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NASEM Health Literacy Workshop

Providing Health Literate Virtual Health Services: The Promise and the Challenges

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The National Academies of
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Overview

▶ Discuss landscape of telehealth with the COVID-19 pandemic

▶ Health literacy and telehealth
  • Example from the C3 study

▶ Building a robust telehealth infrastructure: A health system example
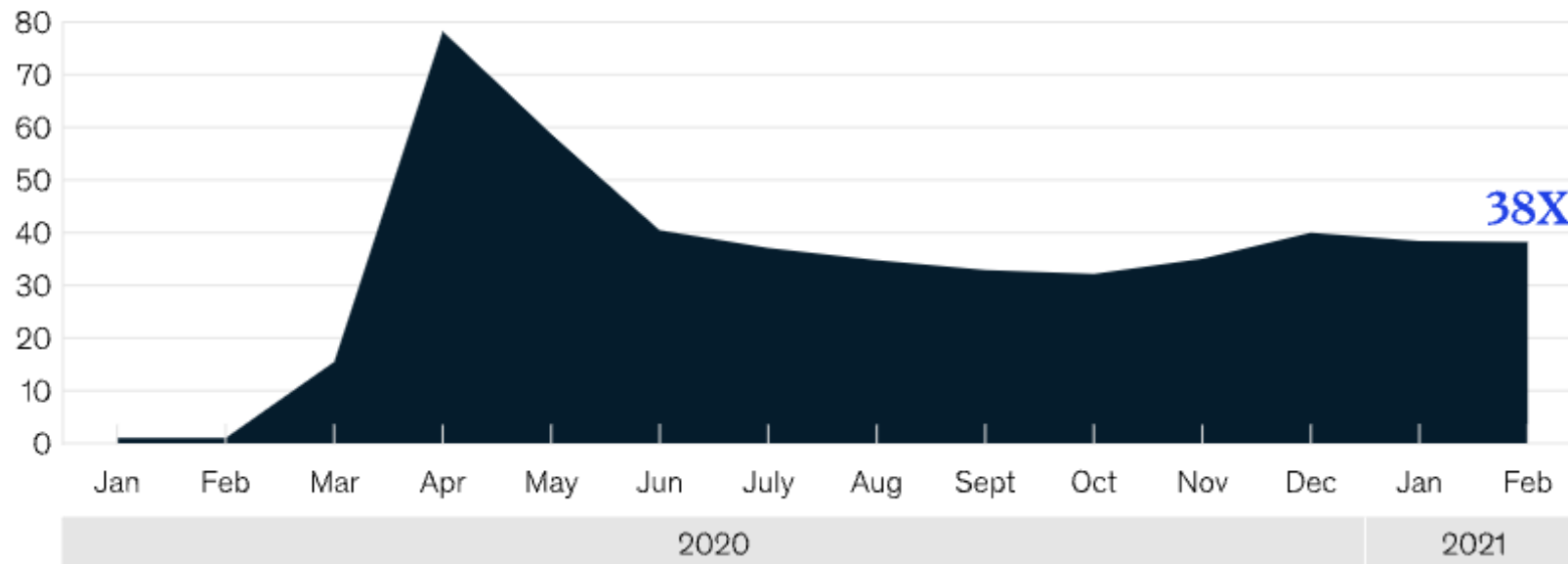
▶ Best practices and future directions

Telehealth during the COVID-19 pandemic

Telehealth Claims Grew 78X during Early COVID-19 Pandemic and have stabilized at 38X

Telehealth claims volumes, compared to pre-Covid-19 levels (February 2020 = 1)[1]

[1] Includes cardiology, dental/oral, dermatology, endocrinology, ENT medicine, gastroenterology, general medicine, general surgery, gynecology, hematology, infectious diseases, neonatal, nephrology, neurological medicine, neurosurgery, oncology, ophthalmology, orthopedic surgery, poisoning/drug tox./comp. of TX, psychiatry, pulmonary medicine, rheumatology, substance use disorder treatment, urology. Also includes only evaluation and management visits; excludes emergency department, hospital inpatient, and physiatry inpatient claims; excludes certain low-volume specialties.
Source: Compile database; McKinsey analysis

Figure 2

Nearly Two-Thirds of Medicare Beneficiaries Report Their Usual Provider Currently Offers Telehealth Appointments, Up From 18% Before the COVID-19 Pandemic

Share of all Medicare beneficiaries living in the community with a usual source of care (52.7 million beneficiaries):

