

The Cost of Healthcare Resilience: Models for Chronic Conditions Intervention in Mississippi

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Healthcare Disparities

- Three major disparities:
 - The South fairs worse than other US regions
 - Racial and ethnic minorities are disproportionately negatively impacted
 - Rural spaces do not keep pace with urban centers in terms of infrastructure development

Mississippi & COVID-19

- 54% population lives in rural county
 - Yet 2 weeks of highest positivity rate/per capita cases in August
- Disparities in co-morbid precursors for poor COVID-19 prognosis
 - AA hospitalization rates 5X higher than whites

	Obesity (%)	Diabetes (%)	Hypertension (%)	Heart Disease *	Chronic Respiratory Disease*
US	37.7	10.5	33.2	163	39.7
Rural South	34.7	13.2	37.2	186	48.9
MS	39.5	14.3	40.8	222	59.9

^[1] Robert Wood Johnson Foundation. State of childhood obesity: Adult obesity rates. <https://stateofchildhoodobesity.org/adult-obesity/> Published 2019. Accessed March 28, 2020.

^[2] Robert Wood Johnson Foundation. State of childhood obesity: Adult diabetes rates. <https://stateofchildhoodobesity.org/diabetes/> Published 2019. Accessed March 28, 2020.

^[3] Robert Wood Johnson Foundation. State of childhood obesity: Adult hypertension rates. <https://stateofchildhoodobesity.org/hypertension/> Published 2019. Accessed March 28, 2020.

^[4] CDC National Center for Health Statistics. Heart disease mortality by state. https://www.cdc.gov/nchs/pressroom/sosmap/heart_disease_mortality/heart_disease.htm Published February 2020. Accessed March 28, 2020.

^[5] CDC National Center for Health Statistics. Chronic lower respiratory disease mortality by state. https://www.cdc.gov/nchs/pressroom/sosmap/lung_disease_mortality/lung_disease.htm Published February 2020. Accessed March 28, 2020.

Annual Operating Costs for “High Touch” Diabetes/Chronic Healthcare Condition Management

Expenditure	Medical Clinical Costs	Community Pharmacy Costs	Telehealth Costs
Staff/Benefits			
Nurse Practitioner (0.5 FTE)	\$47,500	--	--
Community Pharmacist (0.5 FTE)	--	\$48,861*	\$50,223
CMT/LPN (1 FTE)	\$54,500	--	\$54,500
Administrative Staff (0.1 FTE)	\$3,120	\$3,120	\$3,120
Other Operating Costs			
Accreditation	\$1,100	\$1,100	\$1,100
Technology/Computer Equipment	\$3,375	\$3,375	\$28,000 ¹
Patient Education Materials	\$4,000	\$1,200	\$8000
Office Supplies	\$1,500	\$750	\$250
Postage	\$350	\$200	\$350
Total Costs	\$115,445	\$58,606	\$145,543

