

# The expected impacts of delayed care due to the pandemic:

*How to monitor trends and respond proactively*



## Q&A

with **Sarah Kachur, PharmD, MBA, BCACP**  
Executive Director of Population Health Analytics  
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The COVID-19 pandemic caused widespread delays in primary care appointments and specialist visits. Doctors closed offices or limited appointments in March to meet urgent needs only, based on the U.S. Center for Disease Control's (CDC's) recommendations. Visits to the Emergency Department (ED) dropped drastically. Hospitals redistributed ICU beds and ventilators for COVID-19 patients.

Now, as some localities are facing a second or third wave of positive cases, most physician offices have reopened and most

hospitals have resumed elective procedures. As preventive and elective care capacity has risen, health systems, providers and payors are seeing signs of an uptick in preventive care visits.

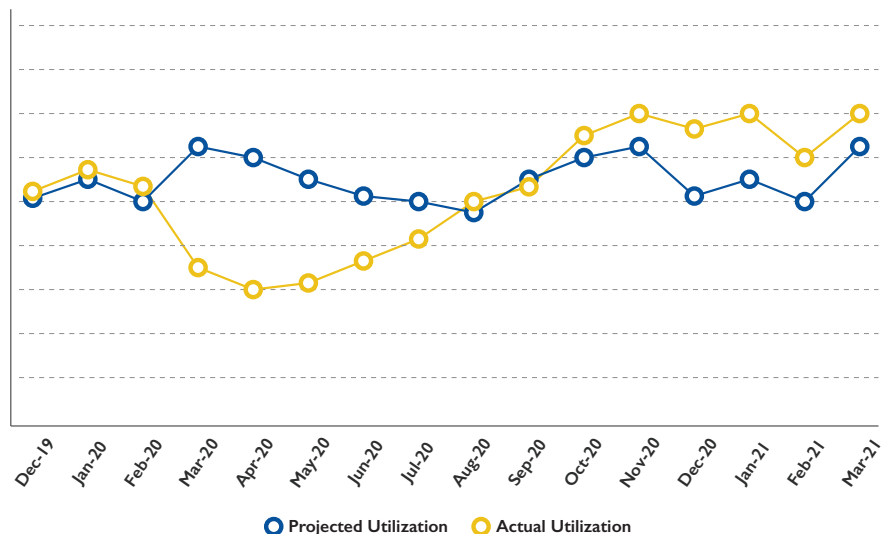
We spoke with Sarah Kachur, PharmD, MBA, BCACP; Executive Director of Population Health Analytics at Johns Hopkins HealthCare Solutions, to understand how delayed care impacts Population Health – and how Johns Hopkins ACG® System users can leverage its advanced analytics capability to monitor these trends and respond proactively.

### What trends are ACG System users seeing nationally, as we move into the winter months?

During the first 6 months of the pandemic, there were substantial reductions in preventive care, ED use and outpatient visits; a 50% decrease in Hemoglobin A1c testing for diabetes, and a 7- to 16- month backlog in joint replacement surgeries, as examples. At their lowest point in April, ED visits were less than half of pre-pandemic levels, even accounting for visits caused by COVID-19 itself.

Starting in late summer, we started seeing an increase in deferred outpatient procedures and elective surgeries. Perceived 'safety' of ED visits increased, resulting in a rebound to 75% of pre-pandemic levels by October. Nationwide, around 93% of provider offices have reopened, so we are seeing patients access deferred specialist visits, and making preventive and annual appointments. Taken together, overall utilization and cost as we move into 2021 may well be higher than projections made at the start of the year, accounting for 'usual' utilization patterns plus the backlog.