🟩 Yes 🟦 No 🟧 Don't Know
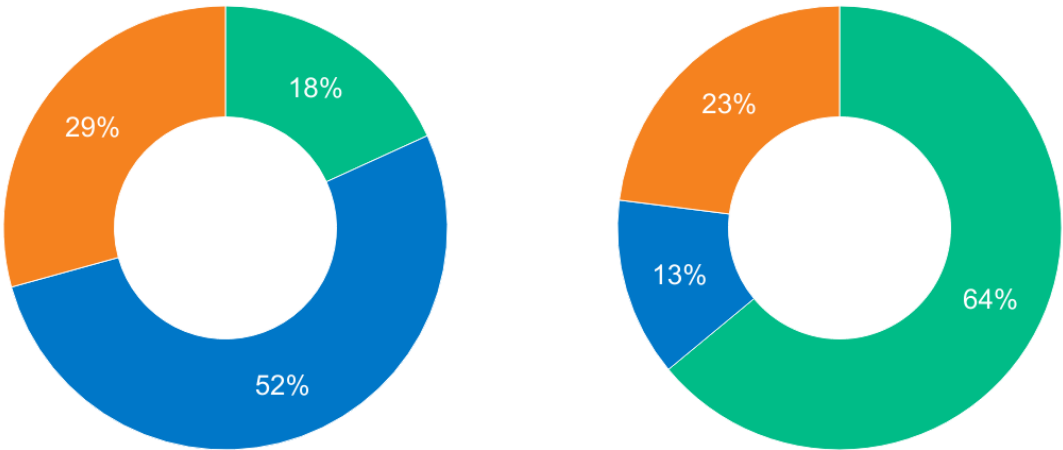
Did Your Usual Provider Offer Telehealth Before COVID-19?
- 18%
- 52%
- 29%

Does Your Usual Provider Currently Offer Telehealth?
- 64%
- 13%
- 23%

NOTE: Analysis among Medicare beneficiaries living in the community with a usual source of care. Figure does not sum to 100% due to rounding.
SOURCE: KFF analysis of CMS Medicare Current Beneficiary Survey COVID-19 Fall 2020 Community Supplement Public Use File

KFF

Figure 6

Technology Access Among Medicare Beneficiaries Varies Widely; Less Than Half of Black and Hispanic Medicare Beneficiaries Say They Own A Computer

	Have access to the internet	Own a computer	Own a smartphone
All beneficiaries	83%	64%	70%
Age category			
Under 65	82%	55%	73%
Age 65-74	89%	74%	80%
Age 75 and older	74%	56%	53%
Metropolitan status			
Urban	84%	66%	72%
Rural	78%	58%	60%
Race/ethnicity			
White	86%	71%	72%
Black	69%	42%	63%
Hispanic	67%	34%	61%

NOTE: Analysis among Medicare beneficiaries living in the community. Adults of Hispanic origin may be of any race, but are categorized as Hispanic for this analysis; All other groups are non-Hispanic. Tests of statistical significance can be viewed in accompanying tables.
SOURCE: KFF analysis of CMS Medicare Current Beneficiary Survey COVID-19 Fall 2020 Community Supplement Public Use File

KFF

C³ Methods: Longitudinal, telephone-based survey of existing cohort studies - adults with chronic conditions in primary and specialty care settings

Study	Design	Eligibility Criteria					
		Age	Language	C3 Sample (n)	Eligible Sample (N)	Clinical	Primary Care Setting
Health Literacy and Cognitive Function among Older Adults (R01AG030611)	Cohort	65 - 85	English	153	776	n/a	1 academic, 5 FQHCs
Self-Management Behaviors among COPD Patients with Multi-Morbidity (R01HL126508)	Cohort	40 and older	English	43	200	COPD and htn, and/or T2DM	1 academic
A Universal Medication Schedule to Promote Adherence to Complex Drug Regimens (R01AG046352)	Clinical Trial	50 and older	English & Spanish	215	677	taking 5 or more chronic medications	1 academic, 1 FQHC
Transplant Regimen Adherence for Kidney Recipients by Engaging Information Technologies: The TAKE IT Trial (R01DK110172)	Clinical Trial	21 and older	English	126	240	Kidney transplant	1 organ transplant center
EHR-based Universal Medication Schedule to improve Adherence to Complex Regimens (R01NR015444)	Clinical Trial	21 and older	English	136	317	T2DM and taking 5+ chronic medications	2 academic

COPD=Chronic Obstructive Pulmonary Disease; HTN=hypertension; T2DM=type 2 diabetes; FQHC=federally qualified health center

Study Objectives

1. How are middle age and older adults with underlying health conditions, at higher risk for adverse outcomes from COVID-19, responding to the pandemic?

2. What are the consequences of COVID-19 on these individuals' health status, access to care, and ability to self-manage chronic conditions?

