

THE CHALLENGING FUTURE OF THE CHICAGO SAFETY NET

2021

Prepared by



HEALTH CARE COUNCIL
of Chicago

Supported by



MEDICAL HOME NETWORK



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SECTION 1

INTRODUCTION



Chicago's safety net status quo has run out of runway. The most important safety net hospitals on the city's west and south sides are projected to reach a compounded operating loss of \$1.76 billion in the coming years.

Based on historical financial trends and our longitudinal modeling, the seven primary safety net hospitals on Chicago's south side (Advocate Trinity¹, Roseland Community, St. Bernard, Holy Cross, Mercy, Jackson Park, and South Shore) are projected to endure a total loss of \$1.34 billion by 2024.

The safety net hospital cohort to the city's west (consisting of Mount Sinai, Loretto, St. Anthony, AMITA Health Saint Mary, Elizabeth Medical Center - Saint Mary Campus², and Norwegian) will bear \$421 million in compounded operating losses over the same period.

These projections may prove conservative, given that they do not account for the financial duress of the COVID-19 pandemic, the deepening recession, and any other substantial changes to volumes or costs since 2018 (the period through which our modeling is based).

Despite the significant cost the Illinois taxpayers bear to underwrite the state's portion of the Medicaid program and the related subsidies intended to maintain the financial vitality of the safety net, health outcomes have not generally improved, access to important health services have maintained a staggering disparity compared to the rest of the city, and the structural integrity of the institutions that provide thousands of jobs stand at a fracturing point.

Without meaningful and unprecedented action from the market and policy makers, already scarce health services for south and west side residents are at risk of further erosion. This report analyzes retrospective financial data to illustrate the financial situation of Chicago's safety net hospitals, highlights the key health and social outcomes that have remained stuck, and comments on persistent health disparities despite significant investment.

We offer considerations to policy makers and market leaders as they contemplate the highest and best use of the city and state's scarce resources through government funding, corporation giving, philanthropic contributions, and tax payer dollars.

This analysis focuses on the financial state of the city's safety net hospitals. However, we should be clear that addressing the access gaps and inequities in underserved communities will require a multi-stakeholder approach that is capable of demonstrating value and enhancing the resources available to improve health.

¹ Advocate Trinity is not recognized by HFS as a safety net hospital, but is included in this analysis given its location in Chicago's underserved south side.

² AMITA's Saint Mary hospital is not recognized by HFS as a safety net hospital, but is included in this analysis given its location in Chicago's underserved west side.

Legend for South and West Sides

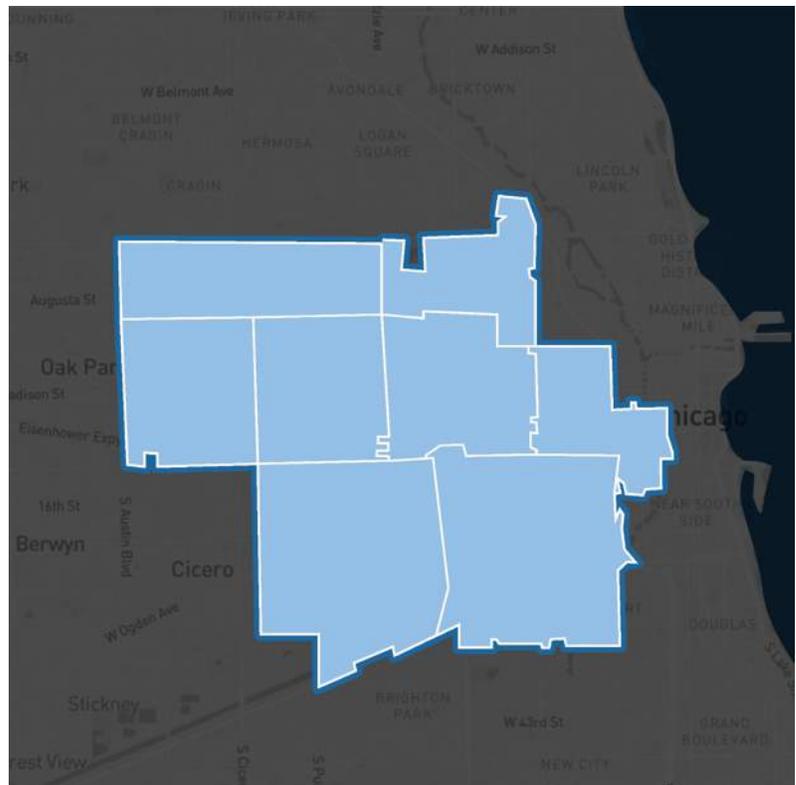
South Side Zip Codes

60609	60633
60615	60636
60616	60637
60617	60643
60619	60649
60620	60652
60621	60653
60628	
60629	
60632	



West Side Zip Codes

60607
60608
60612
60622
60623
60624
60644
60651





SECTION 2

REGIONAL ANALYSIS AND FORECASTING



Introduction

We conducted a regional analysis and forecasting exercise to determine the degree to which revenue and cost trends may compound to create unfunded liabilities that threaten to further restrict the capacity of, and access to, the city's safety net system.

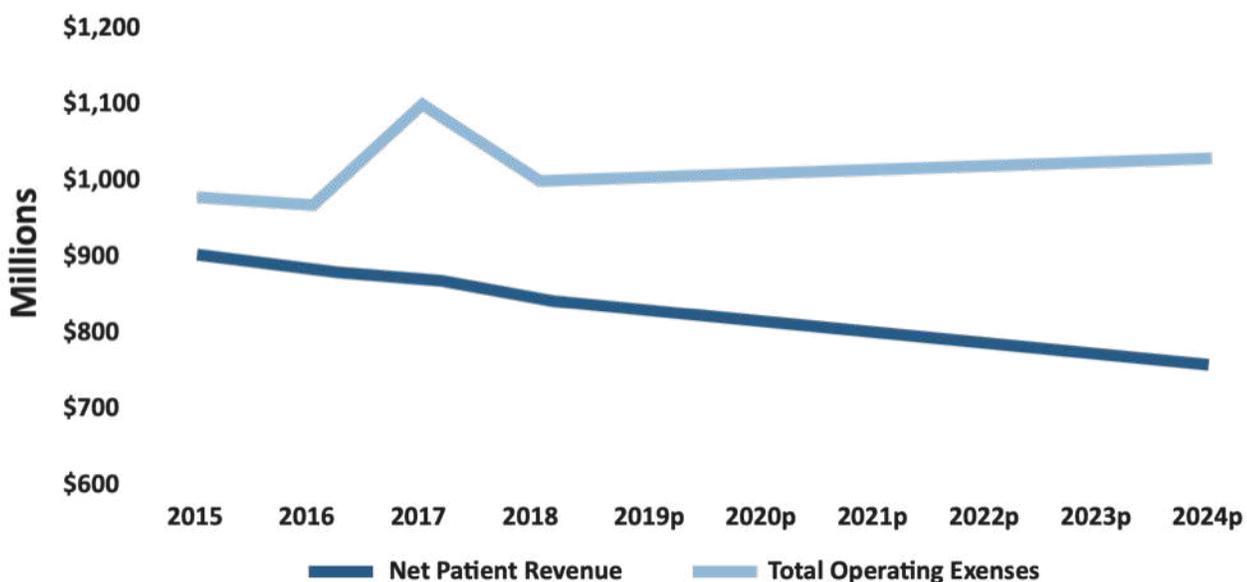
The data underlying this analysis precedes the COVID-19 pandemic. Thus, our modeling does not reflect the corresponding economic contraction and government budget climate impact on hospitals in Chicago and across the state.

We began by projecting operational losses for the south and west sides of the city through 2024, offsetting calculated losses against cash and cash-convertible assets (excluding liabilities in the event of insolvency) that could ostensibly be drawn on in a solvency event.

South Side Chicago

The south side cohort has experienced a sustained decrease in net patient revenue (NPR³) and increase in total operating expenses year-over-year for the retrospective examination period. Based on the underlying rates, revenues and expenses will continue to diverge in the years ahead, resulting in a loss of \$1.34 billion by 2024 (Exhibit 2.1). This gap between revenues and expenses exacerbates the magnitude of total dollars lost for each year in the future, accelerating the cohort's collective amount of loss.

Exhibit 2.1: Projected NPR and Operating Expenses for South Side Cohort (2015-2024)



³ Net patient revenue is the actual amount of monies received (or expected to be received) based on the price a hospital charges for services minus any discounts negotiated with an insurance company or government payer.

South Side Scenario

As a means of stress testing the assumptions made under this model, we conducted two additional analyses for a total of three different scenarios. The only difference between these scenarios are the numbers used to project future revenue and expenses.

The scenarios and their associated revenue and expense assumptions are as follows:

Scenario 1 – We used a single composite revenue and expense rate of change for all hospitals within the cohort. This single composite rate of change was applied to the entire cohort’s revenues and expenses and projected for outlying years through 2024.

Scenario 2 – Instead of calculating a single composite rate of change for the entire cohort, we calculated each hospital’s historic revenue and expense trends and applied them directly to the respective facility. We summed the total loss or gain for each hospital to determine the aggregate change for the cohort.

Scenario 3 – Finally, we took a highly conservative approach that assumes there are no future changes to revenues and expenses, leaving today’s losses fixed. These annual losses are compounded over the same period.

South Side: Scenario 1 - Trended Baseline

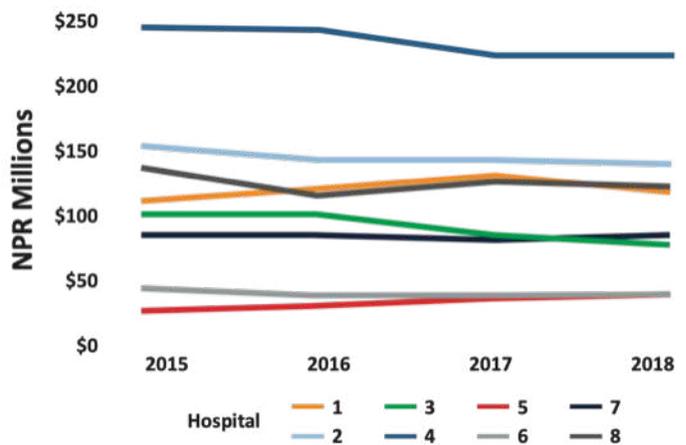
Between 2015 and 2018, the NPR for the side side cohort of hospitals declined from \$910.4 million (2015) to \$848.5 million (2018). Two hospitals increased their NPRs while all others experience a contraction ranging from 0.15 percent to 23.97 percent (Exhibit 2.2).

Market share (as measured by each hospitals net patient revenue composition against the entire cohort) remained generally flat between the facilities. Additionally, the facilities' annual NPR erosion of \$61.9 million in (a compounded annual loss of 1.75 percent annually) while expenses increased by 0.55 percent (Exhibit 2.3).

