

## STUDY: PATIENT ACQUISITION PROVIDES SUSTAINABLE FINANCIAL MODEL FOR HEALTH SYSTEMS DEPLOYING VIRTUAL CARE

### ABSTRACT:

Growing numbers of healthcare organizations are adopting virtual care; however, health systems often struggle with finding a sustainable business model for virtual care services.<sup>4</sup> In today's landscape, non-profit and public healthcare organizations, which include the majority of community hospitals,<sup>3</sup> are facing a negative economic outlook.<sup>5</sup> As such, demonstrating the financial impact for new service lines is increasingly critical.

Virtual care has the potential to create efficiencies for patients and providers, improve patient access, and reduce the cost of care delivery, among other benefits.<sup>6</sup> With this in mind, finding a method to demonstrate financial returns is vital to overcoming this key barrier to health systems' adoption of virtual care.

By gathering and analyzing virtual care platform and EMR data for MultiCare Health System (MultiCare), a non-profit healthcare organization serving the Seattle/Tacoma and Spokane, WA metro areas, we identified a cohort of 304 virtual care users who had not received in-person care from MultiCare within 24 months of their virtual visit. Of these, more than 30% converted to a health system patient by seeking care at a MultiCare facility within 12 months of their virtual visit, resulting in approximately \$2,300 of new gross charges per converted patient.

MultiCare offers virtual visits using two distinct platforms under the name MultiCare Virtual Care: an asynchronous online patient interview powered by Zipnosis, and a direct-to-video service. This study focused exclusively on the asynchronous modality.

“Virtual care has long been a positive force for expanding patient access to care and enhancing patient experience. By demonstrating the positive financial impact of virtual care, healthcare organizations now have the justification they need to support investing in this critical component of care delivery.”

- Catherine Murphy  
Vice President of Customer Success and Operations  
Zipnosis

### BACKGROUND:

Calculating return on investment can take any number of forms – from the simple to highly complex. In healthcare organizations, particularly those in the mission-driven, not-for-profit sector, determining true return on investment is a highly individual and complex process.<sup>1</sup> Nonetheless, looking at virtual care financial models, health systems have traditionally taken a simplistic approach of subtracting total program costs from payments received.<sup>2</sup>

As virtual care matures and becomes increasingly integrated into health systems' care delivery strategies, the metrics used to evaluate virtual care become both more complex and more precise. These include both “soft” returns relative to non-profit health systems fulfilling their mission statements (e.g., patient satisfaction, patient access) and “hard” returns in areas such as patient retention and acquisition.<sup>7</sup>

For the purposes of this study, the financial impact of virtual care is being calculated through the lens of patient acquisition.

## METHODOLOGY:

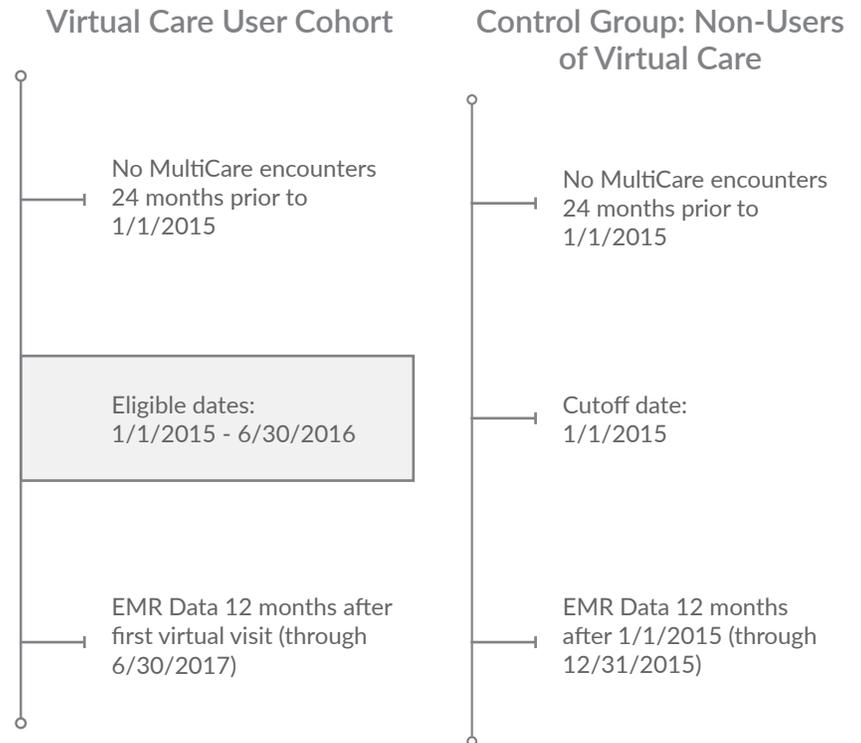
Zipnosis and MultiCare employed health data analytics company Carrot Health to gather and analyze the data for this study.