3. **What is the uptake and acceptability of telehealth?**

The C³ Sample

- Targeted patients with most recent interview in parent study (N~1,300)

- 783 contacted in March 2020

- 673 adults recruited in 1 week (86% response rate)
  - mostly older adults
  - one third Black, 1 in 5 Latinx (11% LEP)
  - one third living below poverty level
  - two thirds with multimorbidity
  - half with limited (low/marginal) health literacy

Variable	Summary Value*
Mean age (SD), y	62.1 (11.3)
Age group	
<60 y	37.3
60-69 y	35.7
≥70 y	27.0
Female sex	59.7
Race†	
Black	32.3
White	62.1
Other	5.6
Hispanic	21.5
Limited English proficiency	11.3
Living below poverty level‡	29.4
Married§	40.0
Health insurance	
Medicare	16.5
Medicaid	12.6
Private	24.6
Medicare and private	28.4
Medicare and Medicaid	17.9
Self-pay/none	
Primary care setting	
Academic	67.9
Federally qualified health center	32.1
Employment status	
Working for pay	40.6
Not working (retired/unemployed)	59.4
Health literacy	
Low	24.3
Marginal	24.0
Adequate	51.7
Low health activation	47.9
Number of chronic conditions	
1	14.3
2	19.2
≥3	66.5
Heart disease	23.4
Pulmonary disease	24.6
Diabetes (type 1 or 2)	54.4
Hypertension	75.2
Organ transplant recipient	20.0
Self-reported overall health	
Excellent	8.4
Very good	28.7
Good	41.1
Fair	18.1
Poor	3.7

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Wave 5 Data: December 2020 – March 2021

▶ Participants reported 2-3 telehealth visits in past 4 months

▶ No difference in number of visits
- By literacy
- By age
- By limited English proficiency
- By race/ethnicity
- By self-reported health

Number of telehealth visits by literacy
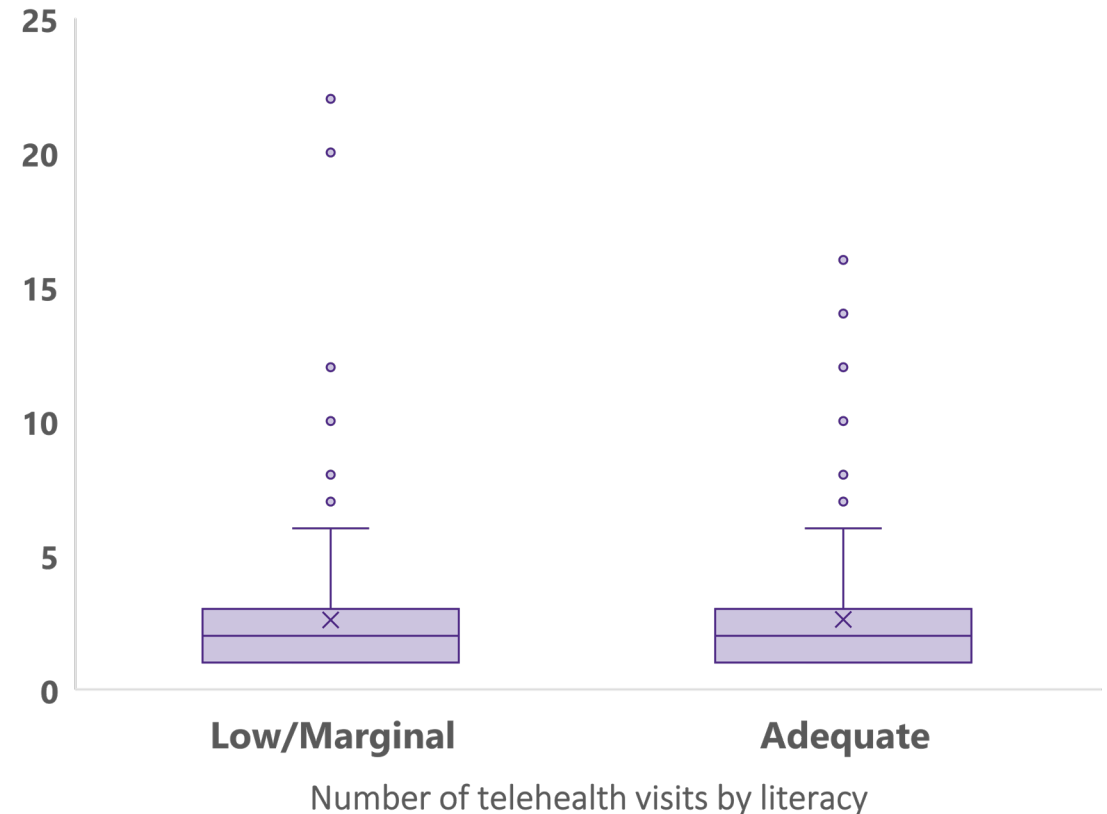
Use and perceptions of telehealth

▶ Low/marginal health literacy

- Less likely to have video visit (**22% vs. 44%**)
- Less likely to have specialty care visit (**47% vs. 68%**)
- More likely to have difficulty recalling what was discussed during visit (**20% vs. 11%**)
- Less likely to recommend telehealth to someone else (**78% vs. 87%**)
- Less likely to find telehealth very useful (**38% vs. 53%**)

