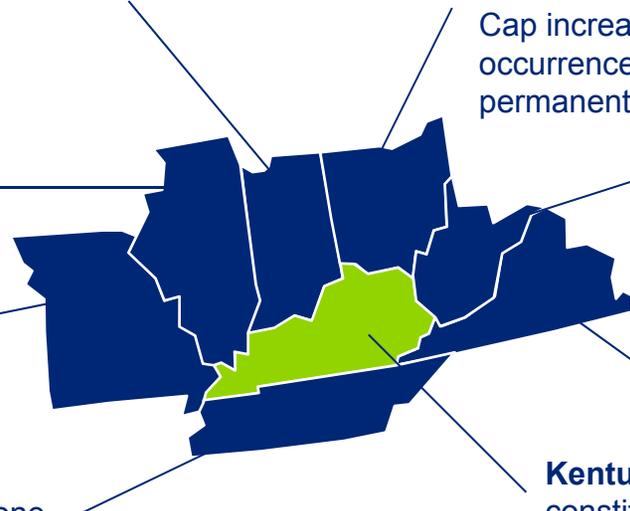
West Virginia: **\$250k** cap in non-economic damages per occurrence. Increases to \$500k for more extreme physical and mental damages.

Missouri: **\$350k** cap per plaintiff irrespective of the number of defendants.

Virginia: **\$20M** cap on total damages

Tennessee: None

Kentucky: None . Section 54 of Kentucky's constitution prohibits caps on damages.



Potential Challenges:

- Public concerns about quality and safety if caps are put in place
- Legislative barriers to reform, as seen with H.B. 361
- State-level cap would require an amendment of the Commonwealth's constitution which bars caps on damages

Expected Outcomes / Measures:

- Malpractice premiums in direct reform states declined by 8.4% over a three year period
- States with damage caps averaged 12% more physicians per capita than states without
- Each 1% increase in the total physician population addresses 12% of the statewide physician gap

Potential Next Steps:

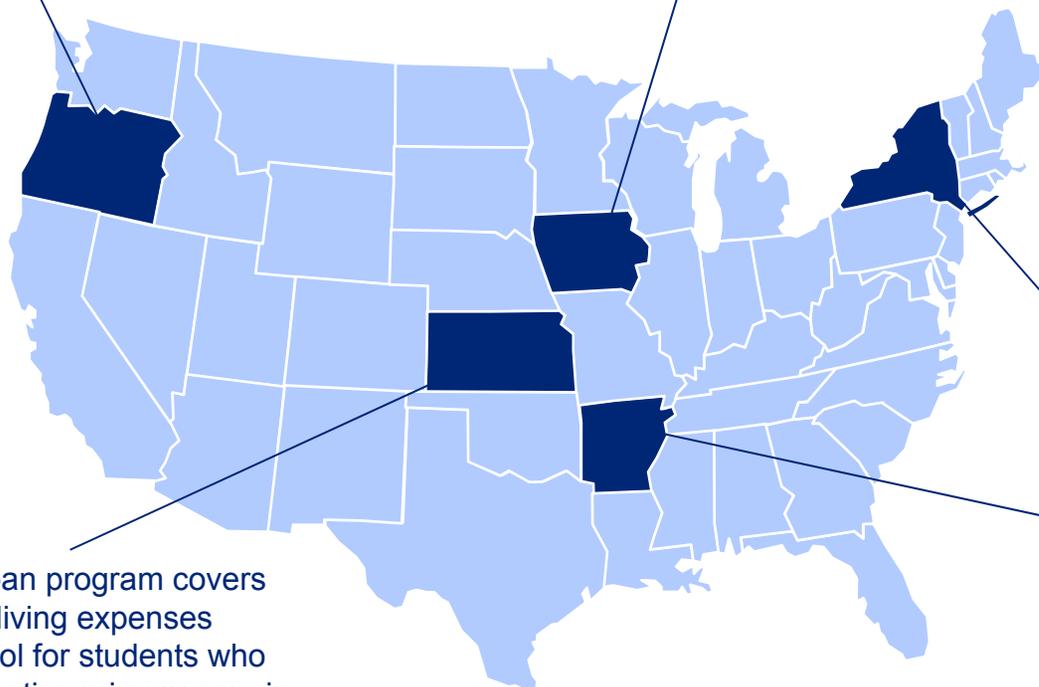
- Partner with UK / UL / Pikeville to survey a group of physicians who have chosen to leave the state to see the impact that tort reform may or may not have had on their decision
- Depending on results of survey, draft proposal to adjust the legislation using data from the survey and neighboring states

#8: Expand loan forgiveness programs to improve distribution in rural and underserved areas (cont'd)