Exhibit 2.2: Historic NPR Market Share, Composition, and Growth/Contraction for South Side Cohort (2015-2018)

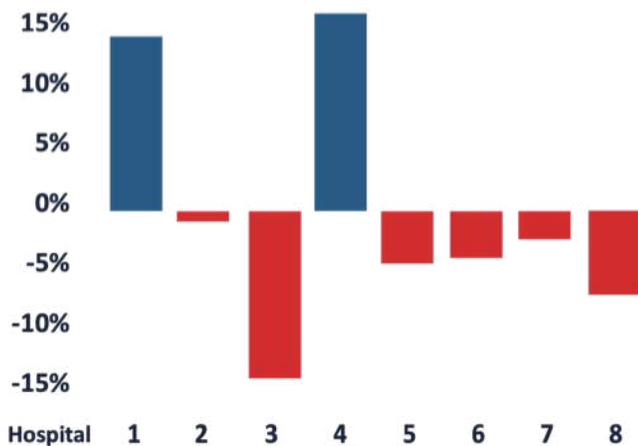
Hospital	Market Share/Composition		Growth/Contraction
	2015	2018	
1	12.29%	13.26%	7.91%
2	17.11%	15.40%	-10.04%
3	11.20%	8.51%	-23.97%
4	26.98%	24.54%	-9.02%
5	3.01%	4.33%	43.66%
6	4.83%	4.33%	-10.28%
7	9.43%	9.42%	-0.15%
8	15.15%	13.41%	-11.05%

Exhibit 2.3: Historic NPR Trend Analysis by Facility for South Side Cohort (2015-2018)



It is important to note that the increase in operating expenses was largely driven by two specific facilities - hospital 1 and hospital 4 (Exhibit 2.4). The remaining hospitals in the cohort decreased their operating expenses between 12.45 percent and 0.05 percent to a nearly flat reduction trend.

Exhibit 2.4: Historic Change in Operating Expenditures for South Side Cohort (2015-2018)



Forecasting the 2019-2024 period based on the 1.75 percent decrease in NPR and the 0.55 percent increase in operating expenditures creates a compounded total operating loss of \$1.34 billion by 2024.

South Side: Scenario 2 - Hospital Specific Analysis

This scenario omits the application of a single composite growth rate over all hospitals in the cohort, and instead forecasts based on an individual hospital's rate of change for revenues and expenses. Under this scenario, four hospitals decreased their respective NPR, one remained constant, and two increased their respective NPR (Exhibit 2.5, 2.6).

Alternatively, four of the hospitals under this cohort successfully reduced expenditures from 2015-2018 and two increased expenses by 3 percent or more (Exhibit 2.7).

Exhibit 2.5: NPR Growth for South Side Cohort (2015-2024)

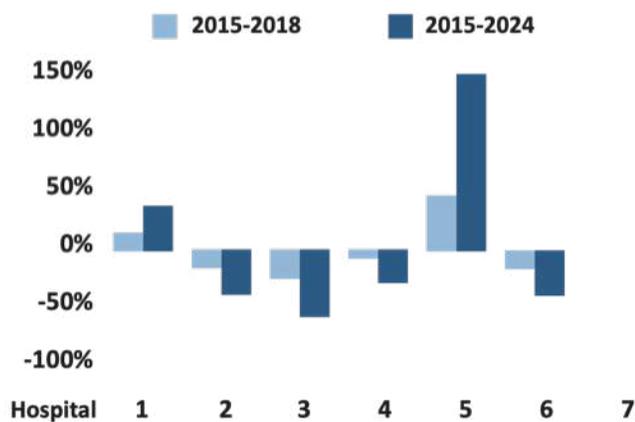


Exhibit 2.6 Operating Expenditure Growth for South Side Cohort (2015-2024)

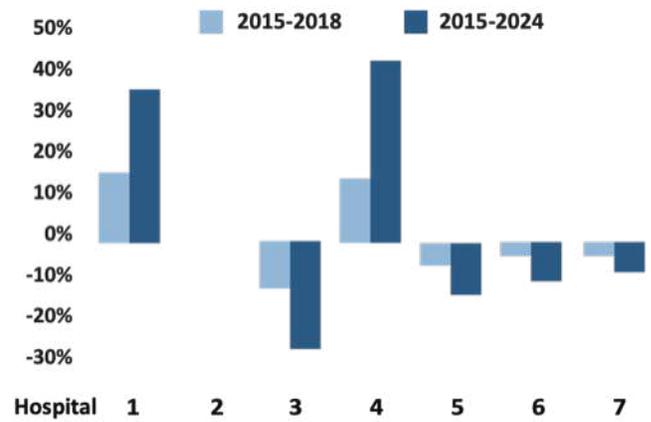


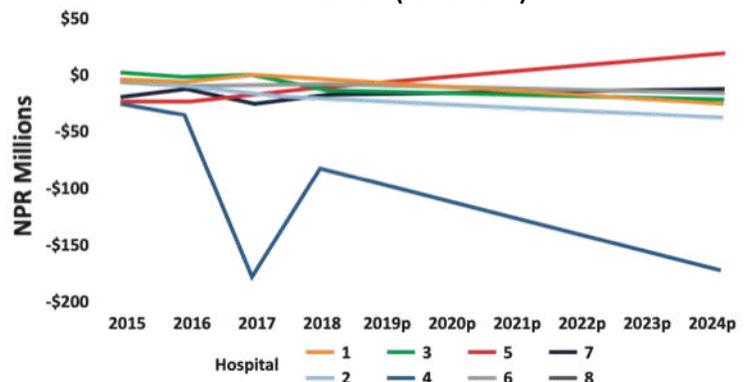
Exhibit 2.7: Historic NPR and Operating Expenditures by Specific Hospital (2015-2018)

Hospital	1	2	3	4	5	6	7
NPR	1.9%	-2.6%	-6.6%	-2.3%	9.5%	-2.7%	0.0%
Operating Expenses	3.1%	0.0%	-3.3%	-3.4%	-1.1%	-1.0%	-0.9%

Anticipated margin calculations are projected to follow a downward trend for most of these individual hospitals (Exhibit 2.8) based on their site-specific revenues and losses.

The compounded losses under Scenario 2 highlight a reduction in NPR from \$910.4 million (2015) to \$687 million (projected 2024), and an increase in operating expenditures from \$980.6 million (2015) to \$932.5 million (projected 2024), resulting in a compounded, projected loss of \$1.2 billion between 2019 and 2024.

Exhibit 2.8: Margin Forecast for South Side Cohort (2015-2024)



South Side: Scenario 3 - Best Case

The best case assumption is no change (growth or decline) in NPR or operating expenditures, holding the amounts fixed at 2018 levels. This is tantamount to projecting the future based on a single year’s snapshot of the difference between revenue and expenses and its prospective impact on outlying years.

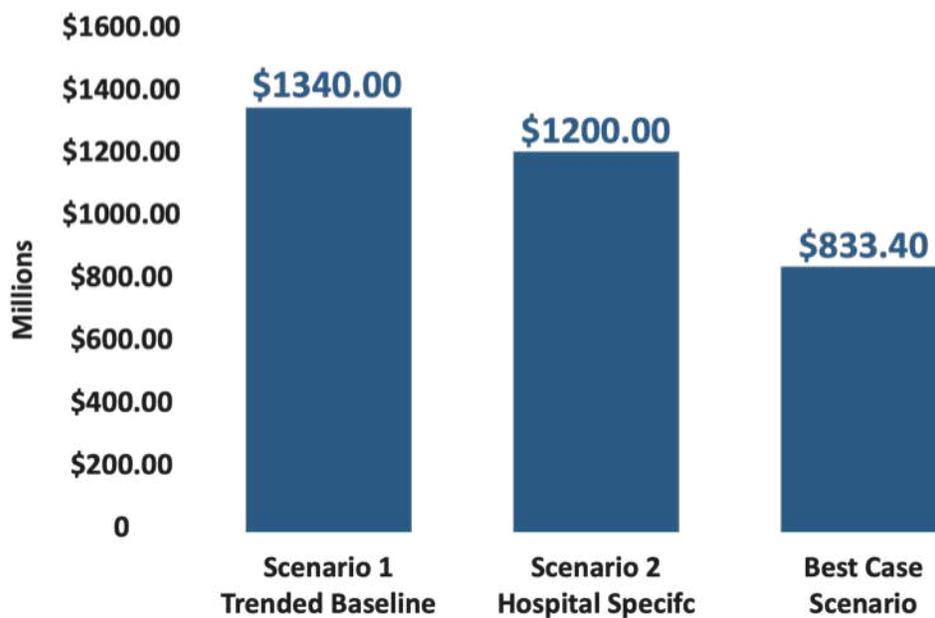
The total operating loss for these eight facilities in 2018 was \$138.9 million. Applying that annualized loss for 2019-2024, the total projected reduction in margin for the south side is \$833.4 million.

We refer to this as a “best case” scenario because we believe the structural dynamics driving NPR declines and the influence of medical cost inflation over expenses are unlikely to see the magnitude of change that would reverse key trends (revenues grow instead of shrink; expenses decrease instead of increasing).

South Side: Scenario Summary

While we believe that the projections under Scenario 1 are conservative, the other two more optimistic scenarios continue to paint a stark picture of the losses. Taken together, Exhibit 2.9 highlights the baseline to best case scenarios, projecting anywhere from \$833.4 million to \$1.34 billion in unfunded operational losses.

Exhibit 2.9: Total Unfunded Operating Losses by Scenario for South Side Cohort (in millions)



Net Income and Cash Balance (Scenario 1 Only)

Hospitals incur operating losses from time to time. Safety net hospitals in particular are regularly exposed to greater risks because they receive relatively lower reimbursements compared to their peers that benefit from commercial insurance rates. As a result, safety net hospitals are highly skilled at procuring and discharging funds through government and philanthropic sources to support the organization’s community-focused mission (and/or religious affiliation). However, decreasing revenues in the region illustrate a structural challenge that could be difficult to overcome by cutting costs or increasing non-operating revenues via grants, contributions, and/or investments.

In 2018, the south side safety net hospitals (excluding Advocate Aurora Trinity Hospital) had \$33.8 million in total cash on hand and \$63.2 million in temporary cash investments. Offsetting the losses under Scenario 1 against these short-term assets leaves a remaining loss of approximately \$1.2 billion.

In consideration of longer-term assets, there were approximately \$1.8 billion in “pledges and grants receivables” on 2018’s balance sheets. The tax forms used to capture balance sheet data do not itemize or compartmentalize the nature of these receivables, making it difficult to tell the time period and sources for cash conversion. Since these types of receivables are converted over multi-year periods and their realization can be contingent on uncontrollable factors, it should not be taken as a forgone conclusion that the receivables could be converted to cash during a solvency event. Nevertheless, these assets certainly represent a separate source of capital that could further offset projected operating losses. Exhibit 2.10 breaks down the way these assets offset the operational losses.

Exhibit 2.10: Balance Sheet Offset Against Unfunded Operating Liabilities for the South Side Cohort (in millions)

Unfunded Operational Loss (2019 – 2024)	(\$1,340)
Plus: Cash on Hand (2018)	\$33.8
Plus: Savings & Temporary Cash Investments	\$63.2
Current Asset Surplus/Deficit after Balance Sheet Offsets (sans Pledges and/or Grants Receivable)	(\$1.243)
Plus: Pledges and Grants Receivable	\$1.783
Potential Current Asset Surplus/Deficit after Balance Sheet Offsets	\$540

Note: Balance sheet calculations do not reflect Advocate Aurora Trinity Hospital

We should note that this analysis does not include monies provided by the federal government through the The Coronavirus Aid, Relief, and Economic Security Act (in 2020), nor does it reflect potential transformation funding that could be awarded by the state. Those infusions could provide additional capital to strengthen the economic fundamentals of individual institutions and the cohort as a whole.

Regardless, structural challenges remain and it is not reasonable to believe that revenues will be sufficient to cover costs in the short, medium, or long term.

Employment Considerations

Prior to the onset of COVID-19, the south side hospital cohort (excluding Advocate Aurora Trinity Hospital and MetroSouth) represented 6,405 jobs for the community, ranging across custodial, administrative, mid-level practitioner, and physician positions with varying levels of compensation. Currently, American Community Survey (ACS) data show that there are 362,805 employed residents and 80,842 unemployed residents in the zip codes under this geography (see Methodology), resulting in an unemployment rate of 22.3 percent.

Though it is not conceivable that *all* facilities would ever close, the absence of the 6,405 jobs would increase the unemployment rate by 2 percent to 24 percent. This does not account for the peripheral industries that also contribute to the community's employment rate because of their affiliation and support of hospitals, including food services, laundering, transportation, construction and maintenance, and others.