▶ Limited English Proficiency (LEP)

- Half as likely to have video visit (**16% vs. 35%**)
- Half as likely to think telehealth appointment was just as good as in-person (**33% vs. 64%**)
- Less likely to find telehealth very useful (**32% vs. 57%**)

▶ Poor self-reported health

- Twice as likely to have difficulty recalling what was discussed during visit (**26% vs. 13%**)

Adapting to a Rapidly Changing Landscape: A Health System Example

The Challenge

How might we adapt a telehealth program that supports **<100 virtual visits per day** to meet the needs of a health care system that serves **6.7 million patients** and needs to offer up to **70% of outpatient care virtually** during a pandemic?

- Pre-pandemic telehealth platform supported <100 visits per day

- Pre-pandemic solution required providers to work from dedicated health-system telemedicine workstations

- Clunky and complex workflow limited provider adoption

- Missing key features such as translation and patient messaging

Health System Response
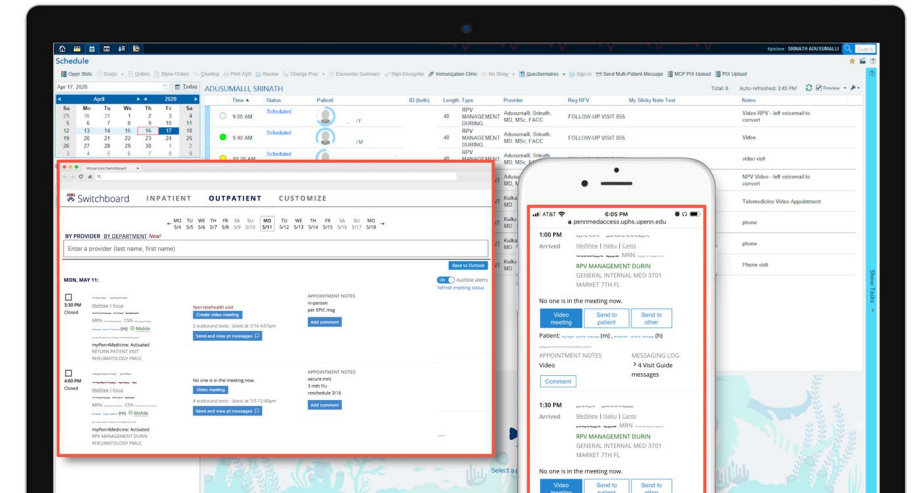
1 Virtual visit platform, **BlueJeans**, was selected and activated over the course of one weekend

2 **Telemedicine command center** to support patients and clinicians was created and staffed by EHR transformation team and volunteer medical students

3 Wraparound telehealth platform, **Switchboard**, was developed in-house to address workflow and user experience needs not met by existing solutions

The Penn Medicine Telehealth Eco-System

Time to check in for your Penn Medicine telehealth visit on Friday, Sept. 17th at 8:00 am. Please use the first button on https://visit.pennmedicine.org/d/confirm.html

3 Days Pre-Visit

1. Text
2. Email
3. Reminder
   Visit Guide

Subject: "Time to check in for your upcoming telehealth visit"

Penn Medicine

Dr. Smith is looking forward to your telehealth visit on Friday, September 17th at 8:00 am. <u>Do not come into the office for this visit.</u>

Your visit is now available for check in. Please click the button below to check in, complete any payments, and review instructions for your visit.

CHECK IN ONLINE >

We look forward to seeing you. Thank you for choosing Penn Medicine!

To stop receiving reminders like these, <u>unsubscribe here</u>.

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TIME TO CHECK IN FOR YOUR UPCOMING TELEHEALTH VISIT

Date: Thu Sep 23, 2021   Time: 2:00 PM   Location: Telemedicine | Add to Calendar |

Provider
Bryce Amory Carter, PHD
Infectious Disease PPMC
| Confirmed |
| Cancel Appointment |

THIS APPOINTMENT IS VIRTUAL. DO NOT COME TO THE OFFICE.

Prepare for Your Telehealth Visit:

PRE CHECK-IN TODAY for your upcoming telehealth visit by clicking the button below and following the instructions. While this step is not required to complete your visit, checking in will streamline the process of confirming your contact information, submitting any payments for your visit, and more.

| Complete Pre Check-in |

❶ **Log in** to your myPennMedicine* account and select the **green Pre Check-in** button under your upcoming visit.
If you do not have a myPennMedicine account, sign up today to gain secure access to your health care information, test results, appointments and more.

❷ **Confirm** and **update** your personal information, insurance, medications, allergies and health issues, and complete any outstanding questionnaires.

❸ **Submit any required payments before your visit.** These may be waiting for you under the payments tab of Pre Check-in.

