Exploring **Primary Care Services and Resources** in Greater Cincinnati

An Overview of the Issues

A Project of

The Health Foundation of Greater Cincinnati

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Contents

Introduction

Exploring Primary Care Services and Resources in Greater Cincinnati: An Overview of the Issues and its companion *A Chart Book of the Issues*, produced by The Health Foundation of Greater Cincinnati in partnership with The De Mink Group, LLC, and ProDev Associates, Ltd., is part of an initiative to achieve 100% timely and effective access to primary care in the 20-county region that spans Southeastern Indiana, Northern Kentucky, and Southwestern Ohio. These counties are remarkably diverse and reflect that the health of a population varies by geography – from the urban centers of Cincinnati and Covington to suburban counties like Butler, Campbell, and Dearborn to the more rural and lightly populated counties of Adams, Bracken, and Switzerland.

The availability of health resources (physicians, hospitals, and community health centers) matter to health outcomes, as do characteristics of the population (insurance coverage, income, and age). The accompanying chart book provides a comprehensive picture of these various factors and resources available for solutions. In the end, the region's population and the leaders and managers of resources have the opportunity to decide how resources will be deployed toward the goal of 100% access.

Data sources for this report include the Area Resource File (ARF) produced by the National Center for Health Workforce Analysis (NCHWA), Bureau of Health Professions (BHPr) within the Health Resources and Services Administration (HRSA) (Miller, Vigdor, and Manning, 2004). Another resource, Center for Evaluative Clinical Sciences at Dartmouth University, provides data at different levels of geographic scale, ZIP codes, and Primary Care Service Areas (PCSAs) – regions that follow actual referral patterns of Medicare, Medicaid, and privately insured consumers (Devers, Brewster, and Casalino, 2003). Other sources of data include a survey specially prepared for this report and the Uniform Data Systems (UDS) dataset maintained by the U.S. Bureau of Primary Health Care.

Health care needs stem from economic status, lack of insurance coverage, culture, and geographic isolation. Health care resources, however, are distributed according to a complex mix of economic incentives as well as a desire to make access uniform. That makes them more difficult to track. Perhaps the adage about politics is apt here – all healthcare is local. While those closest to specific neighborhoods or regions might know their issues best, the region as a whole can choose to be neighbors, listen to local stories, and then respond. A twist on the political metaphor then, is "listen locally, act regionally."

Because of the unique financial and social charter of Community Health Centers (CHCs), information about them in this report is presented in its own section. Likewise, the distribution of physicians is analyzed separately. Together, their impact on the safety net is examined in one of the only measurable ways possible – through the visits for ambulatory sensitive conditions (ASC) at the regions' hospitals. In short, patients with preventable conditions are those whose health issues could have been more effectively addressed in primary care – whether through a CHC or in a private practice. Measuring hospital treatment of preventable conditions gives us a quick but accurate temperature of the healthcare system's performance. Finally, this report presents suggestions for future research to enhance the understanding and performance of the 20-county primary care system.

Lessons Learned

The observations and key findings in this report center around the distribution of physicians and providers, income, insurance coverage, and other healthcare resources in the region.

Lessons in Geography

The area's health resources are distributed unevenly. While that is no surprise, an understanding of the economic factors contributing to this may help ignite a set of initiatives that address uneven resource distribution. Some medical practices depend on proximity to technology, thereby leaving more rural locations with a dearth of physicians and providers. While some physicians distribute themselves more evenly throughout the region, increasing financial pressures encourage migration to urban areas mid-career.

Learnings

The practice of medicine in more sparsely populated areas must adjust its use of resources and accommodate for the leaner presence of technology and assets. Telemedicine can play a role in addressing this issue. Communities must also develop solutions in areas where physician compensation is a deterrent to recruitment and retention efforts. Examples of remedies include increased National Health Service Corps placement and structured bargaining between physician, providers, and insurance companies.

Lessons in Poverty

In the gravest areas within the 20-county region, poverty exceeds 14% of the population.[1] In these same areas, between a quarter and a third of the population are at risk for lack of health coverage. Community health centers, however, are not located in some of these areas. These areas include:

- Central Cincinnati/Covington (Kentucky/Ohio)
- Northeast Butler County (Ohio),
- Southeast and Eastern Appalachian Region (Ohio)
- Southern Clermont County (Ohio),
- Southwestern Gallatin County (Kentucky), and
- Western Dearborn County (Indiana).