Select states with state-funded loan forgiveness programs

Oregon: 10 physicians per year with up to \$100k in repayment for primary care

Iowa: Offers two-year grants to a range of primary care, medical, dental, and mental health practitioners. Requires two-year commitment to practice in a HPSA, with up to \$50k for full-time and \$25k for part-time practitioners

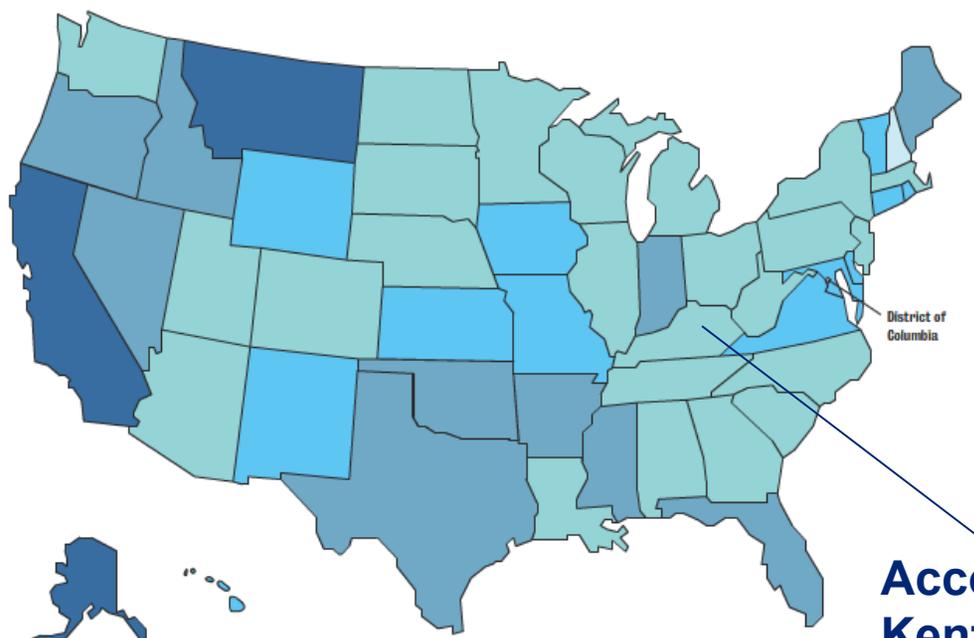


New York: Up to \$10k per individual who is working in an shortage area for a minimum of twelve months per payment period.

Kansas: Loan program covers tuition plus living expenses during school for students who agree to practice primary care in Kansas after graduation

Arkansas: Arkansas residents who enroll at University of Arkansas College of Medicine can be approved to receive \$12k for each year of service within the state

#9: Enhance programs that support recruiting for retention in Kentucky schools



Percent of physicians who completed GME in-state and are active in-state



According to one recent study, Kentucky ranked 24th in retention of in-state physician graduates¹

Challenges:

- Implementation of preference-based selection mechanisms may be controversial
- Attempts to influence career paths early in education may be costly and hard to track outcomes
- No guarantees that students from rural and underserved areas will continue to practice in KY

Expected Outcomes / Measures:

- A 5% increase in the retention rate for the three KY medical schools would add 101 additional physicians by 2017
- Increased number of KY graduates moving into KY rural areas
- A more stable pipeline for KY-educated healthcare providers

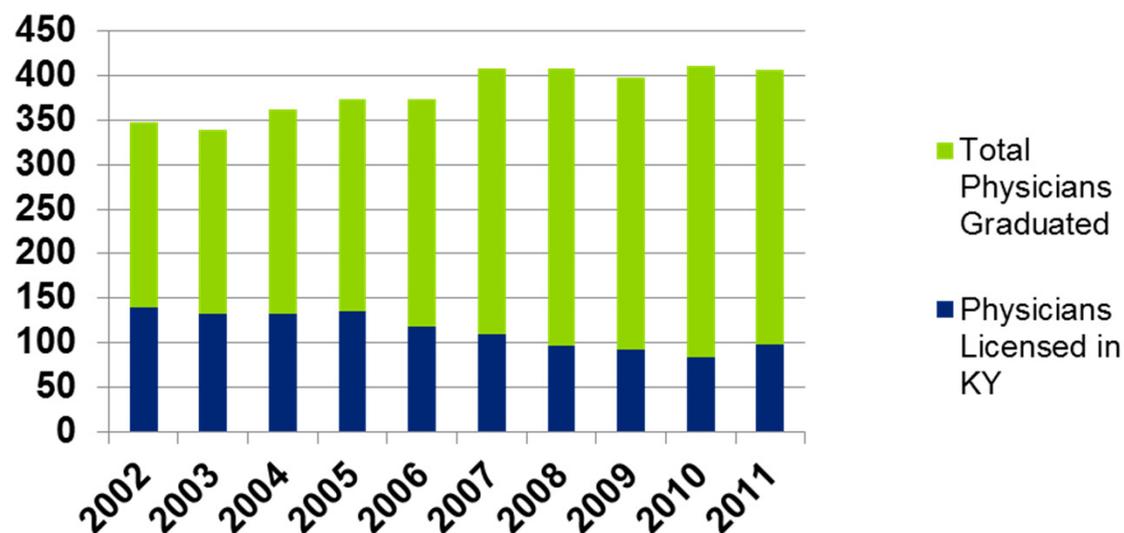
Potential Next Steps:

- Identify education partners to support development of programs
- Evaluate other states that have improved targeting of specific student types (e.g. PA, VA)
- Partner with AHECs to identify potential funding requirements for proposed programs
- Expand diversity definitions to include rural and underserved

#9: In-state physician retention appears to be dropping over time

In our initial analysis, we found that of the 3827 MDs & DOs who have graduated from the three KY medical schools from 2002 – 2011, 1139 are currently licensed within the state (29.8%).

Retention of MDs & DOs Graduating from All Three Kentucky Medical Schools

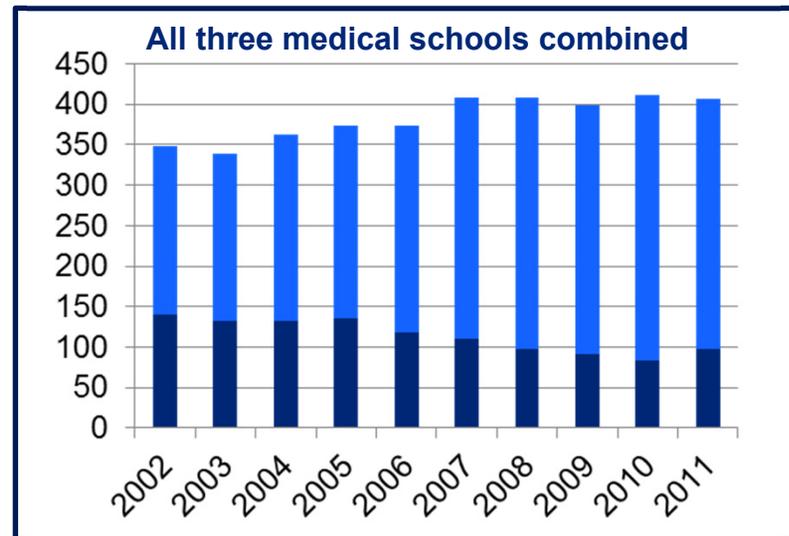
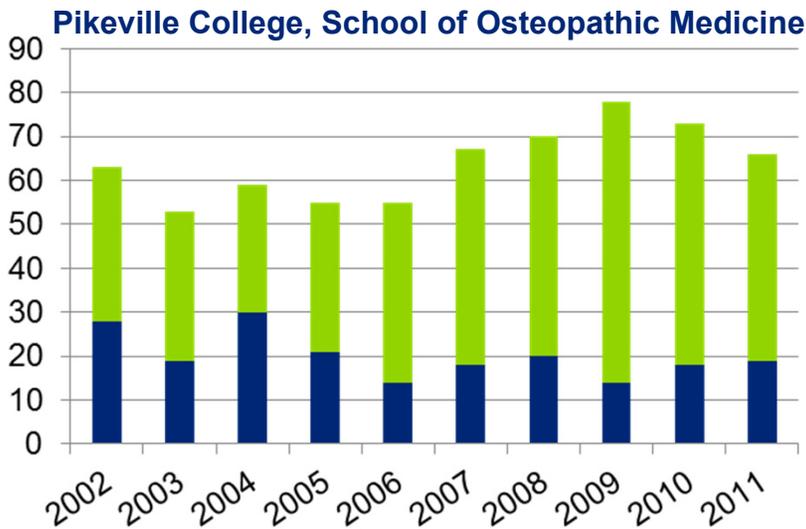
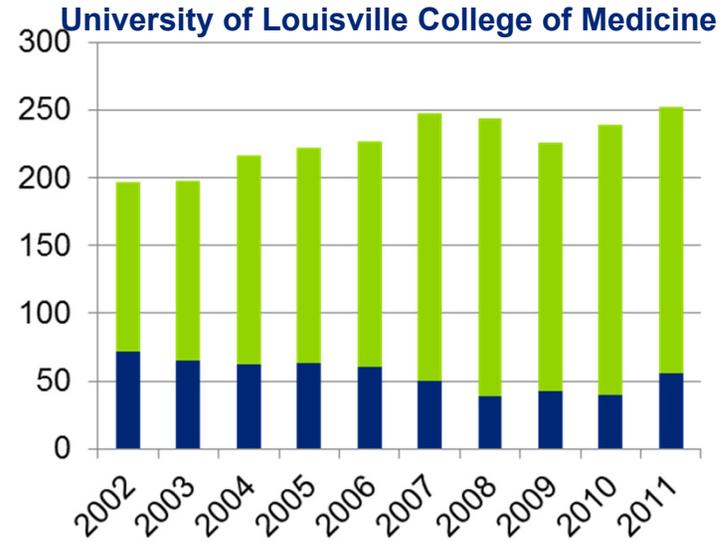
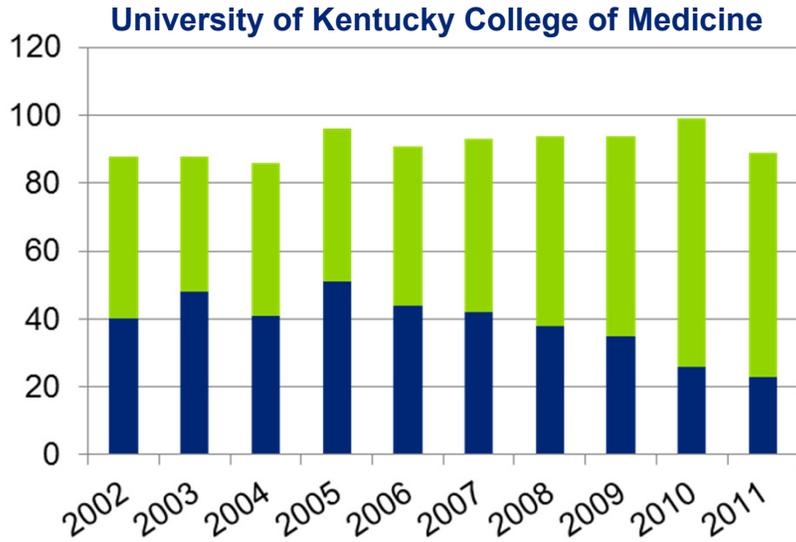