Any one hospital's closure on the south side would impact other sectors and omit hundreds of employment opportunities for community residents.

West Side Chicago

The historical financial data from 2015-2018 for the city’s west side tells a similar story. The west side cohort's operating loss for 2018 was \$18 million. If the NPR and operating expenditure patterns continue into the future, the compounded deficit will grow to \$420 million (Exhibit 2.11, Exhibit 2.12). While the magnitude of the absolute dollar loss for the west side cohort is approximately one-third of the south side’s loss, ongoing losses are likewise unsustainable.

The fundamentals driving this compounded loss are somewhat different than the south side – namely, we anticipate the NPR for the west side will increase on a composite basis. However, our trend analysis indicates a faster rate of growth of operating expenditures than for revenues, which continues to widen the gap under our forecast, albeit at a slower rate than observed on the south side.

Exhibit 2.11: Projected NPR and Operating Expenses for West Side Cohort (2015-2024)

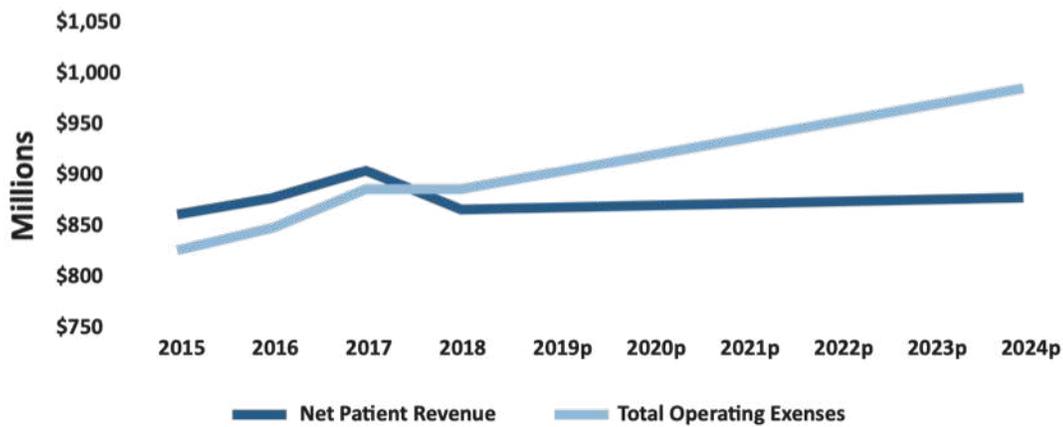
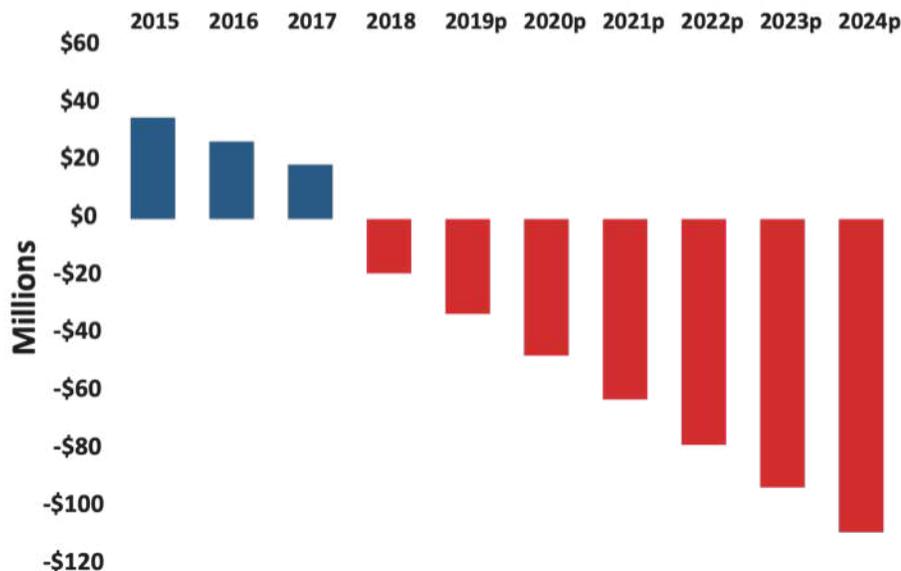


Exhibit 2.12: Projected Net Income Losses for West Side Cohort (2015-2024)



West Side Scenario Scenario

We applied the same scenario-based assumptions used for the south side health cohort (p. 8) to model the west side’s potential financial outcomes.

West Side: Scenario 1 - Trended Baseline

In 2015, the west side cohort hospitals generated a total of \$864.8 million in NPR, increasing to \$870.9 million by 2018. Four hospitals increased their respective NPR from 4.17 percent to 12.96 percent (Exhibit 2.13)). The hospital that held approximately 35 percent of the total cohort NPR increased at a reasonably strong rate of 4.17 percent, which helped to offset a separate facility’s 32.5 percent contraction (Exhibit 2.14).

The overall revenue growth for the five facilities sums to a historical compounded growth rate of 0.71 percent. Shifts in the share of NPR were slightly more material than the south side cohort. One hospital lost 33 percent of its NPR while other facilities concurrently had gains.

Exhibit 2.13: Historic Trend Analysis by Facility (2015-2018)

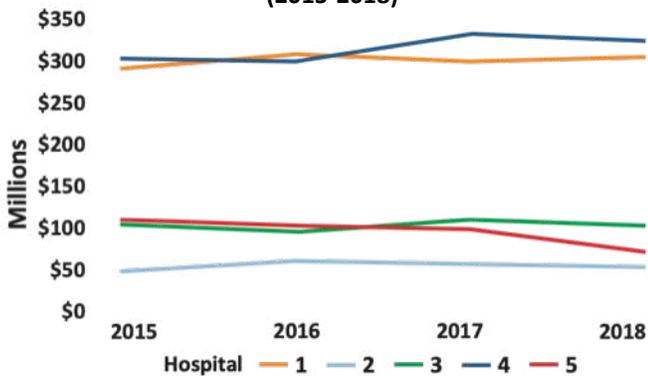
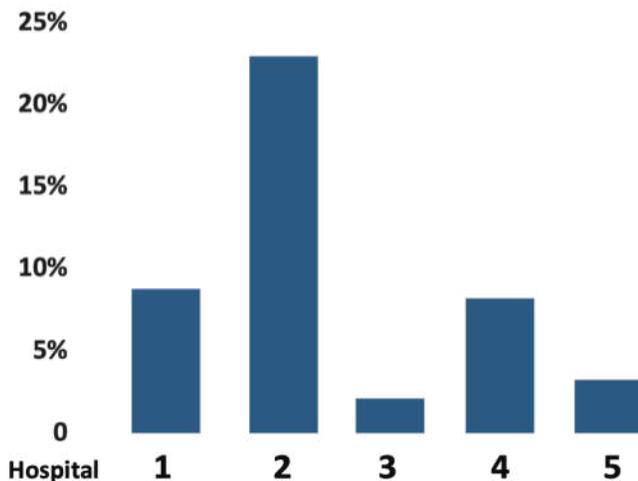


Exhibit 2.14: Historic NPR Market Share, Composition, and Growth/Contraction for West Side Cohort (2015-2018)

Hospital	Market Share/Composition		Growth/Contraction
	2015	2018	
1	34.02%	35.19%	4.17%
2	5.86%	6.57%	12.96%
3	12.19%	12.31%	1.70%
4	35.19%	37.39%	7.01%
5	12.74%	8.54%	-32.49%

Exhibit 2.15: Operating Expenditure Growth for West Side Cohort (2015-2018)



From 2015 through 2018, the aggregate composite operating expense increased by 7.3 percent. Each hospital in the west side cohort saw a patterned increase in operating expenditures ranging from 1.35 percent to 21.75 percent, percent; 21.75 percent was an outlier (Exhibit 2.15).

Scenario 1 represents the trends for NPR (0.71 percent growth) and operating expenditures (7.3 percent growth) for 2019-2024. Forecasting the 2019-2024 period based on the 0.71 percent increase in NPR and the 7.3 percent increase in operating expenditures resulted in a compounded total operating loss of \$420.8 million by 2024. The significant delta between a lower trended revenue outcome and a cost growth rate nearly 10x the size of income is the primary reason for the compounded exacerbation.

West Side: Scenario 2 - Hospital Specific Analysis

This scenario omits the application of composite growth rate assumptions ubiquitously over all hospitals in the cohort, and instead forecasts based on individual hospital's rates (Exhibit 2.16). Under this scenario, four hospitals had historic growth in NPR that perpetuates as we forecast through 2024, while one hospital had significant contraction (32 percent).

Exhibit 2.16: Historic NPR and Operating Expenditures by Specific Hospital (2015-2018)

Hospital	1	2	3	4	5
NPR	1.0%	3.1%	0.4%	1.7%	-9.4%
Operating Expenses	2.0%	5.0%	0.3%	1.9%	0.6%

To keep the methodology for the south and west sides consistent, we did not make important modifications to the unlikely expenditure growth rate for any individual facility. The range in operating expenditure growth totals (based on the historic trends for each hospital) range from 3 percent to 64 percent for the entire 2015-2024 period (Exhibit 2.17).

In the second scenario, NPR increases from \$864 million in 2015 to \$906 million by 2024, operating expenditures increase from \$828 million in 2015 to \$992.4 million in 2024, and the compounded losses accumulate to \$353 million by the end of the same period.

Projected margins for this period continue a downward trend for the majority of individual hospitals (Exhibit 2.18).

This scenario demonstrates that even if weighting is removed and individual hospital financial performance is assessed, the unfunded operational loss liability remains material.

Exhibit 2.17: NPR Growth for West Side Cohort (2015-2024)

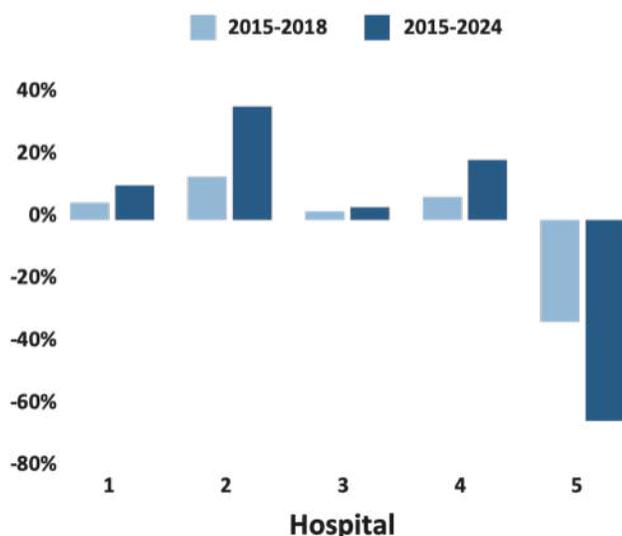
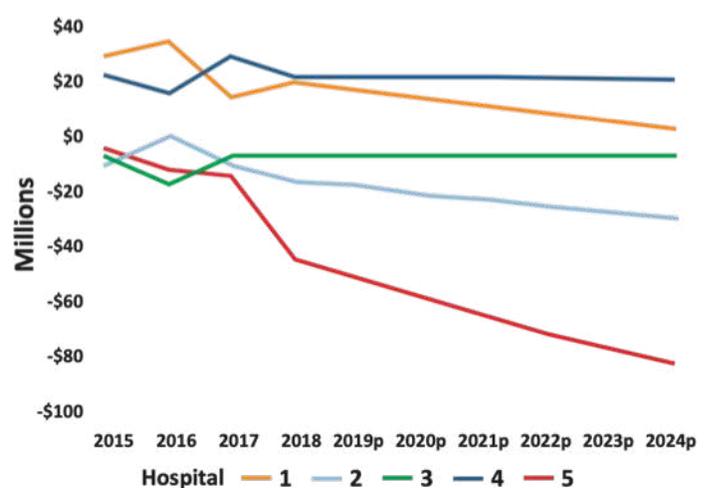