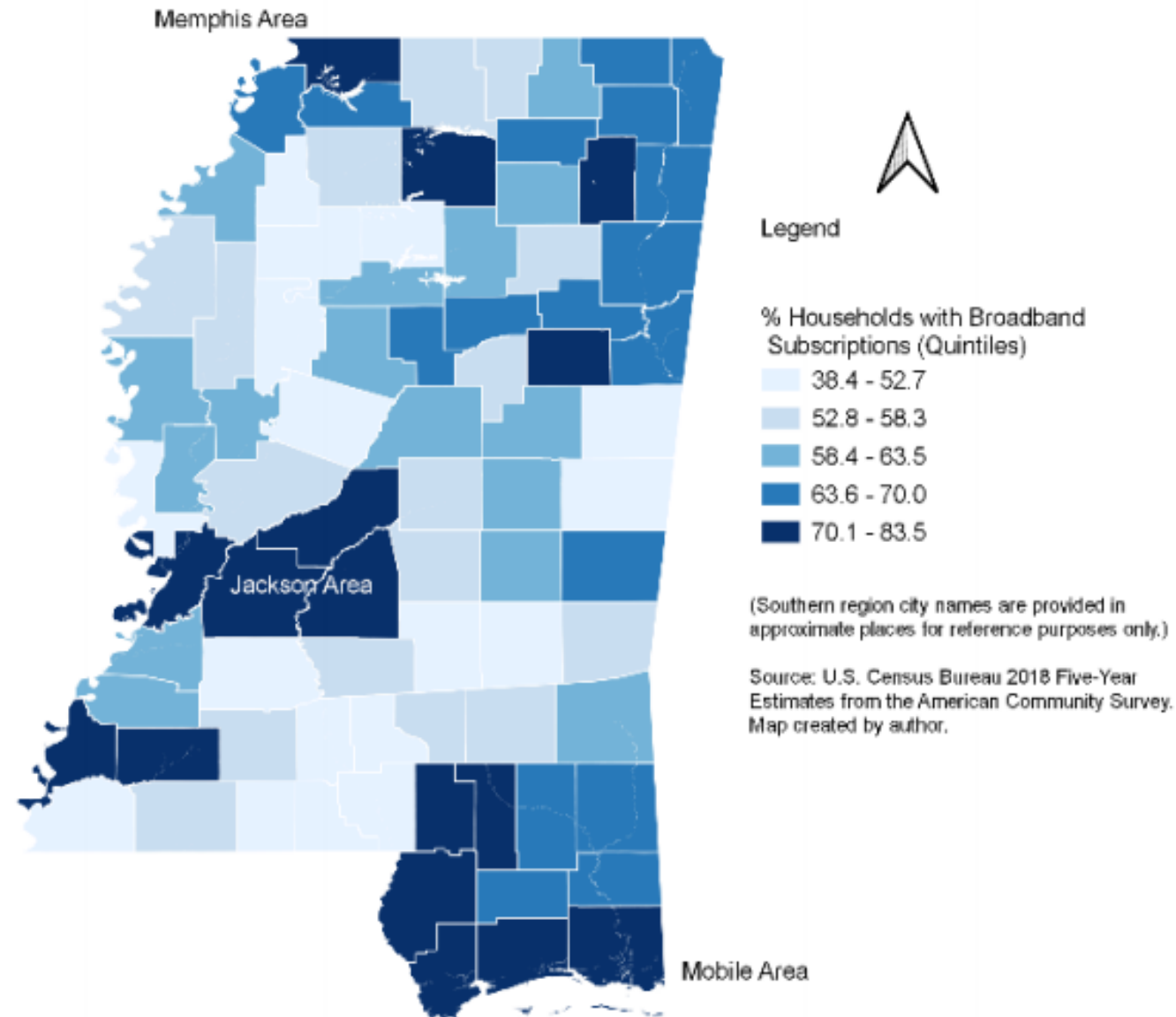
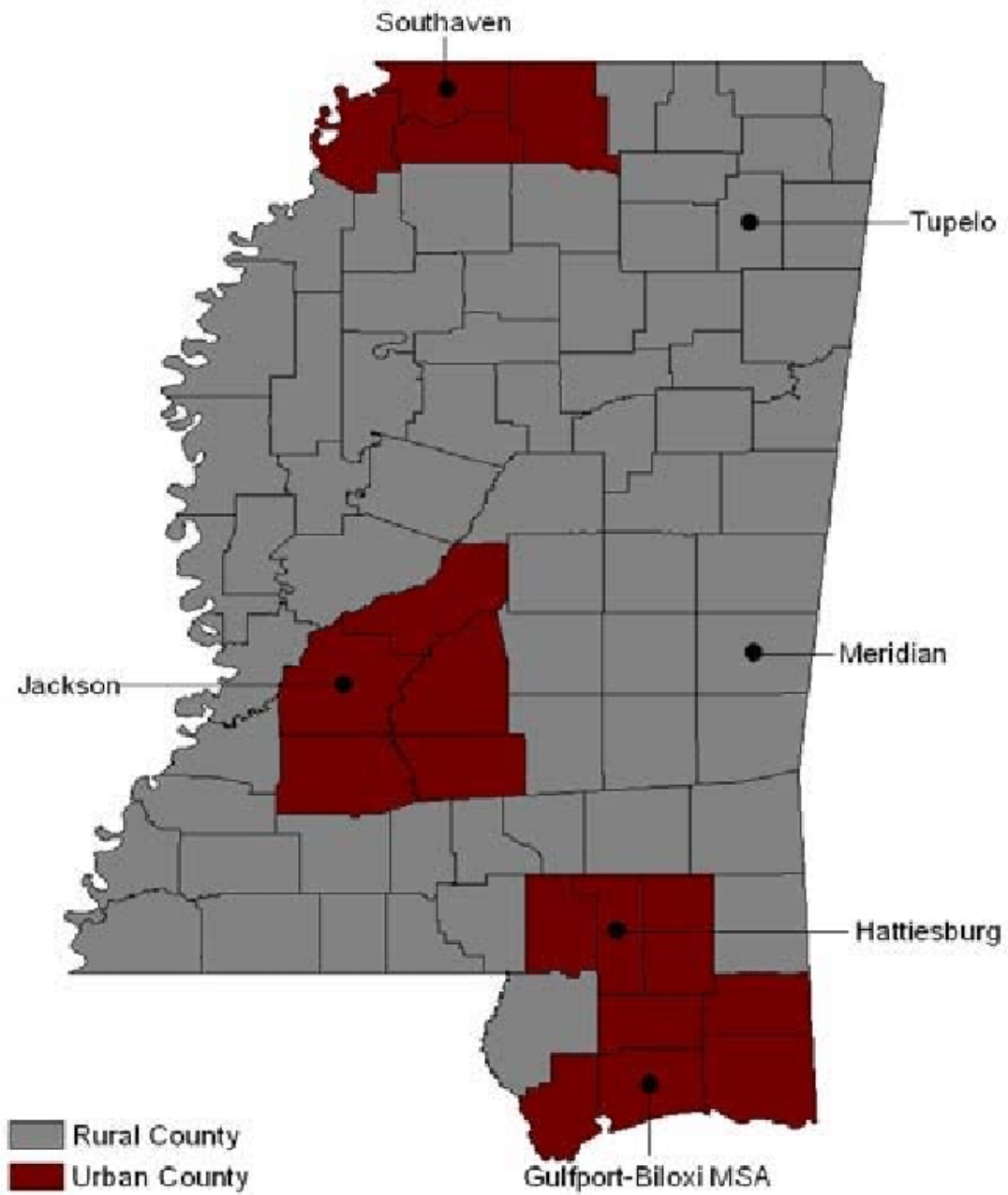
1. <https://amdtelemedicine.com/i-want-to-do-telemedicine-what-is-involved-and-how-much-does-it-cost/#:~:text=All%2Din%2Done%20telemedicine%20systems,%2420%2C000%20to%20upward%20of%20%2428%2C000>