10 MINUTES BEFORE your upcoming telehealth visit, you will receive a reminder **text and/or email** to join your **visit through a live video link through BlueJeans, Penn Medicine's telehealth platform.** Feel free to test out joining your visit by clicking the button below.

| Join Telehealth Video Visit | Meeting or Event ID: 337835418958
Passcode: 878508602220

VIDEO VISIT TIPS

✔ If your provider is running late, please stay in the video visit. Your provider may text or call you if there is a slight change in their schedule or if they don't see you in the visit.

✔ Choose a **private, quiet** space with **strong Internet connection** or **Wi-Fi signal**.

✔ If you are using a tablet or mobile device, make sure it is **adequately charged** or **plugged into a power source**.

✔ **Allow camera** and **microphone access** when prompted.

✔ If you are joining from a mobile device, **hang up any active calls** and **close other apps** before joining.

For additional instructions and tips to ensure a successful video visit, please click here.

For appointment related questions, please call your provider's office at 215-662-9908

Subject: "Time to join your telehealth visit"

Penn Medicine

Your telehealth visit with Dr. Smith is scheduled to start at Friday, Sept. 17th at 8 am. Please join now through this link: https://pennmedicine.bluejeans .com/1234/1234. Dr. Smith will join as soon as they're available.

We look forward to seeing you. Thank you for choosing Penn Medicine!

To stop receiving reminders like these, unsubscribe here.

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10 Minutes Pre-Visit

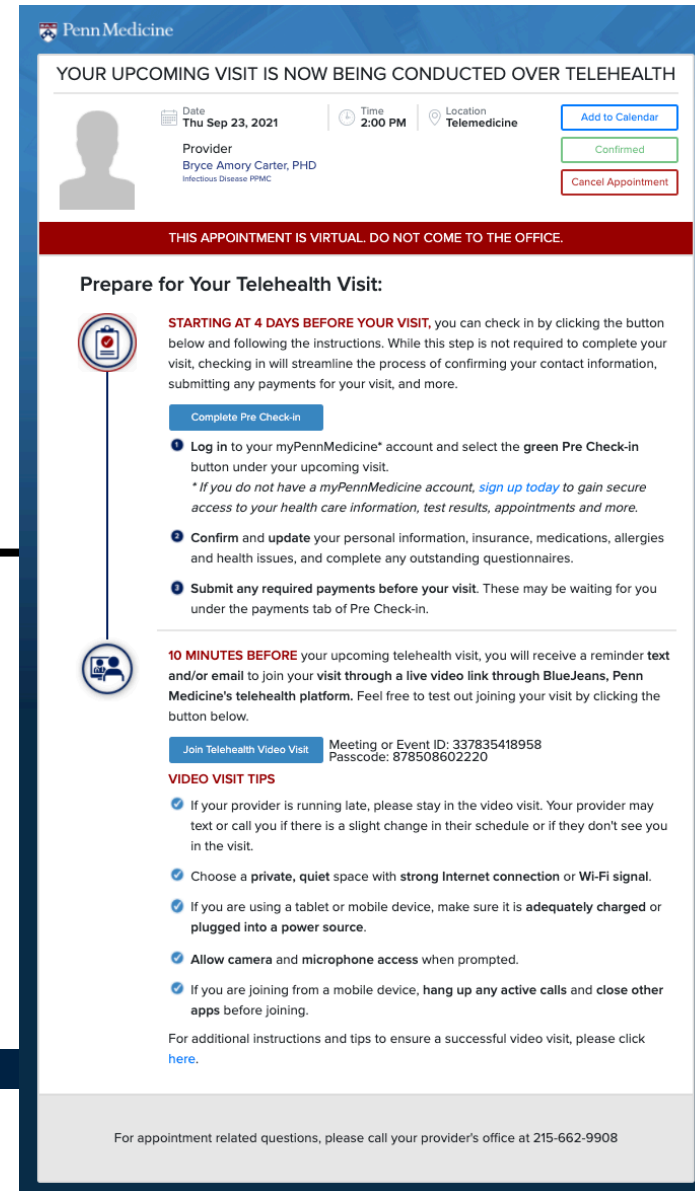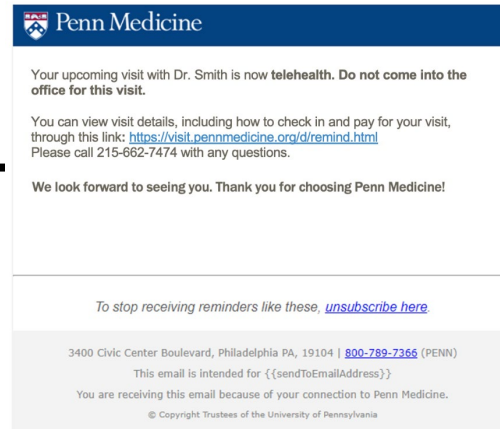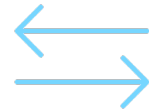Your Penn Medicine telehealth visit is scheduled to start at Friday, Sept. 17th at 8 am. Please join now: https://pennmedicine.bluejeans .com/1234/1234