In-state retention of MD graduates from the three programs has vacillated over time, with a high of 40% in 2002 to a low of 20% in 2010. The general trend appears to be towards lower retention.

Looking at more granular residency matching data for the University of Louisville, in-state matching percentages have varied between a high of 45% in 2006 and 2007 to a low of 33% in 2012.

In 2012, the quota for KY-based residencies (285 positions) was higher than it had been since at least 2008 (271 positions), indicating no contraction of in-state residency opportunities.

#9: In-state physician retention appears to be dropping over time

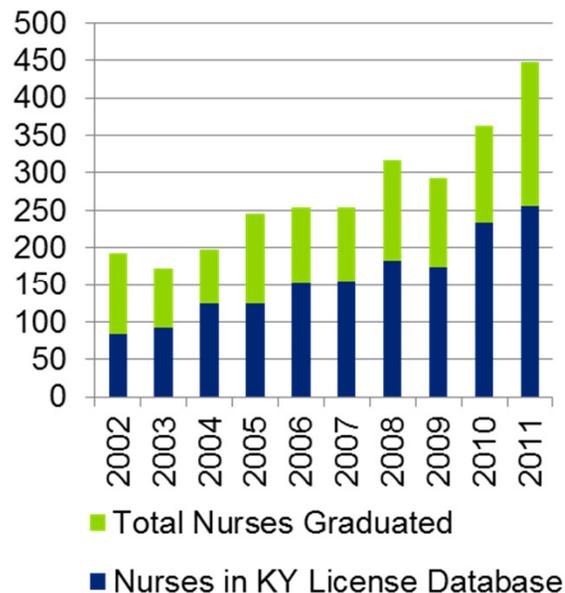


■ Total graduating class
 ■ Active MDs/DOs in licensing database

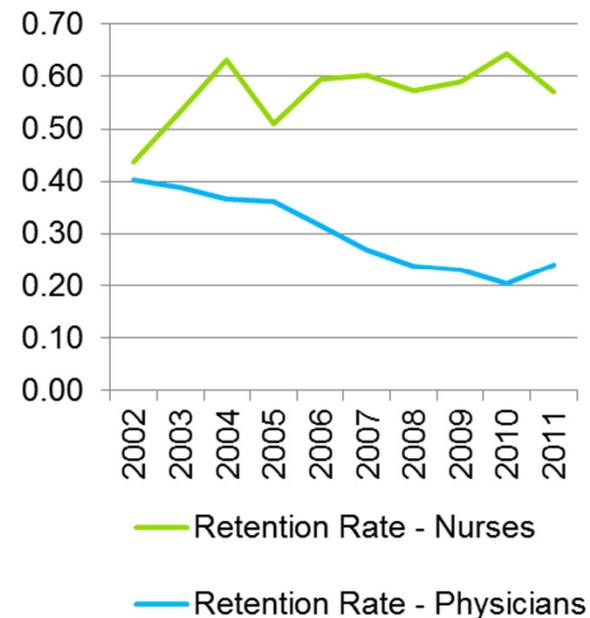
#9: Overall in-state Nursing retention appears to be trending higher than physician retention

Comparing nursing data from the University of Louisville and University of Kentucky shows that in-state retention for nurses continues to exceed retention rates for physicians and appears to be trending up.