Learnings

In areas such as Adams County (Ohio), localized analysis of what's causing high self-pay status and high Medicaid ASC use could benefit the community. People living at extreme levels of poverty have access to medical and other social services that lower-middle income people do not. These services should be focused at the working poor, as well. Also,

[1] *In 2000, the federal poverty level (FPL) was an annual income of about $14,000 for a family of 3.*

the region could benefit from more health centers—an early objective of the present national administration and each state's Primary Care Associations' strategic planning priorities.

Lessons in Health Status

We selected the prevalence of low birthweight babies and infant mortality rates as two indicators to track the effectiveness of the region's primary care system.

- In Indiana, higher percentages of low birthweight births were identified in Ohio and Dearborn Counties. There, rates have risen from 1996-2000 and 1997-2001 due mainly to a "spike" for Dearborn, Ohio, and Ripley counties in 2001. The small population size, and therefore small number of births, in these counties may skew these rates.
- In Kentucky, Bracken and Pendleton counties have the highest infant mortality rates, and overall rates of low birthweight babies are higher in Bracken, Gallatin, and Grant counties due to increases between 1997-2001. Again, small population size may have an affect.
- In Ohio, Hamilton County has the highest rates and shows an increase in low birthweight births in the later period. Decreases, however, were common in other Ohio counties.

It is common in this region to have elevated low birthweight rates at the same time as elevated infant mortality rates, especially among African American populations. This can be due to population-specific factors, such as lack of insurance coverage; cultural factors, such as poor or non-existent pre-natal care; or socioeconomic factors influencing the mother during pregnancy and care delivery.

Learnings

Targeted efforts need to be assessed to determine if providers are serving populations experiencing low birthweights and high infant mortality rates. Consideration should also be given to interventions having marked success within the region as well as those seen in the Community Health Access Program, which is based in Columbus, Ohio.

Lessons in Preventable Hospital Utilization

Appropriate use of primary care, and perhaps even access to care, is a problem not only for the uninsured but for everyone in the region. Local hospital data show that the uninsured actually account for the least amount of preventable hospital encounters. In all, over half of all hospital admissions and emergency room (ER) visits were preventable through earlier primary care intervention.

Learnings

Since so many people from all walks of life are using ERs for preventable care, the region must look at why and then begin to look at how to solve it. Perhaps the message is as much about access outside normal business hours, visibility (hospitals vs. rural health centers), provider behavior, or trust as it is about source of payment. It is possible that interventions such as having a primary care clinic managed by a community health center and attached to an ER could resolve some inappropriate ER use. This type of clinic would be open in the evenings to divert some non-emergent visits and provide a source of care that is flexible enough to meet the needs of the working poor.

Physician Distribution and the Safety Net

In the face of efforts to level out the physician supply, the persistence of lop-sided physician distribution over the last 20 years is concerning. The term "physician distribution" is used to describe the location of physician resources in relation to the rest of the population.[2] Why is physician distribution of particular concern? What are the patterns in the Health Foundation's service area?

Part of what makes physician distribution important, specifically primary care physician distribution, is its close relationship to mortality rates. According to 2004 The State of the Community report by the United Way of Greater Cincinnati, mortality rates in the area are on the rise. Our comparison of mortality rates across 3,075 counties in the U.S. confirms this truth, specifically in the 20-county service area.[3] We found that more primary care physicians per capita means lower overall mortality rates even when accounting for socioeconomic and demographic variables. The standard used to designate a physician shortage area is 29 primary care physicians per 100,000 people. That means that for the safety net, the number of primary care physicians in each county is of critical importance.

Unfortunately, knowing the relationship between physicians and mortality has not automatically resulted in positive change. Growth nationally in the number of specialists has outpaced general primary care more than 2:1, despite concerted policy efforts to increase the supply of primary care physicians, specifically family practice physicians (Goodman, 2004). Nevertheless, physician:population ratios have increased in the 20-county region by[4]:

Primary Care

- 14% in metro areas
- 22% in adjacent urban counties
- 67% in completely rural areas

Specialty Care

- 16% in metro areas
- 70% in adjacent urban counties
- 4900% in completely rural areas[5]

The following explores the distribution of physician resources in more detail, making use of Dartmouth University's Primary Care Service Area (PCSA) designations to represent "approximations of markets for primary care services in general" (Goodman, Mick, Bott, Stukel, Chang, Marth, Poage, and Carretta, 2003).

Internal Medicine Physicians

- Highland (Ohio) and Grant Counties (Kentucky) do not attract many physicians. In these areas there are less than 2 internal medicine physicians per 100,000 people.

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[2] Dentists, nurses, nurse practitioners, and mental health treatment providers comprise a critical part of the safety net. The focus on physicians is not to the neglect of the broader healthcare community, but as a proxy for some of the most difficult and challenging issues facing the service area, including mortality as discussed in this section.