1. Text
2. Email

In-Person / Telehealth Conversions

1. Text
2. Email
3. Modality Switch Visit Guide
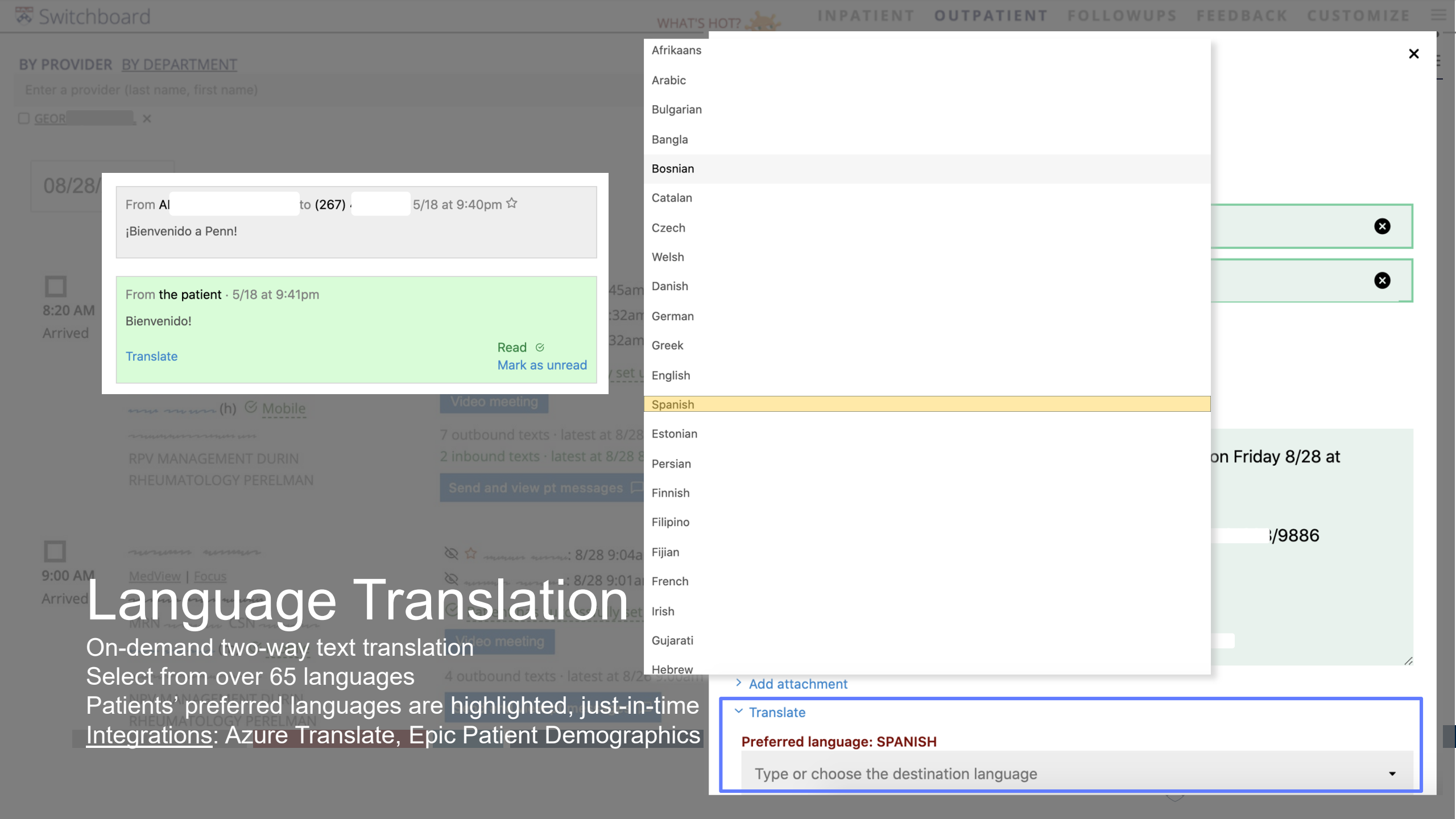
BY PROVIDER   BY DEPARTMENT

Enter a provider (last name, first name)

☐ GEOR▓▓▓▓▓ ✕

08/28/

From Al▓▓▓▓▓   to (267) ▓▓▓▓   5/18 at 9:40pm ☆

¡Bienvenido a Penn!

From **the patient** · 5/18 at 9:41pm

Bienvenido!