Exhibit 2.18: Margin Forecast for West Side Cohort (2015-2024)



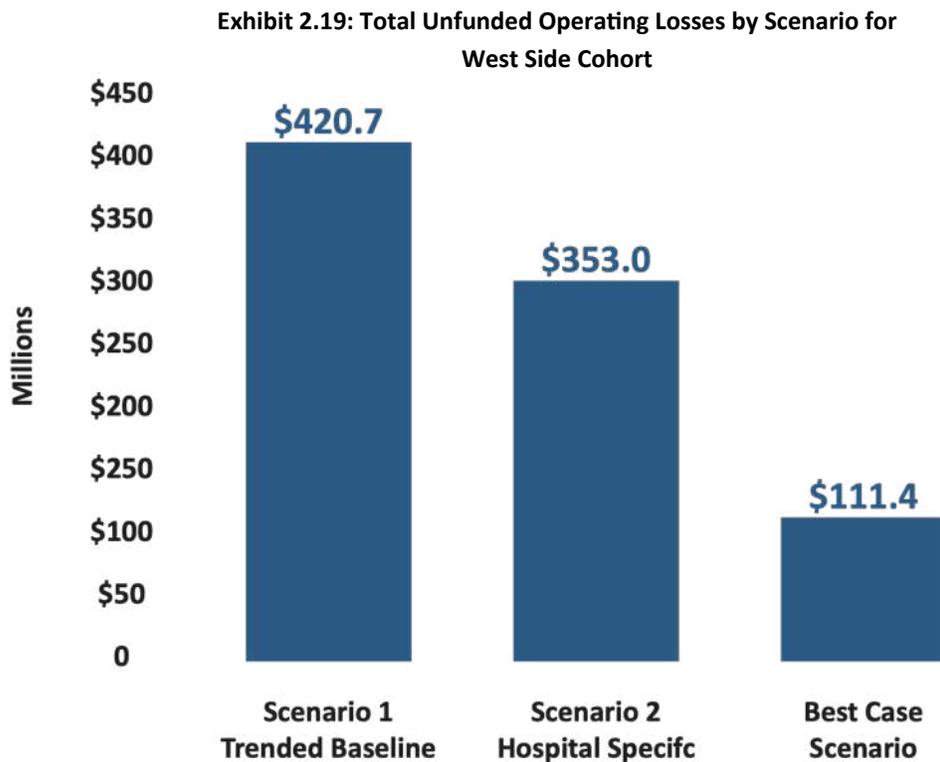
West Side: Scenarion 3 - Best Case Scenario

As with the south side, the best case assumption holds no change (growth or decline) in NPR or operating expenditures, maintaining 2018 levels. This is tantamount to projecting the future based on a single year's snapshot of the present difference between revenue and expenses and its prospective impact on outlying years.

To calculate this, we froze the NPR and operating expenditures of the aggregate west side cohort, which saw an overall loss of \$18.6 million. Compounded from 2019-2024, the total loss for the west side would be \$111.39 million under this scenario, a much smaller multi-year loss to offset.

West Side: Scenario Summary

Exhibit 2.19 collectively illustrates all three scenarios, projecting anywhere from \$111.4 million to \$420.7 million in unfunded operational losses.



Net Income and Cash Balance (Scenario 1 Only)

The same principles and rationale for leveraging the balance sheets of the hospitals in the south side cohort apply to the west side.

In 2018, the west side cohort had a total of \$53.3 million (excluding AMITA Health St. Mary's and Elizabeth Medical Center) in cash on hand. Shorter term assets totaled \$19.5 million, reducing the total projected unfunded liabilities by \$72.8 million between the two asset categories. The hospitals on the west side show an aggregate of \$885.9 million in pledges and grant receivables, more than offsetting the remaining operating loss. Exhibit 2.20 breaks down the way these assets offset the operational losses.

Exhibit 2.20: Balance Sheet Offset Against Unfunded Operating Liabilities for the West Side Cohort (in millions)

Unfunded Operational Loss (2019 – 2024)	(\$421)
Plus: Cash on Hand (2018)	\$53.3
Plus: Savings & Temporary Cash Investments	\$19.5
Current Asset Surplus/Deficit after Balance Sheet Offsets (sans Pledges and/or Grants Receivable)	(\$348.2)
Plus: Pledges and Grants Receivable	\$885.9
Potential Current Asset Surplus/Deficit after Balance Sheet Offsets	\$537.7

Note: Balance sheet calculations do not reflect AMITA Health Saint Marys and Elizabeth Medical Center

Employment Considerations

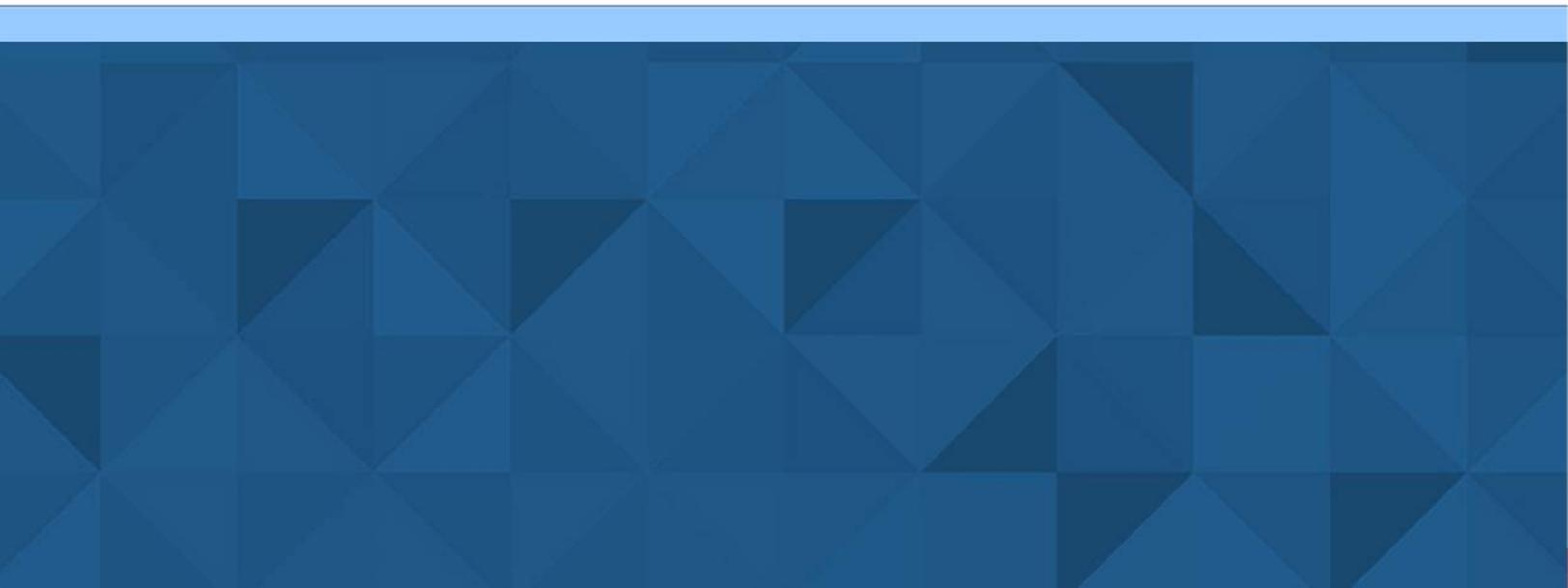
Prior to the onset of COVID-19, the west side hospitals (excluding AMITA Health Saints Mary and Elizabeth Medical Center) represented 5,433 jobs for the west side community, ranging from custodial, administrative, mid-level practitioners, and physicians with varying ranges of income. According to ACS data, there are 180,319 employed residents and 60,642 unemployed residents in the west side zip codes, translating to a 34.6 percent unemployment rate. Though it is not conceivable that all facilities would ever close, the absence of the 5,433 jobs would drive up the unemployment rate by 3 percent to 36.6 percent. This does not account for the peripheral industries that also contribute to the community's employment rate because of their affiliation and support of hospitals, including food services, laundering, transportation, construction and maintenance, and others.

As with the south side, any one hospital's closure would impact other sectors and omit hundreds of employment opportunities for community residents.



SECTION 3

HEALTH INEQUITY



Health Inequity

The losses calculated under Section 2 are operational in nature and don't capture the additional investment critical to underwriting under-resourced parts of the safety net infrastructure. This is important because simply underwriting the operating losses of these communities does not directly address the various other factors that are driving sustained health inequity.

We consider health equity as communities having fair access to health services enabling the ability to achieve the highest level of health regardless of age, economic status, geographic location, education, race, gender, ethnicity, etc. Categorically, residents need to have equal access to health care services and the support of a well-coordinated social services infrastructure to achieve improved health.

Health Access

Historically, Chicago's neighborhoods and city boundaries have been defined through segregationist roots. Both the south and west sides have higher concentrations of Black and Latinx residents: the west side's population is 41.0 percent Black and 34.3 percent Latinx, while the south side's population is 56.8 percent Black and 28.2 percent Latinx (Exhibit 3.1).

Exhibit 3.1: Demographics Overview (data over multiple years)

	West Side	South Side	Chicago	Illinois
Non-Citizens	11.2%	9.6%	11.4%	7.0%
Limited English Proficiency	10.0%	7.4%	8.4%	4.5%
Hispanic or Latinx	34.3%	28.2%	29.0%	17.0%
Non-Hispanic Black	40.9%	56.8%	29.7%	14.0%
Asian or Pacific Islander	4.8%	4.2%	6.4%	5.4%
Non-Hispanic White	18.6%	9.4%	32.8%	61.6%
Female	50.5%	53.3%	51.4%	50.9%
Median Age	31.7	35.9	34.3	37.9
Median Household Income	\$45,082	\$39,217	\$53,657	\$61,801

Institutional Inequalities

Compared to the broader city of Chicago, the south and west sides generally have the most scarce access to medical, mental health, and social resources.

The city's south side shows particularly alarming access gaps, with almost every category used for this analysis showing significant disparity with the rest of the city. The south side boasts a fairly dense (comparably) number of Federally Qualified Health Centers (FQHC), representing critical access points to institutions singularly focused on serving the vulnerable. However, access to specialty services across the board are completely imbalanced with the rest of the city. More specifically, there are 1,015 residents for every specialist on the south side versus the 353 residents for every specialist on the city's north side (Exhibit 3.2).

This asymmetry ranges across different clinical disciplines and is actually more dire for critical clinical functions. For example, there are 6 psychiatrists for every 100,00 residents (which we generally use as a proxy for mental health professionals) on the south side versus the 23 for every 100,000 residents throughout the entire city.

Exhibit 3.2 : Resident to Patient Ratio for South and North Sides

North Side	South Side	
1,710	795	Primary Care Physician per 100,000 Residents
229	92	OB/GYN per 100,000 Residents
112	36	Cardiologists per 100,000 Residents
30	10	Endocrinologists per 100,000 Residents

At face value, the west side fares better, with ratios that are more consistent with the north side and the broader city. However, this is likely because the west side includes certain academic and marquee hospital institutions that employ a disproportionate number of specialists and professionals compared to a typical safety net hospital. It is important to note that a specialist's or psychiatrist's proximity to a resident does not automatically mean they are accessible given the network and reimbursement factors that ultimately determine the types of patients a medical professional will see.