Retention of Nurses Graduating from University of Kentucky and University of Louisville



Retention Rate of Nurses Graduating from University of Kentucky or University of Louisville vs. & Physicians from All Three Kentucky Medical Schools



#10: Expand regional rural health tracks to improve rural pipeline and rural retention

Representative Rural Medical Campus Programs & Selected Academic Study Findings

Rural Physician Associate Program (RPAP) @ the University of Minnesota Medical School

60% of graduates from 1972-2000 found to be in rural practice

Upper Peninsula Program (UPP) at Michigan State University College of Human Medicine

47% of graduates are practicing in areas with fewer than 20,000 people

Rural Medical Education Program (RMED) at the State University of New York Upstate Medical University

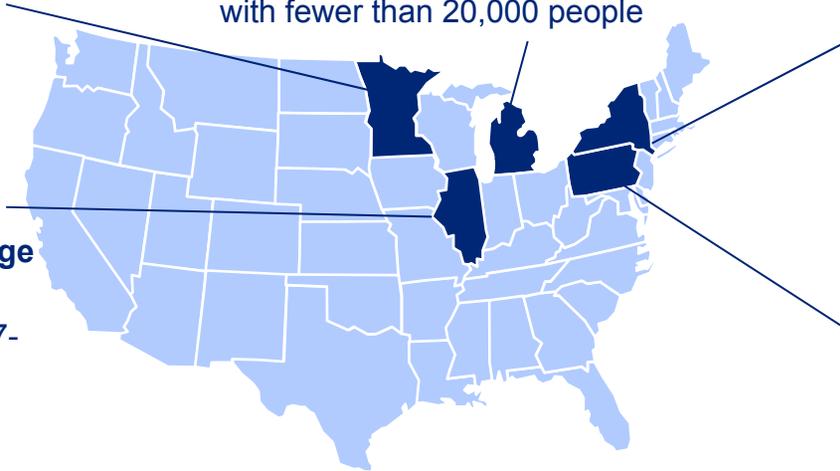
26% of graduates between 1990-2000 are practicing in areas with fewer than 50,000 people

Rural Medical Education Program (RMED) at the University of Illinois College of Medicine at Rockford

74% of graduates from 1997-2002 working in-state were practicing in rural areas

Physician Shortage Area Program (PSAP) at Jefferson Medical College

79% of studied family physician graduates working in rural areas; 69% still in same rural area



Challenges:

- Implementation of new academic infrastructure may be slow, and can carry a high price tag depending on scale
- Investments in new graduate supply may not yield in-state practitioners if retention is low
- May require additional investments in clinical rotation and / or residency capacity

Expected Outcomes / Measures:

- A combination of increased overall graduate supply, combined with increased rural practitioner placement and higher rural retention
- Each 1% increase in rural-based practitioners would address :
 - 13% of the rural PCP gap
 - 2% of the rural dentist gap
 - 2% of the rural MHP gap

Potential Next Steps:

- Partner with educators and public health groups to evaluate efficacy of current programs
- Expand existing programs like UK RPLP and University of Louisville Trover Rural Track
- Look for marquis programs in other states to help model the future state for rural health tracks in Kentucky

#11: Increasing health care degree and residency capacity across the Commonwealth

Recommendation: While the number of nursing graduates from University of Louisville and University of Kentucky alone has more than doubled from 2002-2011, the total number of MDs generated in-state only rose by 17% in the same period.¹ Furthermore, in-state retention of nurses appears to be much higher than for physicians, meaning that only a fraction of the 17% of additional physicians likely stayed in Kentucky to build out a practice.