[3] This study compared related age adjusted standardized mortality rates to primary care and specialist physician/population ratios across all U.S. counties combining data from 1996-2000.

[4] While the physician-population ratio seems better, the population itself is shrinking, thereby lowering the number of physicians needed. One research angle to explore is whether a decreasing population is related to an inadequate supply of healthcare access. One policy angle to explore is whether Cincinnati's shrinking population should warrant a decrease in physician supply or an increase to attract population growth.

[5] During the five year period these data were tracked (1996-2000) the number of specialists in rural areas increased from 0 to 49.

Family Practice Physicians

- Family practice physicians tend to congregate near hospitals in urban areas; however, this is not the case for central Hamilton County.[6]
- There is evidence, however, that rural residents do not visit local family practice physicians, and are willing to travel to more urban areas. These rural patients might perceive that urban physicians possess greater skills and have access to more ancillary services (Borders, Roher, and Hilsenrath, 2000). This hurts physicians in rural areas and creates a strong motivation for them to move their practice to more urban areas.

Pediatricians

- Greater Cincinnati pediatricians are mostly concentrated in central Hamilton County, the southeast corner of Butler County, southwest corner of Warren in proximity to Cincinnati Children's Hospital Medical Center, and other downtown urban hospitals. There are also several pediatricians in the area surrounding New Richmond in Clermont County, Ohio.
- Pediatricians are sparse in Bracken, Grant, and Pendleton Counties in Kentucky and most of Adams County in Ohio. These numbers are consistent with the numbers from other studies where pediatrician distribution is about 5 in rural areas and about 14 in urban areas[7] (Gramm, Castillo, and Pittman, 2003).

Obstetrician/Gynecology Physicians

- Obstetrician/Gynecologists (Ob/Gyn) are the most sparsely distributed, concentrated in central Hamilton County and parts of Brown and Franklin Counties. Across the 20-county service area, there are fewer than 3 Ob/Gyns per 100,000 people.
- One likely reason for the low number of Ob/Gyns is that malpractice insurance for these physicians is particularly burdensome.[8] Ob/Gyns' premiums in Ohio, for example, rose 148.5% from 1998-2002 (Office of Disability, Aging and Long-Term Care Policy, 2002).

Physician Age Distributions

With payments declining, retention of physicians is seen as a bigger challenge than recruitment (Gramm et al.). If the 20-county region intends to grow its physician base, it will need to solve this issue. A review of practice migration patterns yields insight into issues most pertinent to retaining physicians in the area.

There is corroborating evidence in Cincinnati that high concentrations of younger physicians are locating in more rural areas. Younger physicians may be drawn to rural areas

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[6] *There are relatively large patches of family practice physicians ranging from Bracken County in Kentucky through the Ohio counties of Brown and Highland. High concentrations of family physicians are located in northern Warren County in some proximity to Sycamore Hospital in Miamisburg, Ohio. Again, these distributions match those of other studies where (a) family practice physicians are more evenly distributed, and (b) they have higher densities in rural areas. These other studies indicate that the average density for family practice is 26 per 100,000 people.*

[7] *Pediatricians are likely to settle in communities of 10,000 or more in order to have access to at least five other physicians to help provide evening and weekend coverage.*

[8] *Counties in states with a cap on malpractice insurance had 2.2% more physicians per capita because of the cap, and rural counties in states with a cap had 3.2% more physicians per capita. Rural counties in states with a $250,000 cap had 5.4% more Ob-Gyns and 5.5% more surgical specialists per capita than did rural counties in states with a cap above $250,000 (Ecinosa and Hellinger, 2005).*

by programs like the National Health Service Corps, which pay off physicians' educational loans while they practice in non-metropolitan areas. For the sake of rural access to care, this is encouraging. However, there is also a pattern of physicians migrating to more urban settings later in their career.[9]

All things being equal, if there was a good supply of younger physicians "in the pipeline," the sequence of urban migration might sustain current levels of physicians in rural areas. However, with the aging of the population generally, the number of younger physicians is likely to decline. In addition, if practice conditions become more unfavorable in rural areas, the average exit age may be younger, leading to increasing physician shortages. Therefore, recruitment and retention of physicians must remain high priority in the years to come.

Younger Ob/Gyns are scattered throughout Adams, central Hamilton, and Warren Counties in Ohio and Ripley County in Indiana. While relatively higher numbers of these physicians are promising, the number available shows the challenge ahead. Perhaps the caps on malpractice awards will be fruitful; however, aggressive recruiting still seems to be the best solution.