### Studied Cohort:

Carrot Health identified 304 virtual care users that met the following criteria:

- Males and females over 18 years old who had a virtual visit from January 1, 2015 to June 30, 2016
- Had not received care from MultiCare Health System in the 24 months prior to their virtual visit

In addition, a control group was identified consisting of 934 demographically similar people who did not use the virtual visit platform during the time period analyzed. Both the studied cohort and control group received the same marketing focus and messages, primarily tailored to the general service area population.



*"Virtual care allows MultiCare to engage a new population of consumers who are seeking convenient care at an affordable price. Though consumer awareness about these digital services is still growing, it's a valuable option for new MultiCare patients who will continue to use our services following this great experience."*

- Christi McCaren, Vice President, Retail Health and Services, MultiCare Health System

### Analysis:

The study tracked each cohort member's conversion to in-person care over the 12 months following their online experience and the gross charges generated by the population of converted patients. This was accomplished by reviewing the health system's electronic medical record system to determine the number of in-person visits each patient had and using visit CPT codes and billing information to calculate the gross charges associated with services the patient used.

The same data was used to track conversions and gross charges for the control group, enabling accurate quantification of the impact of virtual care on patient acquisition vs. traditional acquisition channels, and the financial impact of patient acquisition via virtual care.

### Cohort Experience:

The asynchronous modality for MultiCare Virtual Care enables new and existing patients to access an online patient interview for diagnosis and treatment of low-acuity conditions (e.g., urinary tract infections, pink eye and stye, rashes, and upper respiratory conditions). Patients access the service via the MultiCare website from any internet-connected device, choose from a list of common health concerns, and provide health history and symptom information through the online patient interview, which gathers the same information as a provider in a clinic setting. The system aggregates this data into a clinical note complete with relevant clinical decision support that healthcare providers at MultiCare use to make a diagnosis and treatment recommendation, including a prescription if clinically appropriate. Virtual care users can access their diagnosis and treatment information from the system and send any prescriptions to the pharmacy of their choice. All visit information is uploaded to the EMR system to support continuity of care.

## FINDINGS:

### Conversion Rates:

Of the 304 virtual care users in the cohort, 104 converted to MultiCare patients by seeking in-person services within 12 months of their virtual visit. This produced a conversion rate of 34.2 percent, compared to 9.1 percent in the control group. (fig. 1)

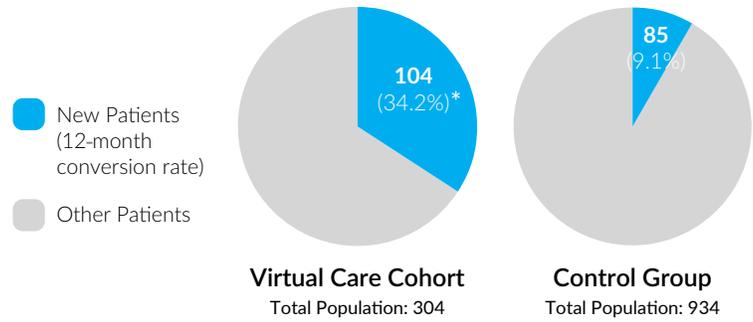


Figure 1: Virtual care conversion rates

\*Conversion percentages have 95% confidence and are deemed statistically significant.