- Partner with each medical and dental program within Kentucky to establish clear targets, timelines, and potential funding strategies for program expansion
- Evaluate feasibility of new programs that accelerate degree completion to more quickly generate workforce supply (e.g. graduate family medicine MDs in 3 years)
- Invest in additional Kentucky-based residency slots for rural and underserved areas; identify public / private partnerships or local economic development funding tools such as regional severance taxes to for funding beyond existing Federal programs

Challenges:

- May be a challenge to find funding for expanding class sizes and/or residency programs
- Accelerated programs may cause concerns related to quality Encouraging mid-levels to leave the workforce for a period of time could create additional gaps
- New residency positions may require CMS approval process

Expected Outcomes / Measures:

- In-state retention for Kentucky physician graduates hovers between 20-40%; increasing supply by 10 graduates/year could yield 2-4 KY physicians
- An increase in residency programs should yield an increase in the total physician population, educated either in-state or out-of-state

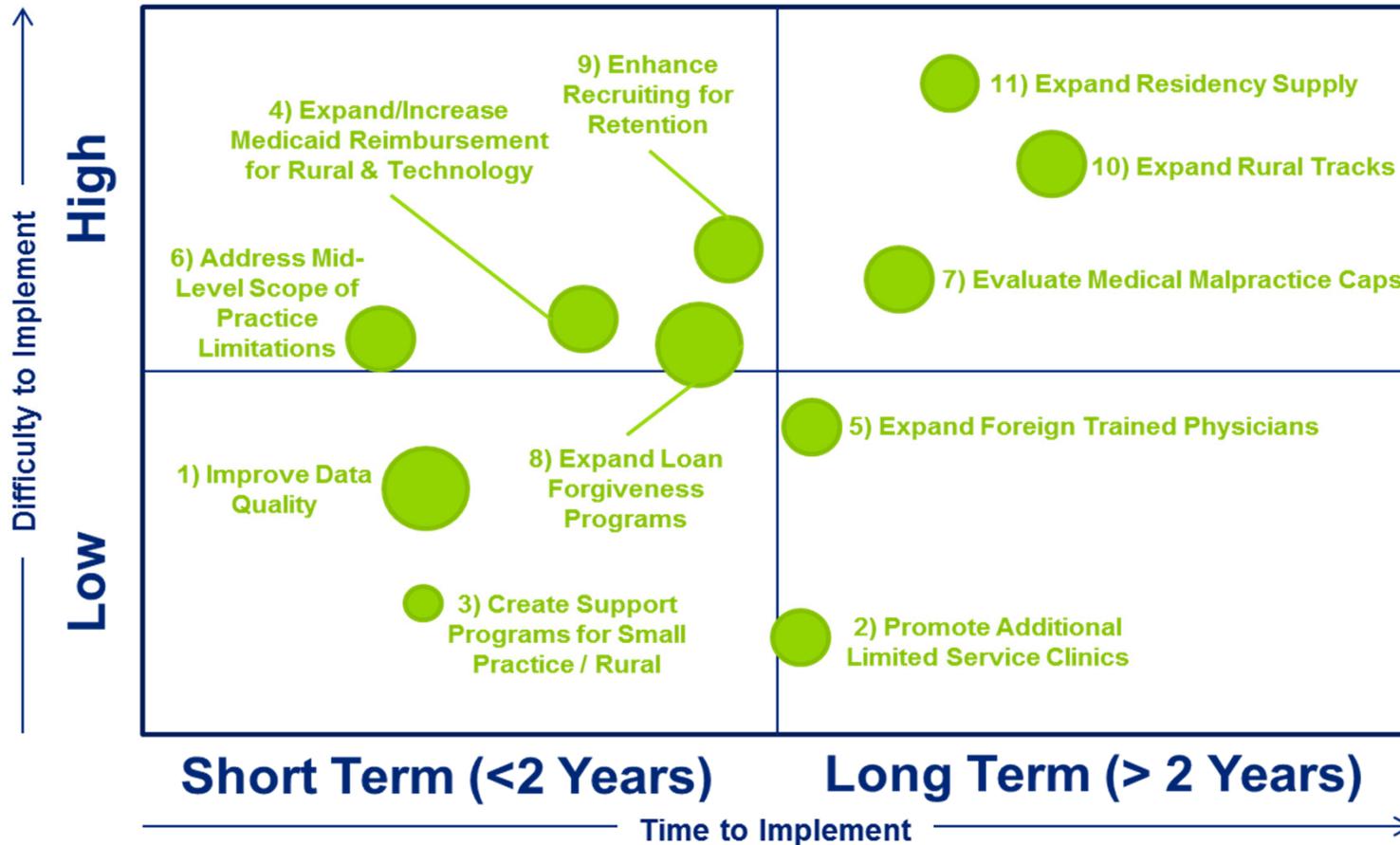
Potential Next Steps:

- Research outcomes and program design options related to accelerated degree programs
- Coordinate with AHECs to evaluate funding requirements for expansions within existing medical and dental schools
- Identify potential partners or tax-based funding for additional residency slots