Physician Compensation

In Midwestern markets like Columbus, Indianapolis, Milwaukee, and Pittsburgh, rural relocation can account for lower income because public insurance pays at a smaller ratio of charges than private insurance (especially non-managed care insurance) (Hounchell, Kaufmann, and Williams, 2005).

Cincinnati physicians cannot look to market share in private insurance as an adequate means to grow their practices and thereby provide better patient access (Hounchell). This, then, creates a double disincentive for rural relocation:

- It first means that physicians in rural areas are likely to be paid less than their urban counterparts.
- Second, it means that all things being equal, neither rural nor urban Cincinnati physicians are being compensated on par with physicians in other communities. In fact, data gathered in a concurrent study demonstrate that physicians in the 20-county service area are paid in upwards of 63% less than physicians in comparable markets (Hounchell; Tortora, 2005).

Some physicians may and already have elected to work under the auspices of Greater Cincinnati's community health centers. These arrangements can provide physicians malpractice coverage, benefits, and limited practice management responsibilities. On a related note, in Asheville, North Carolina, a more regional approach to care for the poor developed by the American Project Access Network (APAN) had the unintended but welcome by-product of making the community health center a coveted place to practice medicine. A similar outcome could be expected as a result of a regional approach in Greater Cincinnati.

[9] *An early national study of physician migration indicates that the average age for physicians moving their practice to urban areas is about 53 (Taylor, 2001). It appears that these moves occur after a practice has been developed, the move due mainly to desire for greater long-term financial stability. Other reasons may include a desire for access to in-service training and a greater chance to interact with other physicians.*

Summary

Although it is likely that rural physicians will generally be younger, they may not remain in rural areas as the incentives for more lucrative practices in urban areas keep beckoning. Of even greater concern is the general competitive disadvantage for physicians practicing in the metro area due to what has been considered an economically suppressed healthcare market (Hounchell; Tortora). If research holds true, physicians in the rural areas of Greater Cincinnati will not only migrate to more urban areas over time, but to urban areas outside of Greater Cincinnati.

Community Health Centers

Community health centers (CHCs) were established as a primary care delivery model for the uninsured and low-income populations in U.S. cities and isolated rural areas. Over the years, CHCs have expanded their base by offering a full array of services to patients with both public and private insurance. In order to better understand the state of and services offered by the region's community health centers, we developed a customized provider survey for this assessment. Combined with the Uniform Data System (UDS) data acquired from the U.S. Bureau of Primary Health Care, the survey provided geographic-specific "snap shots" of capacities and demands at a point in time. There was a 100% response from 42 surveyed health centers, which included both federal and non-federally supported CHCs. Key findings are presented:

Patients Served

There are significant differences in the type of patients served in facilities. One practice location, for example, serves a much higher fraction of self-pay patients, whereas other facilities have a higher fraction of Medicare or Medicaid patients.

- The 42 CHCs served 147,484 patients in 2004.
- Of the 132,578 patients treated at federally supported sites in 2003, 58,147 patients were below 100% of the federal poverty level (FPL) and 25,017 patients were at 101-200% FPL.

Sources of Payment

Federally Qualified Health Centers (FQHCs) with 330 grantee support from the Bureau of Primary Health Care report that:

- over 43% of patients seen have no insurance coverage,
- almost one-third of patients are insured through Medicaid,
- approximately 6% of adult patients have Medicare, and
- 20% of patients are privately insured.[10]

On average, these facilities collect about 73% of charges, but only 31% of the charges to self-pay patients. This might lead one to initially conclude that the insured are subsidizing care for the uninsured. That would be true if:

- insurance payments for physicians cover the entire costs of service provided
- CHC financial viability was entirely dependent on cash or insurance payment.

Since neither of these is consistently true, the insured cannot accurately be said to be subsidizing care for the uninsured. Rather, it appears that government subsidies and margin realized from enhanced Medicaid are permitting the treatment of the uninsured.

[10] *Indiana centers have much higher levels of uninsured and lower levels of Medicare, Medicaid, and private coverage than centers in Kentucky and Ohio.*

Service and Staffing Resources

Facilities generally operate on an eight-hour-per-day schedule, Monday–Friday. Most offer extended hours at least one week day evening, with Thursday evening being the most frequent time for later operations. No regular Saturday hours of operation were reported.

Staff resources are clearly more abundant in Ohio than in Kentucky and Indiana. This, as explained elsewhere, could potentially be attributed to the fact that Ohio populations and the federally designated underserved areas are concentrated in more urban than rural areas.