Illustrative Trend

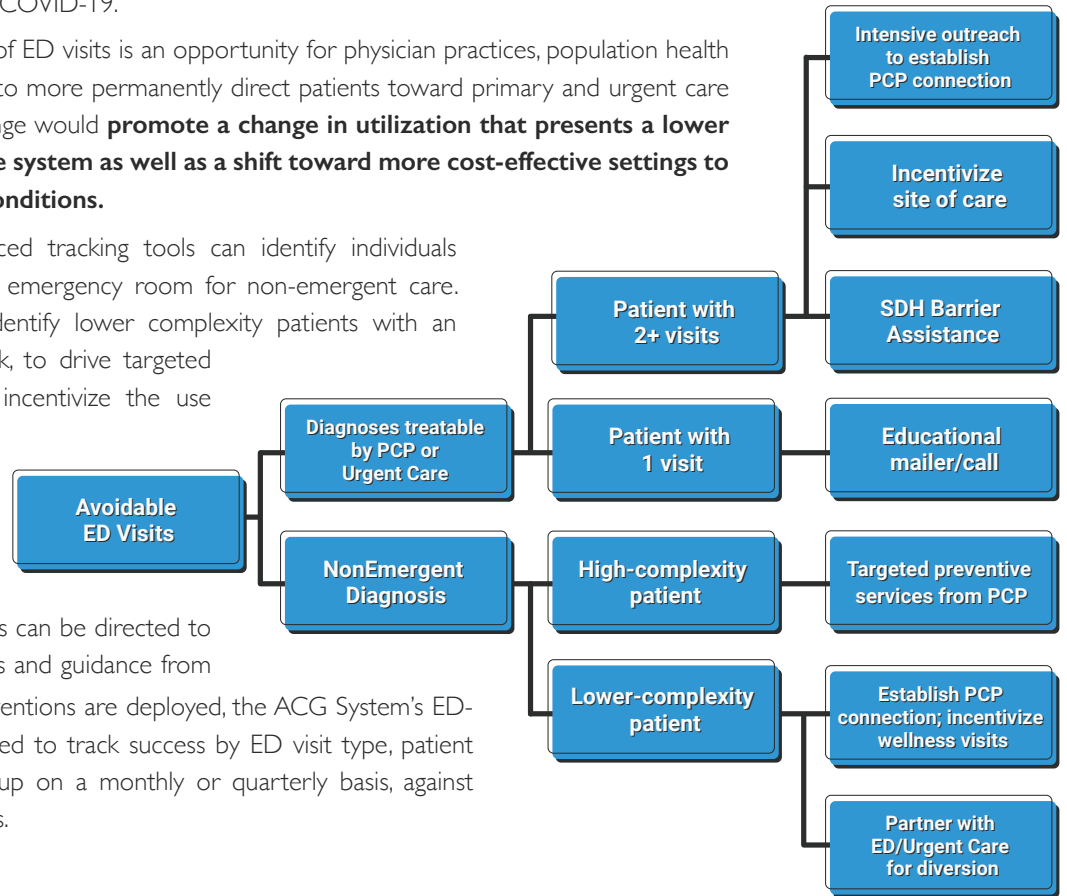


## Can you describe the ED trends in more detail? How can ACG System users monitor and mitigate this trend in their populations?

Prior to COVID-19, ACG System customers used the system's enhanced algorithm to track ED use for non-emergent and primary care treatable conditions. Generally speaking, 35-50% of ED visits were for non-urgent issues that could be treated in urgent care or the PCP's office. As COVID-19 swept the country this spring, individuals stayed home for fear that an ED visit could result in exposure to COVID-19.

This nationwide avoidance of ED visits is an opportunity for physician practices, population health leaders, and at-risk entities to more permanently direct patients toward primary and urgent care as ED alternatives. This change would **promote a change in utilization that presents a lower burden on the health care system as well as a shift toward more cost-effective settings to address non-emergent conditions.**

The ACG System's advanced tracking tools can identify individuals who previously visited the emergency room for non-emergent care. ACG System users can identify lower complexity patients with an overall lower predicted risk, to drive targeted education campaigns and incentivize the use of more cost-effective alternatives. Likewise, individuals with more complex needs, multiple chronic conditions, or care coordination challenges can be directed to targeted preventive services and guidance from their PCP. Once such interventions are deployed, the ACG System's ED-visit-level output can be used to track success by ED visit type, patient category, and provider group on a monthly or quarterly basis, against volume and cost predictions.



## Do you see the same opportunities for inpatient hospitalizations?

To some extent, yes. The ACG System provides users with insight into hospitalization trends by diagnosis and planned/unplanned nature. This includes hospitalizations for surgeries, as well as for COVID-19-related diagnoses. **Understanding utilization patterns helps to quantify trends and enhance accuracy of forward-looking predictions.**

Pre-COVID-19, most ACG System users were tracking key metrics such as number of hospitalizations, length of stay, readmissions, unplanned care, and ICU days. In March 2020, we saw an abrupt drop in hospitalization volume as elective surgeries and complex procedures (like lung biopsies) were postponed to make resources available for COVID-19 patients. In April, hospitalizations were 60% lower, and mean length of stay had reduced by up to 0.5 days. Then, as COVID-19 hospitalizations waned in the summer, hospitals began scheduling and performing postponed procedures. As hospitalizations for COVID-19 remained low, we saw admissions rise. As of August 2020, hospitalizations were around 90% of historic volumes, and by fall they were nearing 95%.

Aside from retrospective analyses for inpatient stays, the ACG System can be leveraged to predict inpatient admissions, the likelihood of readmission, ICU stay and cumulative hospitalizations.