Social Infrastructure

Using metop.io's analytics platform, we found that the social infrastructure and the overall economic conditions of the city's vulnerable neighborhoods further exacerbate the health status of these communities. Specific examples of these social disparities abound.

Social Engagement

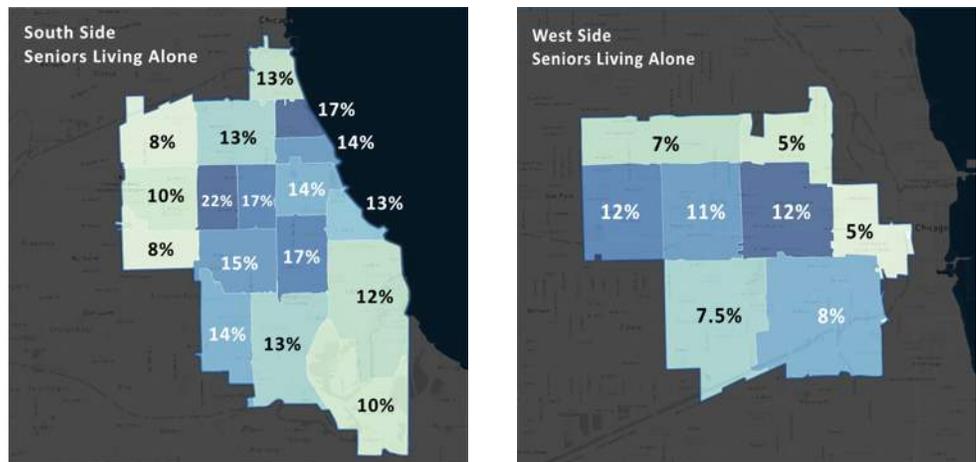
Statistics⁴ show that loneliness is linked to several demographic variables, including old age; living alone, in rural areas, or in residential care; widowhood; low educational attainment; and low income.

The proprietary Social Engagement Index developed by Metop.io is a composite score that measures elements of civic engagement and social isolation, especially those affected by the built environment, and incorporates information about neighborhood resiliency and barriers to social engagement. The scores for the west side (85.9) and south side (87.0) both fall under Chicago's composite score of 87.9.

Social Isolation

Social isolation similarly varies across the city. Young people neither working nor enrolled in school constitute 8.5 percent of the city's 16-19-year-old population. The prevalence increases to 9.6 percent on the south side and 14.2 percent on the west side (Exhibit 3.3).

Exhibit 3.3:
Rate of Seniors Living Alone for South and West Side ZIP Codes (2014-2018)



Seniors living alone also are at increased risk of adverse physical and mental health events. According to the Centers for Disease Control and Prevention⁵ (CDC) more than one-third of adults aged 45 and older report feeling lonely, and nearly one-fourth of adults aged 65 and older are socially isolated across the country, correlating to an increased risk of premature death, a 29 percent increased risk of heart disease, and a 32 percent increased risk of stroke. Peer-reviewed studies have shown that loneliness leads to increased risk of depression, anxiety, and suicide.

Thirteen percent of seniors living in the city's south side are considered socially isolated compared to the city's overall prevalence of 8.2 percent. As shown earlier, the mental health infrastructure on the south and west sides of the city is starkly under-developed in comparison to more affluent communities.

⁴ <https://www.cdc.gov/aging/publications/features/lonely-older-adults.html>

⁵ <https://www.cdc.gov>

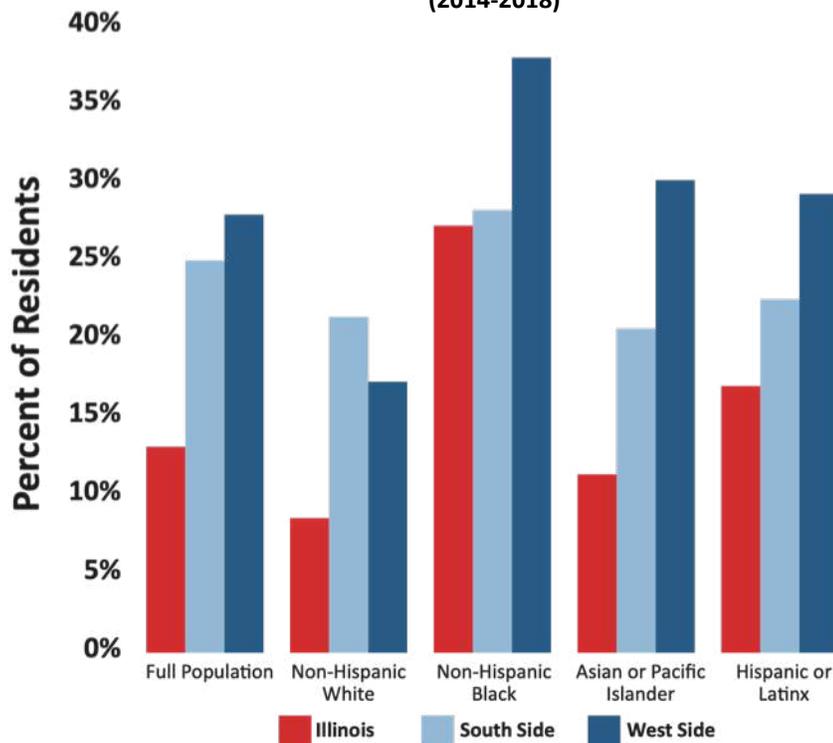
Poverty

Individuals experiencing poverty are more likely to have adverse health outcomes and are disproportionately located in the west and south side neighborhoods of Chicago. In aggregate, the west side’s poverty rate is 27.9 percent and the south side’s is 25.0 percent. Both of these rates are higher than the city’s total poverty rate of 19.5 percent (Exhibit 3.4). To the west, East Garfield Park and West Garfield Park have the highest poverty rates at 61 percent (Exhibit 3.5). To the south, Englewood has the highest poverty rate at 43.5 percent (Exhibit 3.6).

Exhibit 3.4: Poverty Indicators (data over multiple years)

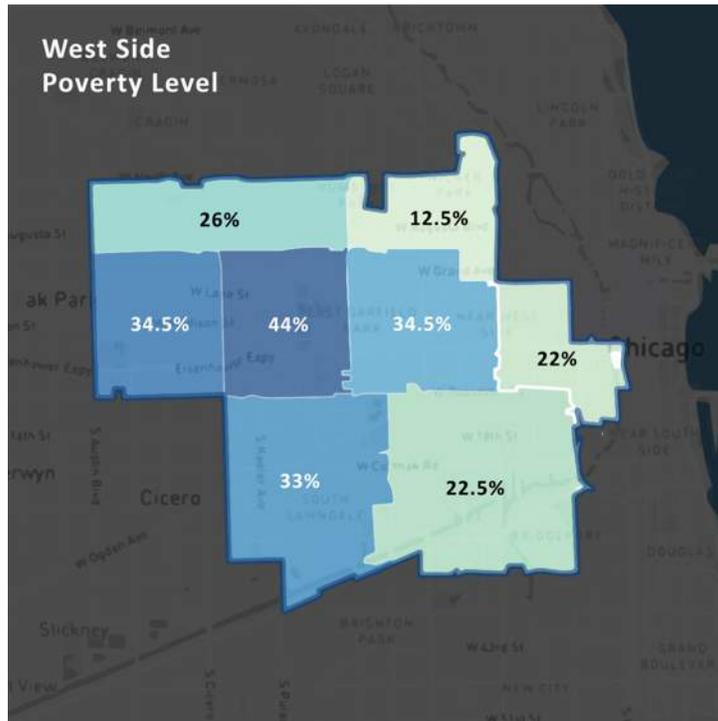
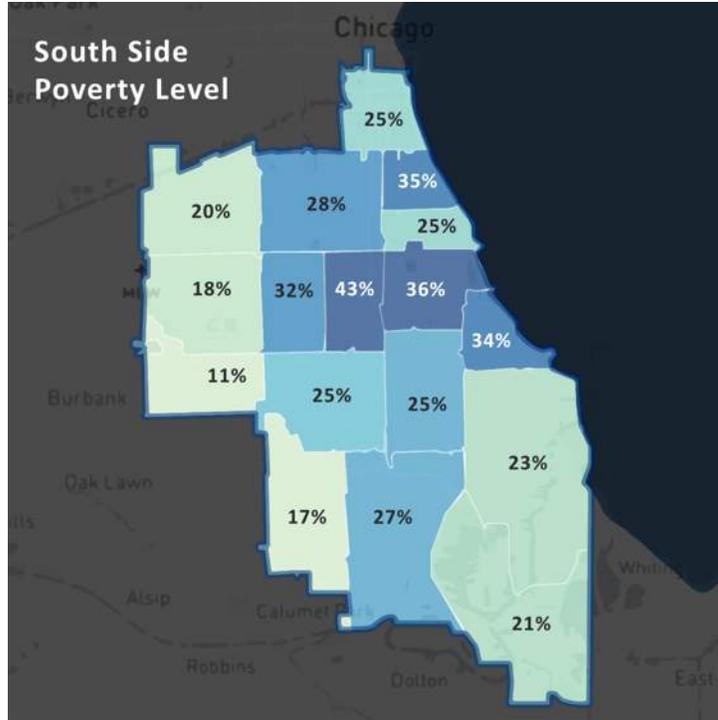
	West Side	South Side
Poverty Rate	27.9%	25.0%
Hardship Index*	26.5%	26.0%
Deep Poverty	13.3%	11.7%
Below 150% Poverty Level	41.6%	38.2%
Below 200% Poverty Level	51.7%	49.7%
Poverty Rate for Wokers	12.3%	10.8%

Exhibit 3.5: Poverty Rates by Race/Ethnicity (2014-2018)



* The Hardship Index is a composite score calculated by Metopi.o to reflect the hardship in a given community (higher values indicate greater hardship). The index incorporates unemployment, age dependency, education, per capita income, crowded housing, and poverty into a single score that allows comparison between geographies. The rate of poverty in each ZIP code also vary across race and ethnicity groups.

Exhibit 3.6: Poverty Rates for the South and West Side ZIP Codes (2014-2018)



A regression analysis finds a statistically significant relationship between poverty rate and self-reported mental health conditions among Chicago communities. For instance, North Lawndale has a poverty rate of 40.5 percent and 18 percent of adults with poor mental health. In North Center, the poverty rate is 4.7 percent and 9.7 percent of adults report poor mental health.

To view the regression model live on Metop.io visit: <https://metop.io/projects/2dj35lww/>

A CDC⁶ report found that across America, families that earn less than \$35,000 a year are five times as likely to report being sad all or most of the time compared families earning more than \$100,000. Money may not buy happiness, but a lack of income creates a hardship that wears on an individual's psyche.

Further, a 2018 Health Affairs⁷ article found that impoverished adults are five times more likely as those with incomes above 400 percent of the federal poverty level to report being in poor or fair health. The research also indicates that low-income Americans show higher rates of physical limitation, heart disease, stroke, and other chronic conditions. Accompanying physical health challenges, low-income individuals encounter more barriers to accessing health care due to being uninsured, underinsured, and/or lacking access to primary and specialty care in the community.

⁶ https://www.cdc.gov/nchs/data/series/sr_10/sr10_256.pdf

⁷ <https://www.healthaffairs.org/doi/10.1377/hpb20180817.901935/full/>

Homelessness and Housing Stability

Individuals facing chronic homelessness have substantially higher physical and mental health morbidities⁸ and increased mortality. Factors that indicate the likelihood of housing instability are more prevalent in west and south side communities change highlighted text to compared to the the overall city and state.

The eviction rates to the west and south are 1.2 percent and 1.8 percent respectively, both higher than Chicago’s 1.1 percent rate (Exhibit 3.7). Eviction rates shift across neighborhoods. For example, the highest regionalized eviction rates are 2.6 percent in Austin and 3.82 percent in South Shore.