There is only one physician in a traditional safety-net environment serving the five Indiana counties, whereas Ohio and Kentucky facilities have a variety of positions serving a much more diverse population. Medical staff at all facilities are primarily Caucasian. The addition of bilingual staff would significantly alter the diversity of the system. CHCs have been adding bilingual staff when funds become available either through staff turnover or access to additional resources. Language classes that provide specialized training in medical terminology have been offered to center personnel.

The services provided in most centers are the kinds of preventive services needed in the community to reduce the rate of preventable hospital use due to ASC that are described in the next section. There appears to be greater consistency in the scope of healthcare services provided in Indiana and Kentucky than in Ohio, partly because the centers in those two states are managed via a network or parent organizational model.

Preventable Hospital Use

This section examines the rate of hospital admissions and emergency room (ER) visits that could have been prevented had patients received care by a primary care physician. These preventable admissions and visits are commonly referred to as ambulatory sensitive condition (ASC) visits and correlate to the diagnostic categories assigned when patients are discharged. The ASC categories are:

- non-emergency,
- emergency but primary care treatable, and
- emergency, needs care but the condition was primary care preventable or avoidable.

The following is an analysis of visits that were responsive to timely and effective primary care. These visits are organized according to the two types of ASC encounters – ER and inpatient hospital admissions

Preventable Emergency Visits

Across all types of insurance and payment source, the combined rate of preventable ER use was 40-50%, indicating that preventable ER use is not just a practice of people without insurance. Instead, it seems to be quite typical of the use of healthcare resources by everyone, even for non-emergencies.

While it is generally thought that people using the ER for preventable reasons do not have insurance, data supplied by the hospitals demonstrate that self pay patients have the lowest rate of preventable ER use, while Medicaid has the highest followed by Medicare and private insurance.[11,12]

However, although ER ASC rates are low for self-pay patients, hospitals typically receive less than 5% of the total charges incurred by these patients.[13] The lower than average rate of preventable ER use among self pay patients may be due to the fact that they are generally billed at full charges and do not return after an initial visit because of outstanding debt.

Strategies to reduce preventable ER use should focus on encouraging people to have a primary care home and to see their physicians regularly, as well as extending the prevalence of CHCs with convenient after-work hours. In other cases, proactive outreach screening and disease management services would reduce the need for ER treatment of chronic conditions that are designated as preventable. Similarly, delayed access to specialty care in the safety net system could be a factor in preventable ER utilization.

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[11] *Includes worker's compensation, non-Medicaid S-CHIP, etc.*

[12] *People with lower income jobs are less likely to have the option to take off work to attend a physician's office during the work day, making the ER the only source of care open when they can go. Also, some of the working poor do not live in close proximity to a subsidized health center.*

[13] *Data from this study consider uninsurance rates in smaller geographical units than by county. This is not the same thing as a population survey of insurance status, since not all people without insurance make use of healthcare services, let alone hospital services. On the other hand, self-pay patients who do make use of hospital services may be experiencing conditions for which primary care services were delayed.*

Components of Emergency Room ASC for self-pay patients

Among children, the median rate for preventable emergency visits is 44-47%. This means that nearly half of all children visiting ERs could have received more timely and effective primary care. For children and non-elderly adults, 21-22% of visits were not even emergencies. Among all patients, 17-29% only required a primary care setting for the treatment.

About 11% required ER facilities, but half of those situations could have been prevented or avoided with timely and effective primary care. This classification shows the potential payoff to enriching the safety net and other primary care resources in these communities.

Overall, these results suggest that either (1) a massive education campaign is needed to encourage people to use the medical system differently, or (2) those providing ER services should create a nearby alternative to serve routine primary care issues at hours people come to seek care.

Preventable Inpatient Hospital Admissions

The geographic spread of preventable inpatient hospital admissions (inpatient ASC) for adults (18-65) is more concentrated than for children. However, preventable adult admissions are higher than for children – between 13-15% compared to 5-8%. Studies of the relationship between socioeconomic status (SES) and preventable admissions definitely show SES as a factor, but it operates differently than one might expect. First, higher inpatient ASC may be due to poor health status of low-income populations. Second, higher inpatient ASC may be due to poorer quality of care, which may include delays in seeking care, diminished access to specialty care, or longer waits between appointments. Third, higher inpatient ASC may be due to less effective use of the existing health system, underscoring a functional lack of health literacy (Blustein, Hanson, and Shea, 1998). Each of these barriers would, then, call for a different response strategy:[14, 15, 16]

- Addressing the first, higher inpatient ASC due to poor health status, should focus on screening and disease management services.
- Addressing the second, higher inpatient ASC due to poorer quality of care, should seek to deepen the safety net system, perhaps by strengthening access to specialty care and other enabling services. There should also be an evaluation of clinical performance to determine if there are differences in the way care is offered to different populations.
- Addressing the third, higher inpatient ASC due to less effective use of the existing health system, might be solved by better outreach and health promotion on the part of local community health organizations.