Translate

Read ⊘
Mark as unread

8:20 AM
Arrived

Afrikaans

Arabic

Bulgarian

Bangla

Bosnian

Catalan

Czech

Welsh

Danish

German

Greek

English

Spanish

Estonian

Persian

Finnish

Filipino

Fijian

French

Irish

Gujarati

Hebrew

(h) ⊘ Mobile

7 outbound texts · latest at 8/28
2 inbound texts · latest at 8/28 8

RPV MANAGEMENT DURIN
RHEUMATOLOGY PERELMAN

Send and view pt messages 💬

on Friday 8/28 at

9:00 AM
Arrived

MedView | Focus

: 8/28 9:04a
: 8/28 9:01a

/9886

MRN   CSN

RPV MANAGEMENT DURIN
RHEUMATOLOGY PERELMAN

Video meeting

4 outbound texts · latest at 8/28

> Add attachment

∨ Translate

Preferred language: SPANISH

Type or choose the destination language   ▼

Language Translation

On-demand two-way text translation
Select from over 65 languages
Patients' preferred languages are highlighted, just-in-time
Integrations: Azure Translate, Epic Patient Demographics

Principles for Telemedicine Technology

1. **No patient app download required**
2. **Reliable, high-quality audio and video connections**
3. Integrated provider experience including single sign on
4. **Use not tethered to patient portal**
5. Provider ability to use mobile device to connect to facilitate multiple screen use
6. Provider ability to send message into virtual room (i.e. running late)
7. Virtual waiting area for patients

8. **Multi-party connections (including translator integration, family visitation)**
9. **Screen/image sharing (teledermatology)**
10. Integration with custom applications
11. Provider ability to see status of meeting (how long patients have been waiting)
12. Ability to send Penn Medicine content into the virtual waiting area
13. Virtual backgrounds
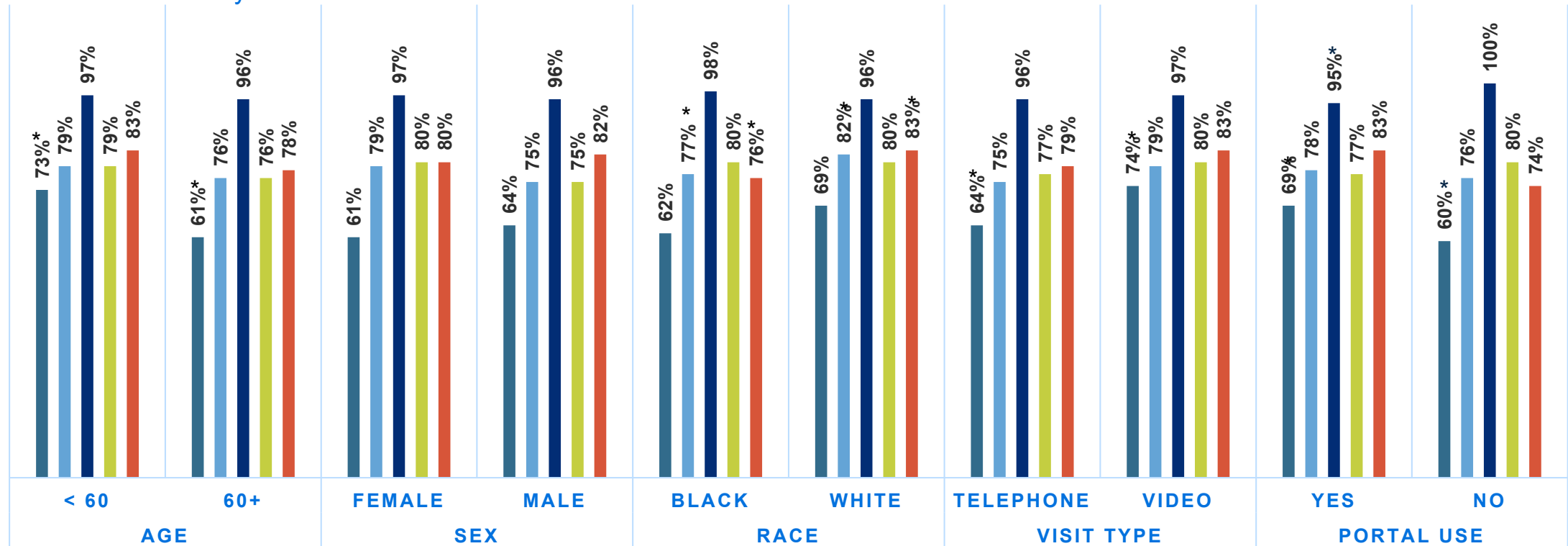14. Telemedicine analytics

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The early "on the ground" experience

Electronic Health Record Data in <u>Academic Setting</u> 4 weeks; Patient portal and phone calls; N=788

