Beth Israel Lahey Health
Beth Israel Deaconess Medical Center

Measuring Economic Gains for Telehealth for Primary Care Patients, Providers, & Hospitals

Catherine M. Ternes, Senior Project Manager, BIDMC-Healthcare Associates

Introduction/Problem

Out of necessity, HCA went from 0% to 90% telehealth in one weekend in March 2020. Now that we are emerging from the pandemic, there are critical learnings for our practice and the broader BIDMC/HFMP/BILH system we should heed moving forward.

Telehealth represents the greatest opportunity for radical redesign in health care since electronic health records. Primary care is particularly well-positioned to benefit from widespread telehealth utilization due to diversity in cases and increasing focus on chronic care management, behavioral health, which can be done remotely However, there are two primary weaknesses in BIDMC/HCA's current approach to telehealth: 1) Insufficient investment has led to inefficiencies which make telehealth more time-consuming for providers than in person care and 2) A gap in proactive outreach, education, and customization means the most vulnerable patients, who are also most likely to benefit from telehealth and whose lack of care continuity and/or access to primary care contribute significantly to inefficiencies in the system, are at risk of underutilizing it or not using it at all.

Aim/Goal

The aim of this research was two-fold: First, we wanted to better understand the realities of telehealth at HCA during the COVID-19 pandemic. We wanted to get some quantitative data and qualitative analysis around how the system was performing and what some of the barriers were for patients and providers. The second goal of the research was to begin to develop a basic method for estimating the financial cost of not having telehealth for patients, providers, and the hospital.

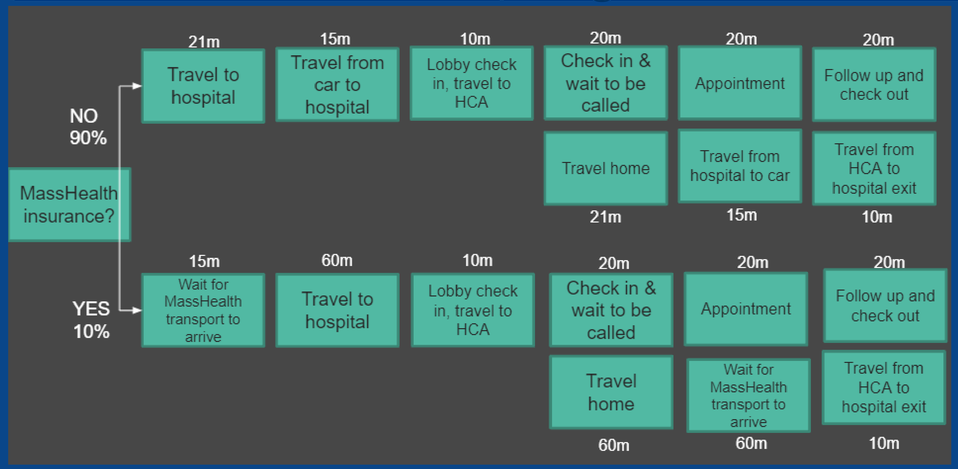
The Team

- Catherine M. Ternes, Principal Investigator, General Medicine, BIDMC-Healthcare Associates
- Marc L. Cohen, MD, Senior Sponsor, General Medicine, BIDMC-Healthcare Associates
- Kayla Tremblay, MBA, PMP, Senior Sponsor, General Medicine, BIDMC-Healthcare Associates
- Ravi Shankar Chaturvedi, MIB, MBA, PhD, Advisor, Tufts University, Fletcher School of Law & Diplomacy

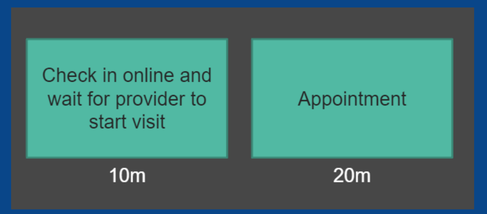
The Interventions

Estimates of the annual economic loss of in person care for patients, providers, and the hospital were calculated using a combination of primary, secondary, and tertiary sources. The data were pulled from the real-life experiences of the patients and providers of HCA between 2019-2021, and validated using external scientific articles and reporting on the impact of telehealth on primary care, before and after the COVID-19 pandemic.