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[14] The occurrence of these conditions is found in local hospital discharge data according to an algorithm prepared by John Billings of New York University (The NYU Center for Health and Public Service Research (CHPSR) of the Robert F. Wagner Graduate School of Public Service.

[15] The patient records, as before, include information on the patient's gender, age, insurance status, and ZIP code. Because these factors are likely to vary across counties, standardized summary values were computed across counties for a preliminary comparison. Standardization here means that ASC rates are computed as though there was no difference in the age or insurance payment status across the 20 counties.

[16] Standardized rates for inpatient ASC discharges are compared to the regional norm. Standardization here means that ASC rates are computed as though there was no difference in the age or insurance payment status across the 20 counties.

A Snapshot of Inpatient ASC

The rate of preventable hospital admissions ranged from a high of 1.8 times the regional average in Adams County, Ohio, to a low of 0.8 times the regional average in Bracken County, Kentucky.

It is interesting to note that most of counties above the regional average were rural counties, while those below were urban counties. One could conclude, then, that rural counties have higher rates of ASC admissions.

Summary

This section has focused on preventable ER visits and inpatient admissions at hospitals:

- ER ASC median rates were about 45% for children and about 39% for adults.
- Inpatient ASC median rates were about 7% for children but about 15% for adults.

If charge information had been available for this study, it would have been possible to compute the total hospital and emergency room charges involved in this type of hospital use. One could surmise that those resources, if spent differently, could purchase significant amounts of primary care for the region.

The difficulty in accessing even a part of those savings for redeployment in preventive healthcare, however, is the practical challenge of sharing the money across different systems and organizations. The keys to redeployment are to:

- Understand the magnitude of resources involved, and
- Build collaborations that either pick up the tab for these services, or stand to gain savings as a result of more efficient use of primary care.

A variety of factors have been explored as possible drivers for preventable inpatient and ER use, especially as concern mounts for the growing number of uninsured.[17] Unexpectedly, the data in this report suggest that something else may be prompting these complaints. Considering that patients with Medicaid top the list of preventable ER visits and the uninsured are the least frequent users for ASC, perhaps the poor—both uninsured and those on Medicaid—are inadvertently being lumped together in the national debate.[18]

It's possible that an uninsured person's concern for being billed limits his or her use of hospitals. Yet, this only partially explains the phenomenon, since preventable ER use includes use for conditions that have deteriorated to the point of necessity. Borrowing on the field experience of this assessment's researchers, one could look to the private sector to study the extent to which self-pay patients are capitalizing on the generosity of physicians charging little to nothing for their services.

Across all payers, percentage change in rates for ER ASC rates is about 4%. The county rankings, however, do not seem to follow any rural-urban or wealthy-poor dimensions. It is unclear, then, whether these changes are due to shifts in insurance coverage over the period or to some other factor yet to be identified.

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[17] *The proper weighting of their relative importance was not determined by the type of analysis conducted here.*

[18] *These results at least make anecdotal sense. In providing research to support this assessment, the authors draw upon their experience interviewing thousands of physicians and hospital staffs on the subject of preventable uninsured utilization. One ever-present observation made is that 'the poor' are crowding the ERs.*

Grading the Region: A Scorecard Analysis for Improving Access

The scorecard below brings together ER and inpatient ASC scores, self-pay hospital and emergency rates, and physician distribution. Following the scorecard is an analysis of selected counties or parts of counties within the region that show issues of concern for these subregions.