The difference in conversion rates indicates that virtual care users in the areas served by MultiCare Health System are 276% more likely to convert to a health system patient than non-virtual care users. Carrot Health developed and validated a predictive model to identify non-MultiCare prospects that have high likelihood of using MultiCare Virtual Care and found that 81.9% of likely virtual care users could be found in the top 20% of the MultiCare service area.

### Financial Impacts:

On average, the virtual care users who converted to health system patients generated \$2,303 in additional gross charges over the 12 months following their virtual visit. This translated to approximately \$239,480 in new gross charges during the study period. Looking at gross charges per population member—or the total charges divided by the total population—the virtual care user cohort generated \$388 more per consumer than the control group. (fig. 2) When adjusted for population size, the findings indicate the virtual care user population would generate approximately twice that of non-virtual care users. (fig. 3)

	Virtual Care Cohort	Control Group	Virtual Care Difference
Total population	304	934	(630)
12-month conversion rate	34.2%	9.1%	25.1%
Total new patients	104	85	19
Total 12-month gross charges	\$239,480	\$373,091	(\$133,611)
Gross charges per population member*	\$788	\$399	\$388*

Figure 2: Actual gross charges through patient acquisition

	Virtual Care Cohort	Control Group	Virtual Care Difference
Adjusted population	1000	1000	-
12-month conversion rate	34.2%	9.1%	25.1%
Extrapolated new patients	342	91	251
Extrapolated 12-month gross charges	\$787,763	\$399,455	\$388,308
Gross charges per population member*	\$788	\$399	\$388*

Figure 3: Patient acquisition charges adjusted for population size

\*Gross charges by population findings have 95% confidence but are not statistically significant.

## CONCLUSIONS:

Looking at the patient acquisition achieved by MultiCare, the data demonstrates a significant, positive financial impact gained through the virtual care platform. Further, the increased likelihood of virtual care users to convert to health system patients without additional marketing efforts indicates untapped potential to drive greater conversion through focused, targeted marketing.

### Market Potential:

Further study is needed to draw broad conclusions about the impact of virtual care across health systems in different areas with different patient demographics; however, the data collected points to virtual care being an important patient acquisition channel. Using the conversion rate found for MultiCare and the \$2,300 average annual gross charges per converted patient, it is possible to extrapolate the potential financial impact of virtual care via patient acquisition through the equation and table denoted in figure 4.

## Long-Term Impacts of Acquisition via Virtual Care

As a rule, virtual care users—particularly those who gravitate to asynchronous modalities—tend to be younger, healthier patients, which may account for any disparity between average annual gross charges in the study cohort and control group. As the transition from fee-for-service to value-based care continues, attracting patient populations less likely to use healthcare services and those inclined to leverage lower-cost access points like virtual care will bring even greater value to health systems.



### New Virtual Care Users

		500	1,000	2,500	5,000	7,500	10,000	15,000
Conversion Percentage	20%	\$230,300	\$460,600	\$1,151,500	\$2,303,000	\$3,454,500	\$4,606,000	\$6,909,000
	30%	\$345,450	\$690,900	\$1,727,250	\$3,454,500	\$5,181,750	\$6,909,000	\$10,363,500
	40%	\$460,600	\$921,200	\$2,303,000	\$4,606,000	\$6,909,000	\$9,212,000	\$13,818,000
	50%	\$575,750	\$1,151,500	\$2,878,750	\$5,757,500	\$8,636,250	\$11,515,000	\$17,272,500

Figure 4: Virtual care opportunity

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