Exhibit 3.7: Homelessness and Housing Insecurity Indicators (data over multiple years)

	West Side	South Side
Eviction Rate	1.2%	1.8%
Prevalence of Housing Choice Vouchers	9.5%	16.6%
Crowded Housing	5.4%	3.6%
Moved to county in past year	13.6%	10.2%
Severely rent burdened	27.7%	31.1%
Median Gross Rent	\$1,057.00	\$892.00

These eviction rates are also indicators of living cost hardships. A regression analysis finds a statistically significant relationship between those “experiencing severe rent burden” and high blood pressure among Chicago communities. To view the model, visit <https://metop.io/projects/2dj35lvw/>

For instance, 35.1 percent of individuals in Austin are “severely rent burdened” and 42.1 percent of individuals have high blood pressure. Yet, in Logan Square, 15.4 percent of individuals are “severely rent burdened” with an associated 20 percent rate of high blood pressure.

The stress of unstable housing can impact employment, social networks, education, and access to social service benefits which collectively add to the individual burden and hardship that can adversely shape a person’s health. A study published in Health Affairs⁹ found that providing stable housing to residents of Oregon caused caused Medicaid expenditures to the state to decrease by 12 percent, a 20 percent increase in primary care outpatient visits, and an 18 percent decrease in emergency department visits. Similar analyses abound in urban centers across the country.

⁸ <https://www.healthaffairs.org/doi/10.1377/hpb20180313.396577/full/>

⁹ <https://www.healthaffairs.org/doi/10.1377/hpb20180313.396577/full/>

The 2019 Point in Time¹⁰ survey revealed 5,290 individuals experiencing homelessness, a modest decrease from prior years. The survey also found that 76.2 percent of individuals were sheltered while 23.8 percent were unsheltered. The neighborhoods with the greatest number of unsheltered homeless individuals were:

- O'hare: 162 individuals
- Near West Side: 114 individuals
- Loop: 127 individuals
- Near North Side: 95 individuals
- East Garfield Park: 65 individuals
- Roseland: 64 individuals

Additionally, rates of substance use and mental health disorders treatments for individuals and families with shelter were 16 and 26 percent respectively. For those without shelter, treatment rates increased to 28 and 29 percent respectively.

Homelessness is not unique to Chicago and significant research has been conducted linking housing instability to various physical ailments¹¹ including diseases of the extremities, skin disorders, and increases the possibility of traumatic events, such as physical or sexual assault (with expanded health implications). Other ailments exacerbated by homelessness includes malnutrition, parasitic infection, dental disease, degenerative joint disease, and venereal disease.

¹⁰ https://www.chicago.gov/content/dam/city/depts/fss/supp_info/Homeless/2019PITReportFinal110819.pdf

¹¹ <https://www.ncbi.nlm.nih.gov/books/NBK218236/>

Food Insecurity

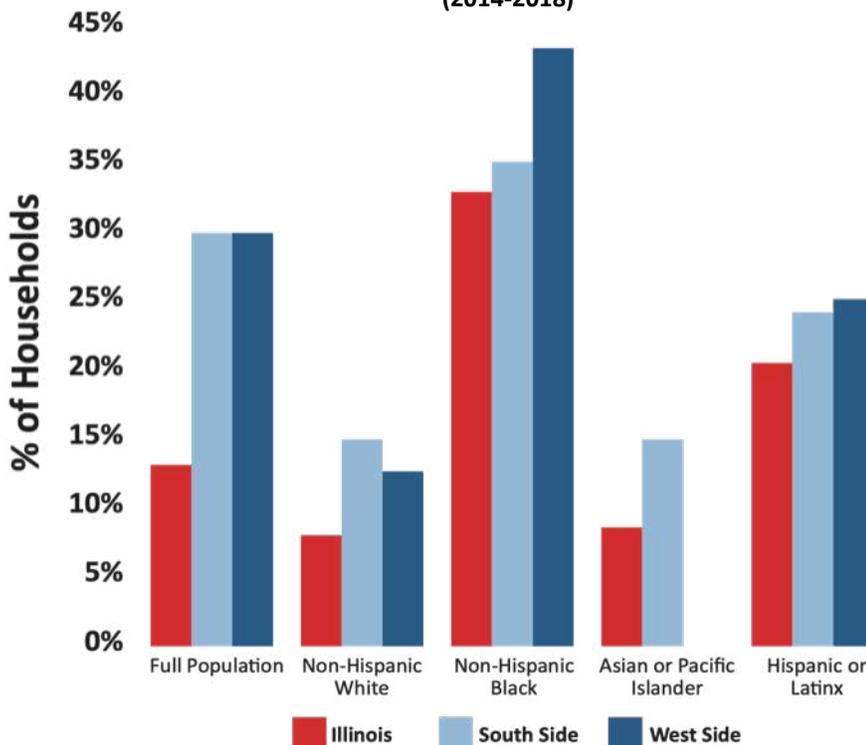
Local investigatory efforts¹² reveal that fresh produce and nutritious food are not readily available in Chicago’s vulnerable neighborhoods indicating the presence of so-called food deserts. There are greater disparities in the number of individuals on SNAP to the west (29.7 percent) and south (29.5 percent) than greater Chicago (18.9 percent) (Exhibit 3.8).

Exhibit 3.8: Food Insecurity Indicators (data over multiple years)

	West Side	South Side
Living in Food Desert	0.3 %	0.9%
Food Stamps (SNAP)	29.7%	29.5%
Households in Poverty not receiving SNAP	42.4%	39.5%
Low food access	17.7%	30.5%
Very low food access	0.5%	1.7%

The south and west side neighborhoods have a higher proportion of Non-Hispanic Black and Hispanic or Latinx residents receiving SNAP benefits compared to the Non-Hispanic White populations living in these same ZIP Codes (Exhibit 3.9).

Exhibit 3.9: SNAP Rates for the South and West Sides (2014-2018)

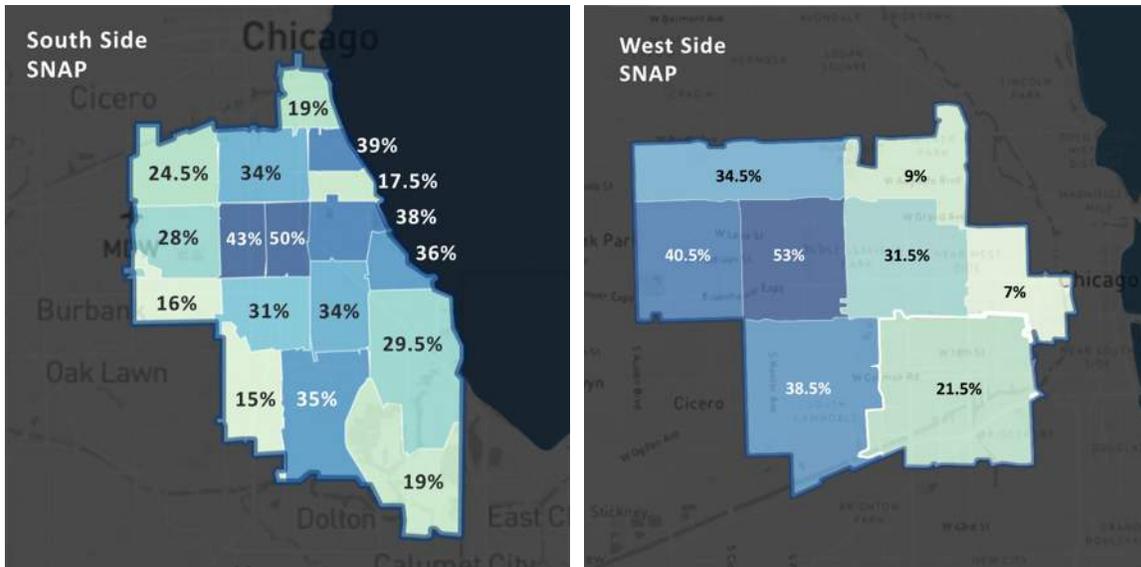


¹² <https://chicagodefender.com/food-deserts-continue-to-plague-the-southside/>

¹³ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4218969/>

Fifty-one percent of individuals in East Garfield Park and West Garfield Park receive SNAP, compared to 7.1 percent of individuals in Near West Side. Relatedly, in Englewood, 50.5 percent of the neighborhood residents receive SNAP, compared to 15.1 percent of individuals in Beverly and Morgan Park (Exhibit 3.10).

Exhibit 3.10: SNAP Rates for the South and West Side ZIP Codes (2014-2018)



A regression analysis finds a statistically significant relationship between low food access and diagnosed diabetes among Chicago communities. For instance, in Roseland 17.2 percent of individuals suffer from diabetes and 69 percent of individuals have limited access to food. In Lakeview, 4 percent of individuals have diabetes and 6 percent have low access to food (<https://metop.io/projects/2dj35lvw/>). A 2014 study¹³ stated that while more research needs to be done to confirm food insecurity as a risk-factor of diabetes, there is a connection between individuals with “limited budgets and the propensity to purchase cheaper, higher-calorie foods, which can contribute to weight gain and an increased susceptibility to one or more chronic illnesses, including type 2 diabetes.”

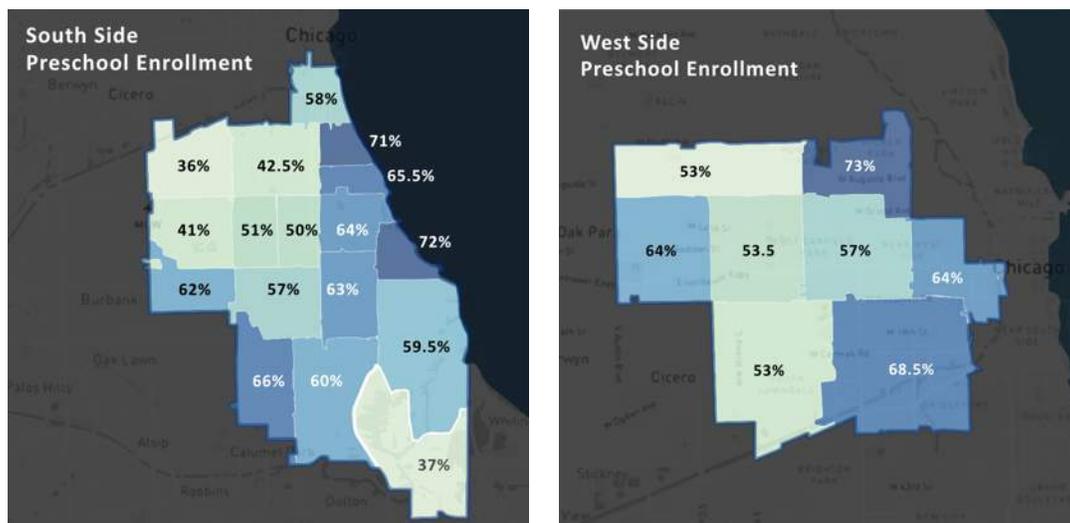
Education

Enrollment in early education is connected to long-term health outcomes. Compared to the preschool enrollment rate in Chicago (58.4 percent), the west side has a rate of 60.8 percent and the south side at 54.9 percent (Exhibit 3.11). Austin and Humboldt have rates of 53.2 percent while West Town has a rate of 73 percent To the south, Oakland has a preschool enrollment rate of 71.7 percent while Woodlawn and Archer Heights run at 36.1 percent (Exhibit 3.12).

Exhibit 3.11: Education Rates (2014-2018)

	West Side	South Side	Chicago
Preschool enrollment	60.8%	54.9%	58.4%
9th grade education rate	88.5%	90.9%	92.2%
High school graduation rate	75.7%	81.1%	84.5%
College graduation rate	27.6	21.3	38.4%

Exhibit 3.12: Preschool Enrollment Rates for the South and West Side ZIP Codes (2014-2018)



Recent studies¹⁴ have identified various ways in which early childhood education may affect health. Higher rates indicate a greater prevalence of access to health screenings, health care, improved nutrition, or other health-promoting activities.