### The ACG System can be leveraged to predict:

- Inpatient admissions
- Likelihood of readmissions
- ICU stays
- Cumulative hospitalizations

## How has preventive health been impacted by COVID?

We know that preventive services have been under-utilized during the pandemic. In March 2020, the CDC recommended postponing non-urgent visits and preventive care. Even though that guidance was lifted in May 2020, preventive care still has not yet recovered to pre-pandemic levels. Outpatient visits have dropped up to 60% in some areas, and have not yet fully rebounded. Nationwide, we've seen a reduction in pediatric immunizations, cancer screenings, and reproductive health services, as well as basic monitoring services like Hemoglobin A1c testing. Despite taking measures to reopen, primary care providers are operating under considerable stress. Many are operating at reduced capacity due to enhanced cleaning or distancing measures, and in some current hot spots, they are forced to reduce capacity even further.

### Preventive health measures & monitoring using the ACG System:

- Using lab markers to track A1c control and LDL tests monthly
- Quantifying and monitoring medication adherence and gaps between refills
- Tracking preventive and generalist visit volume
- Identifying newly-diagnosed patients for proactive education & outreach
- Measuring tobacco use, obesity, and other health factors that confer increased risk

## How can ACG System users proactively address disease that may have worsened during the pandemic due to delayed preventive care?

The ACG System's whole-patient population health approach is designed to help manage chronic disease, both longitudinally and at a time of crisis. Core disease markers allow users to track and trend existing and new diagnoses of key conditions such as prediabetes, diabetes, hypertension, or stress-related mental health diagnoses. **This trending helps users understand disease burden within a population - including diagnoses that may have been delayed or adversely impacted due to delays in care.** Newly diagnosed condition tracking, using the ACG System's advanced features, allows system users to understand incidence trends and stratify patients for preventive and educational programs on a timely basis – increasing uptake by engaging with patients soon after diagnosis.

The ACG System also facilitates an in-depth understanding of the clinical challenges faced by newly diagnosed patients as well as those with existing disease. Lab marker outputs allow system users to identify patients with disease but no monitoring labs, those with lab findings outside guidelines, and trend these two cohorts over time, allowing for dedicated outreach efforts to be made to patients with incomplete or past-due labs.

## What about offices with limited appointment availability?

ACG System users in larger practices can identify patients with clinical markers that suggest a stronger need for in-person visits. Those patients can be prioritized for in-person appointments, care for chronic diseases as well as vaccine access. **The ACG System can also be used to identify patients with treatment gaps, medication adherence challenges, higher-risk comorbidities, as well as telehealth-eligible individuals.** Users can set prioritized patient panels for limited openings and identify those patients who need more timely access to care.

## What role does telehealth play going forward?

Since the start of the pandemic, we've seen a significant drop in outpatient visits, including preventive care screenings and immunizations, and a huge uptick in the rates of telehealth adoption. For example, Johns Hopkins Medicare Advantage Plan member engagement in telemedicine at Johns Hopkins primary care physician sites increased from less than 10 visits per month pre-pandemic to over 3000 visits per month in April and May.

These visits need to be prioritized to ensure equitable care. The pent-up demand and lower office capacity means that some **prioritization and resource allocation may be needed.** The ACG System can be used to understand those patients with clinical markers suggestive of higher need for in-person visits. These markers include:

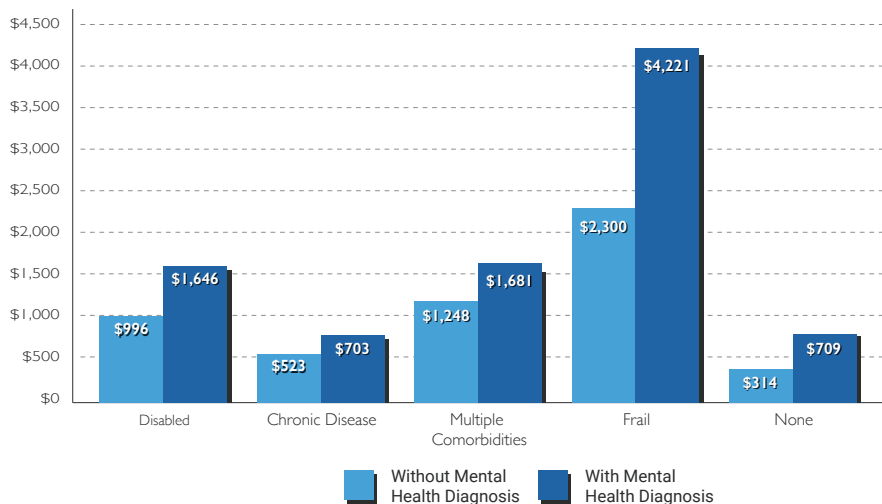
- **predicted future risk of high cost or hospitalization**
- **number of chronic diseases**
- **need for care coordination**
- **disease control needs (identifying patients with treatment gaps)**
- **prioritizing those that are frail**