Sample Prioritization Matrix of Recommendations

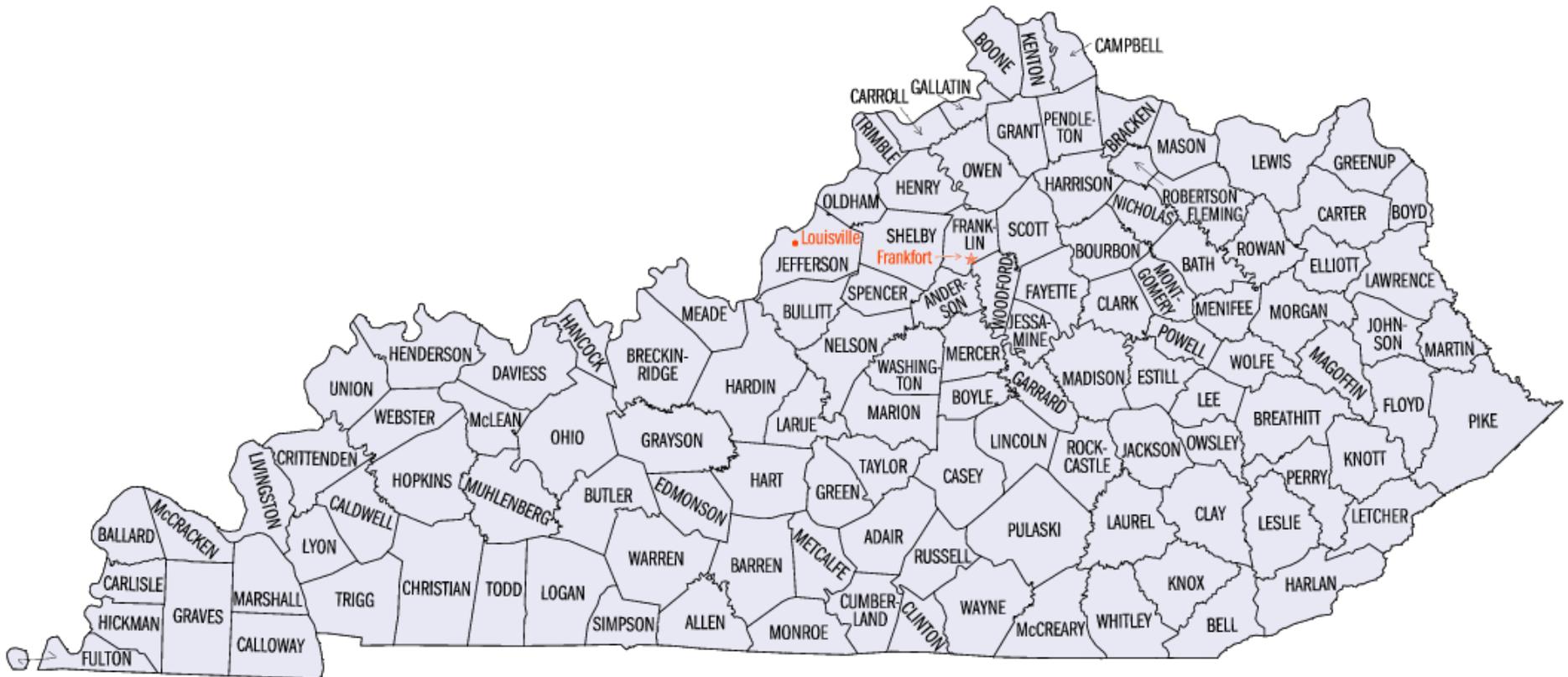
#	Description	Timing	Difficulty to Implement	Potential Impact (1-5; Low-High)
1	Improving professional licensure data quality and reporting across all workforce groups	Med	Low	5
2	Promoting additional LSCs to expand access in rural/ underserved areas	Low	Med	3
3	Creating support programs for small practices in rural and underserved areas	Low	Low	2
4	Expanding/Increasing Medicaid reimbursement for rural areas and technology-driven care	Med	Low	4
5	Expanding programs to engage international medical graduates in rural and underserved areas	Med	Med	3
6	Addressing scope of practice limitations for mid-level practitioners	Med	Low	4
7	Evaluating medical malpractice caps	Med	High	4
8	Expanding loan forgiveness programs to improve distribution in rural and underserved areas	Low	Med	5
9	Enhancing programs that support recruiting for retention	Med	Med	4
10	Expanding regional rural health tracks to improve rural pipeline and retention	High	High	4
11	Increasing health care degree and residency capacity across the Commonwealth	High	Med	3

Sample Prioritization Matrix of Recommendations



- Low Impact
- Med Impact
- High Impact

Map of Kentucky Counties

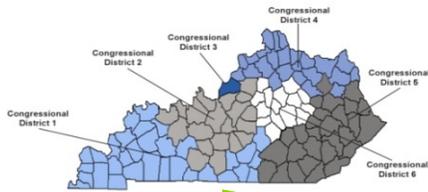


Q&A

Appendix

Master Database behind the visualization (Physicians)