Annual ROI for High Touch Diabetes/Chronic Condition Management

	Medical Clinical Costs	Community Pharmacy Costs	Telehealth Costs
Total Operating Cost	\$115,445	\$58,606	\$145,543
Number Served (per clinic)	400 ¹	335 ²	500
Cost per Individual	\$288/person	\$175/person	\$291/person
Literature Highlights	Can drop per capita costs of care by 14% for Medicare beneficiaries ⁴ Those with HbA1c levels above 9 dropped to 5%, compared to national average of 20% ⁴	1.9% reduction in HbA1c levels among most at risk (>9%). ² Significant health improvements in a range of chronic health conditions ²	Reduction of 1.2% in HbA1c levels ⁵
ROI estimates	\$26.50/patient ¹ ; \$12.29/visit ³	--	--

- <https://www.ruralhealthinfo.org/sustainability/pdf/bringing-the-future-into-focus-sustainability-planning-workbook.pdf>
- https://www.cdc.gov/pcd/issues/2020/20_0063.htm
- <http://www.diabetesinitiative.org/documents/BusinessCasePrimerFINAL.pdf>
- <https://www.brookings.edu/wp-content/uploads/2016/06/Rio-Valley-ACO.pdf>
- Davis RM, Hitch AD, Salaam MM, Herman WH, Zimmer-Galler IE, Mayer-Davis EJ. TeleHealth improves diabetes self-management in an underserved community: diabetes TeleCare. *Diabetes Care*. 2010;33(8):1712-1717

Fig. 2: Percent of Households with Broadband Subscriptions in MS Counties (2018 Five-Year Estimates)



(Southern region city names are provided in approximate places for reference purposes only.)
 Source: U.S. Census Bureau 2018 Five-Year Estimates from the American Community Survey. Map created by author.

Moving Forward in Mississippi

- Investment in Community Pharmacy “high touch” disease management initiatives:
 - More than 600 community pharmacies in the state
- Investment in “high touch” disease management in community health clinics
- Telehealth—need additional infrastructure to be viable.