A report¹⁵ exploring the impact of educational attainment on public health and health outcomes found the prevalence of several risk behaviors in adults is higher among those with fewer than nine years of formal education and declines as years of education attainment increases. Education also impacts physical health outcomes as rates of major circulatory diseases, diabetes, liver disease, and psychological symptoms were found to be higher among adults with lower educational attainment.

¹⁴ <https://www.healthaffairs.org/doi/10.1377/hpb20190325.519221/full/>

¹⁵ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4691207/>

Chronic Disease

West side and south side communities have higher rates of every chronic condition relative to the city of Chicago. In particular, the south side stands out as higher in nearly every condition (Exhibit 3.13).

Exhibit 3.13: Chronic Condition Rates (2017)

	West Side	South Side
Current Asthma	10.0%	10.3%
Arthritis	19.9%	23.7%
Coronary Heart Disease	5.6%	6.5%
High Cholesterol	28.3%	30.9%
Chronic Kidney Disease	3.5%	3.9%
Diagnosed Diabetes	13.0%	14.6%
COPD	7.1%	7.7%
High Blood Pressure	32.8%	37.9%
Obesity	37.2%	38.3%
Diagnosed Stroke	3.8%	4.5%

The data shows that there are notable disparities in the prevalence of chronic disease outcomes between the south side and the broader city of Chicago. In fact, for the south side, in every measurable category, there is a higher degree of prevalence of chronic disease than for the city of Chicago and its west side.

For the west side, all categories except for heart disease and high cholesterol rank at parity or higher. We believe those categories ranked at parity to be worse than the data shows, as the south side numbers (baked into the city's broader statistics) pull up the composite city figures.

In self-reported studies, 15.3 percent of individuals in west side communities and 14.5 percent of individuals in south side communities have higher poor physical health rates than broader Chicago (12.7 percent).

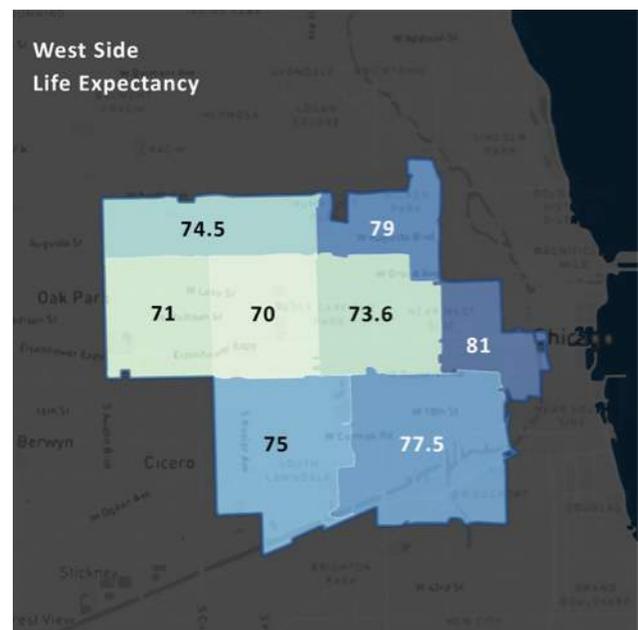
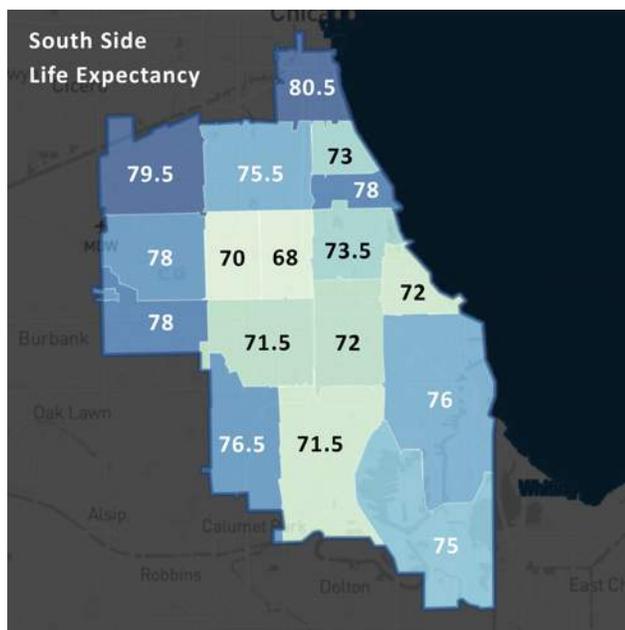
These figures track the aforementioned equity numbers aptly, demonstrating that the lack of infrastructure, particularly on Chicago's south side, creates a significant challenge to addressing the prevalence of chronic disease.

Health Outcomes

There are myriad ways to represent the composite health outcomes that result from the institutional and social inequities referenced in this report. However, we believe that the ultimate indicator for a community's health is life expectancy, which measures the rate at which people pass away as a corollary to the areas this report has showcased.

Since 2001, life expectancy has increased¹⁶ nearly 2.5 years for the top 5.0 percent of earners, but remained stagnant for the bottom 5.0 percent of earners. In Chicago, the life expectancy of individuals who live in the west side and south side of the city varies greatly for individuals who live in the Loop or north side. For instance, residents in West Garfield Park have an average life expectancy of 69.9 years compared to individuals in the Loop (directly east) who have a life expectancy of 81.7. South side neighborhoods have similar disparities. In Englewood, the life expectancy is 68.1 years compared to the neighboring, more affluent area of Hyde Park where life expectancy is 80.6 years (Exhibit 3.14).

Exhibit 3.14: Life Expectancy in South and West ZIP Codes (2010-2015)



¹⁶ <https://jamanetwork.com/journals/jama/article-abstract/2513561>



SECTION 4

REIMAGINING THE SAFETY NET



Reimagining the Safety Net

The projections and the underlying access, chronic disease, and outcomes data paint a stark picture for the city's most vulnerable communities. Currently, the state underwrites physical and mental services through the Departments of Healthcare and Family Services, Human Services, and Public Health at an aggregate rate of \$40 billion.¹⁷ Over the last three years, this government outlay has steadily increased by 8.4 percent. However, most stakeholders would assert that this money is not altogether sufficient to finance the amount of infrastructure required to support the underlying health, mental, and/or social service needs in under-served communities.

Under normal circumstances, despite the state's longer-term budget rehabilitation efforts, there would be a case for a gradual increase in the state's budget to accommodate the unfunded liabilities of safety net hospitals. However, there are three critical factors that are highly likely to preclude and obviate any meaningful budgeting exercise:

1. The financial impact of COVID-19 on the Illinois economy has yet to fully materialize. Current projections by The Center on Budget and Policy Priorities anticipate that the Illinois state budgets will see a depression of 7 percent (\$2.7 billion) in 2020 and 12 percent (\$4.6 billion) in 2021.¹⁸ In short, even with federal aid, the state will struggle to find new monies to subsidize hospitals that are consistently operating at a loss.
2. This analysis only constitutes a four-year window, with perpetual decreasing inpatient revenues and increasing operating costs, both of which are likely to directionally continue their divergent paths absent some significant budgetary event. The outlying years beyond 2024 are likely to tell a similar, if not more ominous, story. Course-correcting would effectively require structural changes to the budget, forcing higher taxes or trade-offs with other critical state services like transportation, education, or security.
3. Successful, well-funded, or capitalized hospitals can portray a sense of safety and sophistication. In the absence of such financing, safety net facilities will continue to face asset and capital deterioration, which will exacerbate additional declines in utilization rates. In short, we do not yet know where the bottom is for these trended revenue declines.

It is difficult to conceive of a pathway where subsidies stand as the core solution to keeping these important community institutions open and viable.

¹⁷ <https://www2.illinois.gov/sites/budget/Pages/BudgetBooks.aspx>

¹⁸ <https://www.cbpp.org/research/state-budget-and-tax/states-grappling-with-hit-to-tax-collections>

The Political Price of Reform

Policy makers face difficult tradeoffs that must be thoughtfully considered now.

Our playbook heretofore has been to avert the political implications of transformation and consume every last inch of remaining runway until we are forced to reckon with the dispassionate economics that result in systematic hospital closures, leaving important communities bereft of critical health services. Over the last two years, the city has already seen the devastation communities experience as hospitals – West Lake, MetroSouth, and now, Mercy – have either closed or announced they are suspending operations. By delaying action, not only do hospitals fail to get the critical capital needed to bolster their infrastructure, but the opportunity to improve health outcomes and the communities’ economies in the short or long term is compromised. These forecasted financial circumstances will soon render this playbook useless. We are running out of time.

We need a new playbook, created through a meaningful collaboration of the community and stakeholders that aims to realign our collective expectations of availability to a range of resources and allows us to focus on difficult political decisions. This is not code for “closing hospitals.” Instead, it is a recognition of the irrefutable facts that we have far too few resources to address the range of biopsychosocial demand and needs in our underserved communities with an objectively unsustainable path for underwriting a single part of that system in the face of mounting losses.

If done right, we ardently believe and submit that not only do hospitals not *need* to close in the future, but capital (sourced from a variety of stakeholders) can be better focused to equip institutions with the resources that serve their highest and best needs in the community, preserving identity, presence, and the mission of improving health.

Imagine dedicated centers of excellence who are uniquely focused on highly specific health determinants that are fundamentally absent in the community. Behavioral health, addiction treatment, OBGYN, endocrinology, cardiology, nephrology, etc, buttressed by the use of current technology to link practitioners across the city, better assimilate data for intelligence, and relying on patient coordination partnerships that support improved experience and access. New skills can be developed, new jobs can be created, and new sources of income that lead to financial viability across the city can be established. Regrettably, any one stakeholder acting unilaterally threatens a self-inflicted wound. Such an exercise must be well-timed, well-coordinated, and well-intentioned, with the collective passion and energy of the entire city focused on creating an environment for maximized human potential, and all that comes with it, through improved health.

Literally No Time Like the Present

We have options and dynamics that did not exist a mere five years ago. The convergence of six key environmental factors tells us that we have never had the kind of opportunity at our feet now. Delayed action may threaten to remove those options in a mere five years from now. In short, there is literally no time quite like the present. These factors include:

1. Private sector institutions, venture firms, and other strategic groups believe that investing in market-based solutions, applied to delivery system mechanics, are capable of creating efficiency and generating savings.
2. Innovative technology platforms are offering communication resources that can share important patient information in real-time, manage scarce infrastructure capacity in new ways, and can leverage data science to more accurately stratify and predict risk.
3. An increase in the prevalence of alternative payment models (APMs) that encourage providers to offer a broader range of services and balance the risk and reward equation between payers and providers. Though APMs are far more prevalent in the Medicare and commercial markets (in 2018, 53 percent of ACOs were commercial, 37 percent were Medicare, and 10 percent were Medicaid¹⁹), there are demonstrable examples in other parts of the country (e.g., Oregon Coordinated Care Organizations²⁰ and Colorado's Accountable Care Collaborative²¹) that efficiency gains can be achieved when payment mechanisms are reconfigured to better align the interests of the parties.
4. The science of care models and management have become profoundly sophisticated. The combination of people, process, and technology configured to directly address specific disease states and/or populations shows that we have important evidence on *how* to improve community health. However, under our system's current fee-for-service reimbursement structure, these models all too often fail to be financially self-sustaining when the provider bears the operating cost directly or there are efficiency barriers that require onerous processes or extended staff.
5. The size of this challenge is not abating, as more Chicagoans find themselves closer to poverty every year and the state's projected Medicaid beneficiaries are anticipated to grow. The COVID-19 pandemic alone has caused the state's Medicaid population to increase by 4 percent from February 2020 to May 2020.
6. The events of 2020, from COVID-19 to the ongoing discussion of America's racial history, are shifting the disposition around the health system's role in health and economic development. Further, in the two years preceding 2020, the industry had already begun a wholesale mass shift to prioritize social determinants of health as highly correlated to the life expectancy variations we see within urban and rural communities across the country.