Cross-maps of Congressional, Medicaid, and ADD regions to counties



USPS Zip code and US Census Bureau Demographics database

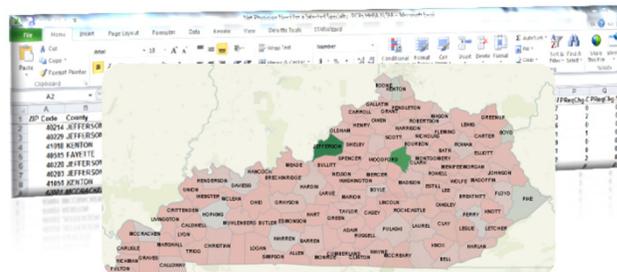
KY Physician License Database

Zip Code	County	Medicaid Region	Congressional District	ADD	Population	Physicians	Specialty	Subspecialty											
40001	Jefferson	1	2	ADD1	1702	107	100	20	1	1	1	1	1	1	1	1	1	1	1
40002	Nelson	1	2	ADD1	1000	100	100	100	100	100	100	100	100	100	100	100	100	100	100
40003	Tandem	1	2	ADD1	1000	100	100	100	100	100	100	100	100	100	100	100	100	100	100
40004	Henry	1	2	ADD1	1000	100	100	100	100	100	100	100	100	100	100	100	100	100	100
40005	Nelson	1	2	ADD1	1000	100	100	100	100	100	100	100	100	100	100	100	100	100	100
40006	Nelson	1	2	ADD1	1000	100	100	100	100	100	100	100	100	100	100	100	100	100	100
40007	Nelson	1	2	ADD1	1000	100	100	100	100	100	100	100	100	100	100	100	100	100	100
40008	Nelson	1	2	ADD1	1000	100	100	100	100	100	100	100	100	100	100	100	100	100	100
40009	Nelson	1	2	ADD1	1000	100	100	100	100	100	100	100	100	100	100	100	100	100	100
40010	Nelson	1	2	ADD1	1000	100	100	100	100	100	100	100	100	100	100	100	100	100	100

MGMA Physician Annual Visit Volume Benchmarks for HHS-4 and National



Master Database & Tableau Visual Data Engine



TRUVEN HEALTH ANALYTICS

Market Expert

Truven Market Expert Supply/Demand and Geo Mapping Engine

Segmenting the physician licensing database

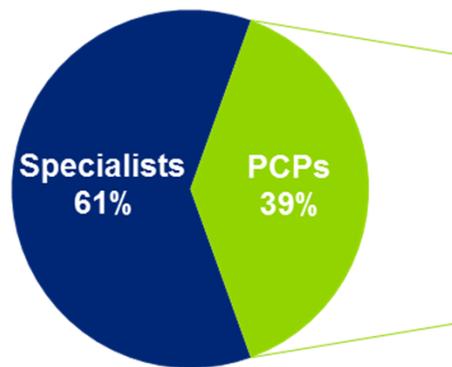
To arrive at a final list of the current physician population, we needed to make some specific decisions around which practitioners to exclude in our analysis:

Additional Segmentation Options	Number of Physicians	Group Consensus / Result
Provisional permit / limited license	5	Remove
Administration	90	Remove
Faculty	782	~ .5 FTE based on AHEC data
Locum Tenens	89	Remove
Military	34	Remove
Public Health / Gov	300	File sent to Chris and staff for further analysis, 62 physicians identified as seeing public patients
Research	9	Remove
Semi-Retired	149	Each physician = .5 FTE
No Status on File	54	File sent to Chris and staff for further analysis, 34 physicians identified as seeing public patients

Calculating PCPs Who Accept Medicaid and the Corresponding PCP Population Need

An effort was made to estimate the number of PCPs who accept Medicaid by matching the physician licensing database to rendering providers who received a Medicaid payment in CY2011, however, the inherent limitations in using this approach resulted in a wide range of PCP need results depending on panel sizes:

Physician Licensing Database



Matching against CY2011 Medicaid Payments =

- 2,285 FTEs (56% of PCPs or 22% of All Physicians accepted a Medicaid payment in CY2011)



The Truven model is adjusted for actual PCP physician FTEs from the licensing database and is calculated by using age/sex visit rates of PCPs at the zip code level. The higher end of the range incorporates all 640,000 uninsured who may be eligible for Medicaid expansion or premium assistance. The lower end of the range is comparable to HRSA's HPSA estimates of 167 PCP needed, however, both could be understated if these practitioners choose not to accept Medicaid.