Results/Progress to Date



Process map of in person care experience showing MassHealth patients (10% of HCA) spend an additional **261 minutes (4.4h), more than double** the time spent by non-MassHealth patients (90% of HCA), who spend **130 minutes (2.1h)**



Process map of virtual care experience showing all HCA patients spend an additional **10m** for a 20m telehealth appointment

For more information, contact:
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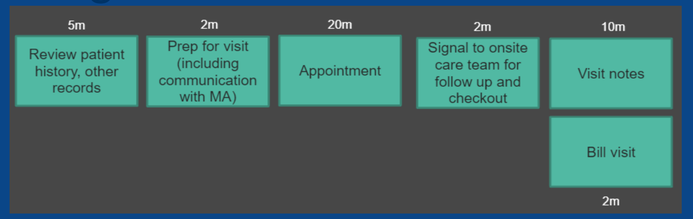
More Results/Progress to Date

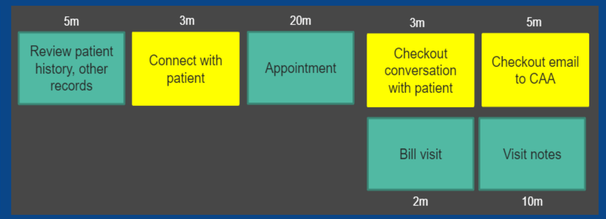
In Person Visits	Telehealth Visits	Economic Loss To Patients	Economic Loss To Providers	Economic Loss To Hospital	Total Economic Loss
100%	0%	$565,650,000	$147,560,215	$2,365,000	$715,575,215
75%	25%	$416,737,500	$144,206,574	$2,096,250	$563,040,324
60%	40%	$327,390,000	$142,194,389	$1,935,000	$471,519,389
50%	50%	$228,675,000	$140,852,933	$1,827,500	$371,355,433
0%	100%	$3,000,000	$134,145,650	$1,290,000	$138,435,650

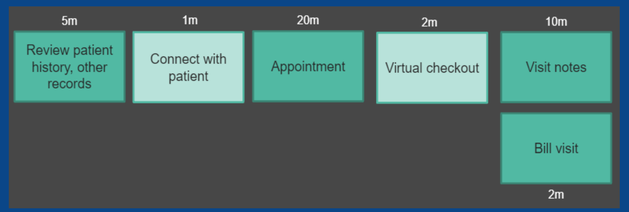
Analysis of five common post-COVID scenarios regarding availability of in person vs. virtual care and associated economic impact on patients, providers, hospital, and state economy.

In Person Visits	Telehealth Visits	Economic Loss To Patients	Economic Loss To Providers	Economic Loss To Hospital	Total Economic Loss
100%	0%	$565,650,000	$147,560,215	$2,365,000	$715,575,215
75%	25%	$416,737,500	$144,206,574	$2,096,250	$563,040,324
	Difference (Savings)	**$148,912,500**	**$3,353,641**	**$268,750**	**$152,534,891**

Calculation of savings to patients, providers, hospital, and state economy by going from 0% telehealth (pre-COVID environment) to 25% telehealth (Most likely post-COVID environment).







HCA providers spend an additional **22m** for a 20m in person visit compared to **28m** for a 20m telehealth visit. With investment in telehealth technology and support staff integration, providers could reduce time spent to just **20m.**

Lessons Learned

- Financial impact is an important metric to capture but one which is not as readily available as other measures
- Process maps are powerful visualizations and conversation starters
- There are subsequent opportunities for research (publication) and improvement (Linde, CRICO grant)
- Private companies, from startups to major institutions, are pivoting towards virtual primary care. BILH/BIDMC needs to decide whether to collaborate or compete.

Recommendations

- Formally embed telehealth as a pillar of care
- Pursue collaborations with public and private partners
- Invest further to reduce provider inefficiencies
- Better telehealth experience will enable us to not only operate more efficiently but also offer a way to care for more of the most vulnerable patients.

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