Community	Age group	Number of doctors per 100,000 people[1]				Uninsurance		Preventable hospital use				
		Internal Medicine	Family Practice	Pediatrics	Ob/Gyn	Self-Pay Inpatient	Self-Pay ER Visits	Self-Pay Inpatient ASC	Medicaid Inpatient ASC	Self-Pay ER ASC	Medicaid ER ASC	# High ASC Values
Rural												
Adams Co.	0–18	<6	15–25	<2	<3	M,H[2]	L	H	H	L	H	3
	19–64					M,H	L	M	H	L	L	1
Bracken Co.	0–18	6–13	>41	<2	15–19	L	L,M	L	L	L	H	1
	19–64					M	L,M	H	H	H	L	2
Ohio Co.	0–18	6–13	<15	2–9	8–15	L	M	H	H	L	L	2
	19–64					L	L	L	H	L	L	1
Pendleton Co.	0–18	6–13	15–25	<2	<3	L	L,M	H	M	H	L	2
	19–64					M	L,M	H	L	M	M	1
Switzerland Co.	0–18	<6	31–41	2–9	3–8	H	M,H	H	H	H	L	3
	19–64					L	L,M	L	L	H	L	1
Suburban												
Central Warren Co.	0–18	<6	25–31	2–9	<3	H	M	M	H	L	H	2
	19–64					M	M	H	L	L	H	2
Hillsboro (Highland Co.)	0–18	<6	>41	2–9	8–15	L	L	H	M	H	H	3
	19–64					H	M	H	L	L	H	2
New Richmond (Clermont Co.)	0–18	21–32	25–31	15–26	8–15	H	H	H	M	H	L	2
	19–64					H	H	M	M	H	H	2
Urban												
NW Boone Co.	0–18	6–13	31–41	9–15	8–15	L	L	H	H	H	L	3
	19–64					L,M	L	L	L	L	H	1
SW Butler Co.	0–18	21–32	15–25	2–9	3–8	L,H	H	M	M	M	M	0
	19–64					L,H	L,H	L	M	H	M	1
W. Hamilton Co.	0–18	21–32	15–25	9–15	3–8	M,H	H	L,M	H	L,M	M,H	1.5
	19–64					H	M,H	H	M,H	M,H	H	3
# of high values						8.5	5.5	12	9.5	9.5	9.5	1.8 (avg)

[1] Red cells indicate values in the lowest 2 quintiles (fewer doctors), pink cells indicate values in the middle quintile, and white cells indicate values from the highest 2 quintiles (more doctors) from Maps 5–8

[2] From Maps 15–18 or Figures 8–9 (for the green columns) and Maps 11–14 (for the yellow columns):

- *L = values in the lowest 2 quintiles*
- *H = values in the highest 2 quintiles*
- *L,M = subregions within the community had both low and middle values*
- *L,H = subregions within the community had both low and high values*
- *M,H = subregions within the community had both middle and high values*

Rural Communities

- Adams County, Ohio
  - There are high levels of ER and inpatient ASC for children enrolled in Medicaid, along with high levels of inpatient ASC and non-ASC admissions for uninsured children.
  - In addition, inpatient ASC rates are high for adults on Medicaid.
  - While primary care distribution is apparently stable among internal medicine and family physicians, there is a noticeable absence of pediatricians and Ob/Gyns.

- Bracken County, Kentucky
  - This county has lower ASC, lower levels of self-pay encounters in hospitals, and relatively more family practice and Ob/Gyn physicians.
  - The presence of such good indicators across the board might prompt further investigation to explore the existence of localized efforts needed to remedy high infant mortality rates.

- Ohio County, Indiana
  - There are high levels of inpatient ASC and non-ASC admissions for self-pay patients as well as Medicaid-enrolled children and adults.
  - Concurrently, physician distribution is lower than in other counties.

- Pendleton County, Kentucky
  - Perhaps as a function of its rurality, there are high ER ASC rates of uninsured.
  - Furthermore, it seems that many children and adults are being admitted to the hospital for preventable reasons.
  - While primary care distribution is apparently stable among internal medicine and family physicians, there is a noticeable absence of pediatricians and Ob/Gyns.

- Switzerland County, Indiana
  - There are medium to high ratios of self-pay and Medicaid admissions and emergency visits for children.
  - There are barely adequate numbers of family practice physicians, with even fewer other physician specialties.
  - One might conclude that there is a connection in this county between high ASC, high numbers of self-pay patients, and low numbers of pediatricians.

Suburban Communities

- Central Warren County, Ohio
  - There are higher ASC rates in part of the county, but lower levels of self-pay encounters
  - There are low numbers of physicians per capita.
  - Here, perhaps insurance is more available, but not physicians.

- Hillsboro area (Highland County, Ohio)
  - There are high ratios of ASC rates for adults and children.
  - Self-pay encounters for children are low, but higher for adults
  - Except for family practice, physician distribution is low.

- New Richmond Village (Clermont County, Ohio)
  - There are high ER and inpatient ASC rates for all patients.
  - There are relatively more physicians present despite being a high poverty area.
  - High levels of uninsurance are apparently connected to higher ASC levels in spite of decent physician distribution. One might conclude, then, that higher numbers of physicians do not have as much impact upon self-pay status and poverty.