These conditions alone are not sufficient to drive the changes or decisions required to advance the interests of the states or these communities. However, they do establish an environment under which emergent or traditional funding sources could be directed for appropriate capital investment and transformation.

¹⁹ <https://www.healthaffairs.org/doi/10.1377/hblog20180810.481968/full/>

²⁰ <https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2016.1298>

²¹ <https://www.coloradohealthinstitute.org/research/ways-raes>

Seizing the Moment with Creative Financing Approaches

There is an active debate about whether this could all be simply addressed through higher reimbursement rates, particularly through the Medicaid program. While that may be true, it should be clear by now that there is a low likelihood that we can “fund our way” out of this. Higher reimbursement rates should remain an objective. But we believe it is more important to address the “efficiency gap” that is created by the fragmented nature of our biopsychosocial systems while concurrently deploying and expanding the resources at our city’s disposal in far more strategic ways. If we cannot create new money, we must find ways to be more deliberate about how we spend the money we *do* have.

1. The state has diligently worked to create a multi-year funding path through the allocation of dollars intended for transformation. This funding amounts to \$150 million per year and could serve as a significant investment in addressing the gaps and staving off the fiscal cliff this paper identifies. The state’s disposition in identifying funding opportunities through established collaborations that address fragmentation and efficiency is the right one. The onus will be on communities to convene, collaborate, and operate with an abundance mentality to maximize the use of these finite resources.
2. Private sector institutional capital that is invested to support foundational community assets that create strategic opportunities. Illinois is one of 36 states that allows for Benefits Corporations - organizations that pay taxes but enjoy the benefit of a different charter and mandate that have fidelity for the mission of the organization instead of the shareholders or owners.
3. Philanthropic funding that can be better concentrated and levered by state funding to optimize the overall impact of donors.
4. Organizations are piloting and implementing early stage, integrated delivery systems in Chicago’s safety net, providing insights from which to build and learn upon. Integration enables greater interoperability and greater person-centered care coordination, which in turn can yield greater health outcomes and lower costs across the care continuum.
5. Corporate investments are simultaneously looking for opportunities to enhance or improve community-level diversity and inclusion efforts. The corporate community is lacking a single coordinating entity capable of optimizing these expenditures.
6. Tax-exempt hospitals are required to provide monies for “community benefit.” While hospitals certainly check the box of federal and state requirements in allocating this funding, it is often not coordinated with other facilities and minimizes the broader, aggregate impact that could be realized in the safety net. Non-safety-net hospitals have a natural economic incentive to maximize these funds in service of strengthening the safety net as such strengthening mitigates the number of lower-reimbursed patients from crossing town.
7. State policy makers could consider a policy that would allow for a re-allocation of risk-based capital for Managed Care Organizations. If granted, it would be possible to shift the capital held in reserve for payer insolvency toward investments in certain for-profit initiatives (strictly defined) that could create \$30-\$160 million in additional capital funding.

²² <https://benefitcorp.net/policymakers/state-by-state-status?state=0>

²³ <https://www2.illinois.gov/Pages/news-item.aspx?ReleaseID=21790>

What's more, if the second, fourth, or sixth option are linked to a transformation proposal and funds were run through HFS, an additional federal match could be captured, resulting in an even better leveraging of scarce state resources. In short, there are myriad pathways to establish funding that could represent more than \$1 billion and could be used to transform these facilities.

The price tag to redesign these safety net systems could exceed one billion dollars. The price of inaction is far greater, both in measures of lost economic productivity and loss of life. These dollars largely exist or are on a path to allocation. Sporadic spending threatens to keep the system mired in its current state. Thoughtful and collaborative allocation of these collective resources can literally help communities establish a new intergenerational baseline.

Principles of Transformation

Defining any transformation effort should abide by three important principles.

The first is a general de-prioritization and cultural shift in how we think about the role of hospitals in these communities. While hospitals have been and will continue to be important community assets and pillars for critical care, they are too often used for purposes that could be commensurately addressed in the home through technology, social service platforms, or community health centers. In short, we would be well served in focusing less on the fixed asset costs of brick-and-mortar facilities and more on evidence-based platforms capable of similar health outcomes at a lower cost. This is in no way an assertion that we should circumvent hospitals' critical services; but rather a call to focus on investing in their highest and best community use for the purpose of long-term viability.

The second is energetic investment in the under-funded parts of Chicago's mental health and social services infrastructure should be a paramount priority. There is no reason to have to close any hospitals or misplace any jobs if proactive action is taken. According to our analysis (see Section 3), there is a surplus of acute care capacity in certain communities. Conversely, based on similar infrastructure inventorying and projected patient demand, there are resources gaps throughout vulnerable communities, namely in:

- Mental health settings
- Addiction recovery programs and housing
- Chronic kidney disease services and supports, including dialysis
- Diabetes prevention and recovery
- OBGYN services including perinatal planning, labor and delivery, and intensive care capacity
- COVID-19/Post-COVID-19

Further still, Chicago has highly-accessible, accredited, and capable learning institutions that can be critical partners in equipping the workforce with new skills.

Finally, it is critical to align Managed Care Organizations and providers in a way that changes the financial construct for reimbursement. Insurance companies are highly adept at managing the way in which their members access services through networks, but are disadvantaged due to a lack of sustained and contiguous patient contact. Payers should continue to fulfill the administrative and managerial functions on which their expertise relies while sharing the risk for improved outcomes with the institutions and clinicians that are more directly connected to patients on the ground.

This does not have to be difficult. There are political outcomes that can be tenable and acceptable to all parties so long as the will, a high collaborative IQ, and a strong partnership with communities are brought to bear with a shared vision of improving the access to care. There is a start need to address these issues; and even bigger gains to be realized through true innovation and transformation.

The Punchline

Health is the most fundamental building block of human productivity. Compromised mental or physical health make it difficult to carry out functions of work, education, and caretaking. Improving health is the first and most critical step to improving economic activity, as healthier and more well communities can train, work, and perpetuate new economic opportunities.

We have attempted to show that our current approach of subsidizing individual hospital losses may be reaching a rapid conclusion. Even if we could afford such subsidies in the coming years, these hospitals are done a tremendous disservice by not having the access to capital needed to make critical investments. Jobs will be threatened, communities may lose even more access to key services, and the environment for neighborhoods will get even harder to bear.

Chicago represents a symbiotic ecosystem. What happens in one neighborhood, in some way will indelibly impact all others. These challenges are not simply isolated to certain geographies. No matter our walk of life or our industry, we have a shared interest in improving the environment for the better health that correlates to higher prosperity.

There is a risk of the perfect being the enemy of the good. Additional funding and resources may be desirable, but the magnitude of what's needed is almost surely untenable. Despite that, emergent factors can be leveraged to redefine our systems of care through the grit, determination, and creativity our city has always been known for.

Our future is not cast in stone. We can re-train professionals, redeploy funding, and reimagine transformation to create a holistic system of care and the economic vibrancy that can be achieved through such activities.

The best time to plant a tree was 20 years ago. The next best time is today.

Appendix A: Definitions and Methodology

Definitions

Safety Net

We used the Illinois Department of Healthcare and Family Service’s (HFS) definition of a “safety net hospital” to identify the hospitals included in this analysis. To qualify as a safety net hospital, HFS requires an Illinois hospital to:

- Be licensed by the Department of Public Health as a general acute care or pediatric hospital;
- Be a Disproportionate Share Hospital as determined by HFS;
- Have a Medicaid Inpatient Utilization Rate (MIUR) of at least 40 percent with a charity percent of at least 4 percent OR a Medicaid Inpatient Utilization Rate of at least 50 percent; and
- Any hospital that, beginning July 1, 2012 and ending on June 30, 2020, would have qualified for the rate year beginning October 1, 2011.”

Geographic Partitioning and Considerations

We looked at the safety net hospital infrastructure of Illinois at comprehensively across Illinois, as well as within two very discrete geographic regions in the city of Chicago on the city’s south and west sides. Each geographic region is identified by ZIP codes classified by the data platform Metop.io.

These three regions within Illinois are defined as:

South Side

The geography for Chicago’s south cohort included the following 17 ZIP codes:

60609 60632
60615 60633
60616 60636
60617 60637
60619 60643
60620 60649
60621 60652
60628 60653
60629

West Side

The geography for Chicago’s west cohort included the following eight ZIP codes:

60607
60608
60612
60622
60623
60624
60644
60651

Broader Illinois

The safety net hospitals not included in the south and west side cohorts constituted the third category for this analysis, representing 22 institutions that HFS recognized as safety net hospitals in 2019.

These zip codes account for 428,967 Illinois residents, or 3.8 percent of the state’s population. As of 2019, HFS recognizes five safety net hospitals on the west side.

Methodology

Data Sources

For this analysis, we leveraged data from three primary sources:

- **Torch Insight** – Developed by Leavitt Partners, this analytics platform provides critical underlying data that informs the financial and operational integrity of health ecosystems. The database includes hundreds of variables that can be used for analysis and is able to triangulate on referral patterns and diagnosis or procedural prevalence using ICD and CPT coding features. <https://torchinsight.com/>
- **Metop.io** – This platform has a proprietary score that creates a composite view of community need, integrating various biopsychosocial factors. The platform is further able to provide mapping at various discrete geographic units of analysis, examining a wide array of variables such as alcohol use disorder prevalence, housing security, mental health access, chronic disease prevalence, etc. Further, the platform has integrated tools that support multi-variable regression of different variables to study unique correlations that could provide strategic insights depending on the underlying questions be posited. <https://metop.io/>
- **990 Forms** – Federal tax instruments used to capture important financial information from tax-exempt entities. We primarily used these forms to extract balance sheet data for free-standing safety net

Data Variables

The primary data variables used in this analysis were pulled from the Torch Insight database and included the following:

Label	Description
Net Patient Revenue	Total net patient revenue
Total Operating Expenses	The total operating expenses for the hospital, calculated by subtracting the total deductions from the operating expenses and total additions

Data Assumptions

Torch Insight did not have 2018 data elements for two hospitals: Advocate Trinity and South Shore. To adjust for the missing data, we calculated compounded trends for each variable using historic data covering the three-year period between 2015 and 2017. We applied the compounded trends to 2017 data to approximate the missing 2018 data, and then used the approximate 2018 data for these two hospitals across cohort calculations, as appropriate.

Calculations and Modeling

We examined two timeframes for these analyses: retrospective (covering the four-year period between 2015 and 2018) and prospective views (covering the six-year period between 2019-2024). We elected to exclude data prior to 2015 so as to not include the financial dynamics that existed prior to the states entrance into managed care or the expansion of the Medicaid program through the Affordable Care Act.

We used a standard growth rate formula to examine facility-by-facility annual trends in NPR and each hospital's annual operating expenditures. We adjusted and weighted the rates to accurately represent a composite view of the corresponding region's overall financial trends.

We conducted prospective forecasting by first calculating the compounded trend of relevant data variables based on historical data from the four-year period between 2015 and 2018. We applied compounded trends to a given year's data (either actual or calculated) to approximate the following year's data and calculated compounded trends for each cohort on an aggregated basis to review how the hospitals performed as a collective.

For the south side cohort, we included data from MetroSouth Medical Center for the retrospective findings, but excluded it from the prospective findings since the facility closed in 2019.