## How can the ACG System help users address the mental health care needs of their population?

During the pandemic, mental health issues have been exacerbated by feelings of isolation and depression associated with stay-at-home orders, job loss, lack of routine and social isolation. We've heard distinct concern around treatment of mental health conditions, and the impact social isolation and added stressors may have on physical conditions. Even pre-pandemic, behavioral health needs were often under-treated. As shown in the graphic below, we know from robust ACG System analysis that concomitant mental health diagnosis can dramatically impact the treatment of physical health issues and have a contributory impact on per-patient costs. The problem of complex behavioral and medical needs persists, but now at likely higher rates.

### Mental Health

Serious Mental Health Conditions multiply utilization and expenditures in all clinical categories.



Source: Johns Hopkins internal data, 2019.

ACG System users can use the granular diagnostic and pharmacy-driven disease patterns to differentiate serious & persistent mental illness (SPMI) from newly emerging depression and anxiety attributed to pandemic-related stressors. This distinction can be used to develop tailored patient engagement programs, assess the optimal program size, identify advantageous locations and develop outreach lists. Users can differentiate between true medical-driven health care utilization and ED visits versus hospitalizations that are driven by severe mental health diagnoses. The ACG System also quantifies and tracks psychotherapy services, allowing users to understand any COVID-19-related drop-off in service utilization that may reflect lack of access to face-to-face counseling and onsite group therapy.

## How has the pandemic impacted value-based care arrangements?

Groups in value-driven or prospective payment arrangements were somewhat insulated from pandemic-related volume fluctuation in 2020 and were able to plan and prioritize staffing and services better. On the payor side, our municipal and insurer customers typically adjust prospective payments and performance targets using ACG System-driven case-mix adjustments. Case-mix adjusted payments became critical during the time of COVID-19, as the ACG System methodology assessed whole-patient health characteristics rather than relying on episode-driven payment adjustment.

For providers and health systems that operate in fee-for-service arrangements, the loss of revenue due to the COVID-19 pandemic is significant. Provider offices lost several months of revenue and remain open at reduced volumes, while hospitals and health systems lost substantial revenue from a decline in procedures and ED visits. This dramatic shift exposed systemic risks to volume-driven provider practices and hospitals (and makes value-based arrangements more appealing).

The ACG System provides the analytic backbone for providers and health systems to understand and manage value-based contracts. The system's robust, patient-level utilization and outcomes metrics provide an early snapshot into cost and performance. The ACG System provides the tools for risk stratification and segmentation needed for an effective population-based approach to program development and population planning initiatives. For example, this might require alignment with case managers, social workers, dietitians, health educators, clinical pharmacists, behavioral health providers, and others. The patterns demonstrated by the ACG System support adjustments to the clinical workflow to include these additional resources for proactive care management.

**The ACG System**  
provides the  
**analytic backbone**  
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health systems.



## ABOUT THE ACG SYSTEM

The Johns Hopkins ACG System is the world's leading population health analytics software. The system continues to evolve, providing ever-more refined tools used in the US and across the globe for over 30 years, from commercial health plans and governments to health systems and large employers. The beauty of the ACG System is its ability to combine data from an array of sources to reveal powerful insights that go beyond just medical records.

By identifying risk and tracking patients over time, the ACG System can help you plan ahead and reduce health care costs—especially valuable to risk-bearing health systems and provider organizations. Most importantly, the ACG System allows you to be proactive rather than reactive when it comes to your population's unique health care needs. The system helps you combine a population-level perspective with patient-level behaviors and conditions. And because the system is incredibly flexible and responsive to new information, you can rest assured that no matter what comes next, the ACG System will continuously adapt to your health care management needs.

Learn more by visiting [HopkinsACG.org](https://HopkinsACG.org) or email [info@hopkinsacg.org](mailto:info@hopkinsacg.org).

1 Quest analysis of Hemoglobin A1C testing, [Population Health Management](#)

2 Hopkins researchers describe orthopedic surgery backlog, [Journal of Bone and Joint Surgery](#)

3 Provider office changes due to Covid, a [Reckner survey](#)

4 Admission trends, [Kaiser Family Foundation](#)

5 Outpatient visit analysis, [The Commonwealth Fund](#)