Urban Communities

- Northwest Boone County, Kentucky
  - Despite low numbers of uninsured overall and lower poverty, uninsured children here tend to use the hospital for preventable conditions at rates higher than uninsured children from other areas.

- Southwest Butler County, Ohio
  - A low poverty area with relatively lower self-pay hospital encounters, it has overall low ASC rates. Only ER ASC and non-ASC rates for uninsured adults are high.
  - Here it seems lower poverty and lower levels of self-pay hospital encounters contribute to lower ASC.

- Western Hamilton County, Ohio
  - Adults have higher ASC rates and there are relatively high self pay hospital encounters despite relatively more physicians.
  - Lack of insurance seems to be the factor leading to high ASC in this community.

Summarizing findings across these communities:

- Lack of insurance exceeds the availability of physicians in a community as a risk factor for ASC. Examples include Switzerland County, Hillsboro, and New Richmond.
- High ASC for adults and low ASC for children can coexist as well as the reverse. This "split" seems unrelated to insurance status and the distribution of physicians. More than likely this split flows from the focus of services within the community. Examples include Switzerland County (higher ASC for children) and western Hamilton and Bracken (higher ASC for adults) Counties.
- Many community health centers are not located in the areas where the uninsured live, making it difficult for these vulnerable populations to get care. Since many uninsured are employed, the population may be distributed within middle-income areas that are located large distances from low-income neighborhoods where community health centers are required to be located. Additionally, employed but uninsured people tend not to use CHCs due to stigma and less aggressive marketing by CHCs, and also because CHCs have limited after-hours availability.
- Even if a private physician is nearby, a person without insurance may find it financially difficult to use that physician's services.

In short, the working poor without insurance may face both a financial barrier to private physicians and a distance barrier to lower cost subsidized care. These barriers, together, can conspire to increase ASC admissions (Hadley and Cunningham, 2004).

Summary

Recommendations for Future Data Work

There are always more data to be gathered and analyzed. From updating existing measurements like the number of uninsured, to deeper analysis of findings in this study, it is important to track and evaluate the progress being made toward the goal of 100% access and eliminating disparities at every step of the way. The challenge of creating regional, coordinated access among dozens of safety-net organizations is that it requires consistent, constant data analysis and public reporting.

- Practically speaking, simple data on the number of uninsured at or below the county level would be helpful in establishing clearer benchmarks. While Ohio just completed a detailed study of the uninsured, comparable statistics were not readily available for the Kentucky and Indiana counties.

- Numbers and locations of physicians, the uninsured, and people below the federal poverty level will also be useful in assessing how resources are distributed throughout the region.

- Investigation into preventable hospital use revealed that the uninsured and those enrolled in Medicaid behave very differently, with the latter topping the list of visits for ASC conditions. What is not immediately known is where – or if – these patients had been seen before. Finding that out would allow more targeted work based on the causes of hospital use.

- As noted earlier, charge information from the hospitals would permit the beginnings of a conversation about how, if spent differently, these resources could purchase significant amounts of primary care for the region. Further, an understanding of how much uncompensated care is being delivered in the private physician community would lay the groundwork for new health linkages like the national Project Access model and other efforts to streamline existing, but inefficient, delivery of charity care.

- Also helpful to understanding the state of the safety net are the leading causes of death that can be effectively managed in a primary care setting. Being able to measure across all counties the prevalence of these leading causes of death will enable a reduction in inappropriate usage of the ER.

Public Policy Issues

Three public policy issues stand out as having the greatest potential impact on the performance of Greater Cincinnati's safety net. They are preventable hospital utilization across all payers, physician compensation, and diminished numbers of Ob/Gyns.

- The uninsured are not crowding the emergency rooms any more than anyone else for preventable or unpreventable reasons. In fact, they are the least likely to use the emergency room. While clearly a pressing issue, it seems the rhetoric has surpassed the state of the situation.

- There is corroborating evidence in Cincinnati that high concentrations of younger physicians are locating in more rural areas. This might be attributed to increased incentives to attract young doctors. However, because this is also consistent with the findings that physicians often migrate to more urban settings later in their career, rural communities need to find ways to keep their physicians. If physician payment persists at levels well below comparable markets, younger physicians will leave the rural areas for urban areas in other states. Additionally, this underscores needed support for FQHCs and maintenance of adequate of levels of Medicaid payment and coverage.

- The dearth of Ob/Gyns (fewer than 3 physicians per 100,000 population) presents a real problem for the campaign against low-birthweight babies and infant mortality. Counties with more severe outcomes, like Bracken, must retain and grow their Ob/Gyn supply or risk worsening outcomes.

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