PATIENT PERCEPTIONS OF TELEMEDICINE DURING THE FIRST 4 WEEKS OF COVID-19 RESPONSE
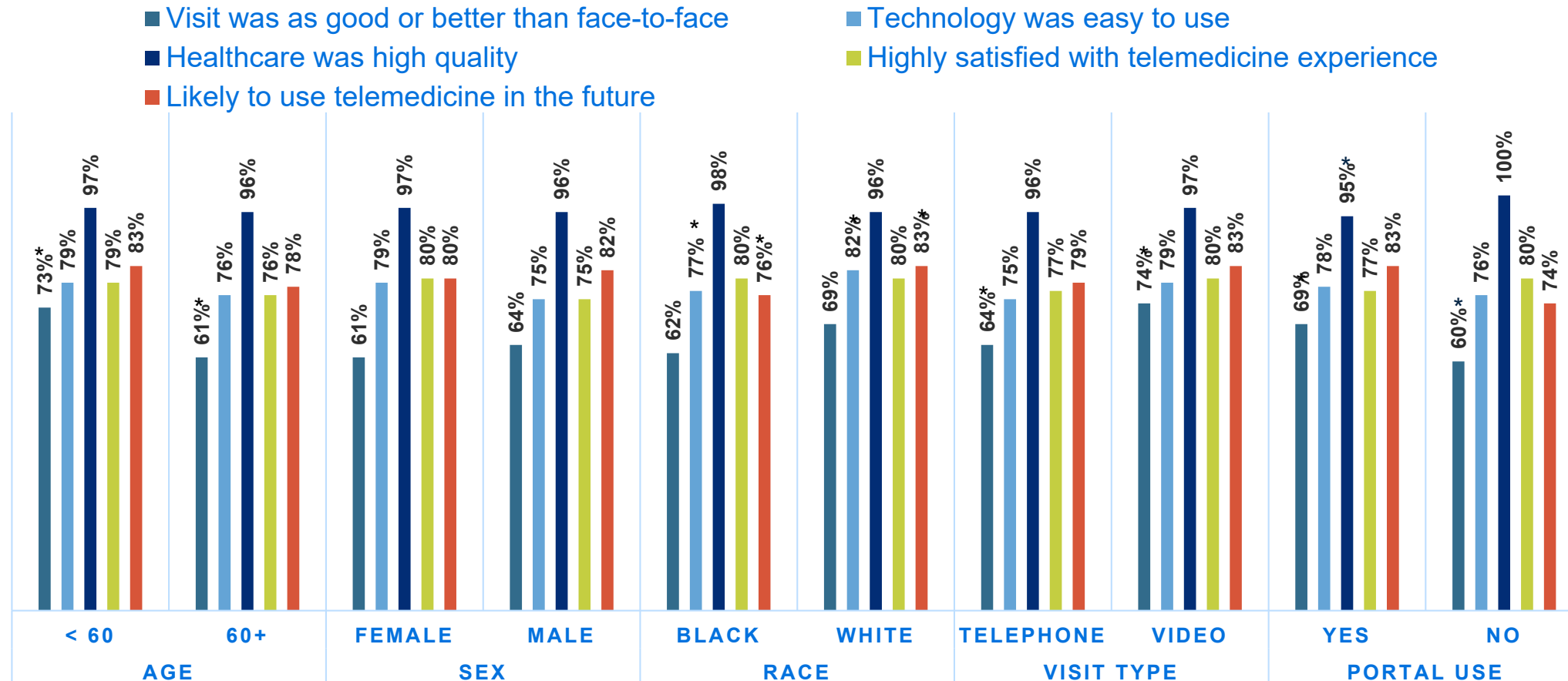
*$P<.05$ in bivariate comparisons

High satisfaction with visit quality and technology
Younger patients and EHR portal users more likely to report that visit was high quality
Black patients less likely than White to report that technology was easy to use

Legend:
- Visit was as good or better than face-to-face
- Technology was easy to use
- Healthcare was high quality
- Highly satisfied with telemedicine experience
- Likely to use telemedicine in the future

AGE
- < 60: 73%*, 79%, 97%, 79%, 83%
- 60+: 61%*, 76%, 96%, 76%, 78%

SEX
- FEMALE: 61%, 79%, 97%, 80%, 80%
- MALE: 64%, 75%, 96%, 75%, 82%

RACE
- BLACK: 62%, 77%*, 98%, 80%, 76%*
- WHITE: 69%, 82%*, 96%, 80%, 83%*

VISIT TYPE
- TELEPHONE: 64%*, 75%, 96%, 77%, 79%
- VIDEO: 74%*, 79%, 97%, 80%, 83%

PORTAL USE
- YES: 69%, 78%, 95%*, 77%, 83%
- NO: 60%*, 76%, 100%, 80%, 74%

*P<.05 in bivariate comparisons

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Providers: Concerns About Using Telemedicine (n=63)

Patients: Top Words or Phrases that Come to Mind about Telemedicine

Penn Medicine Daily Telehealth Volume
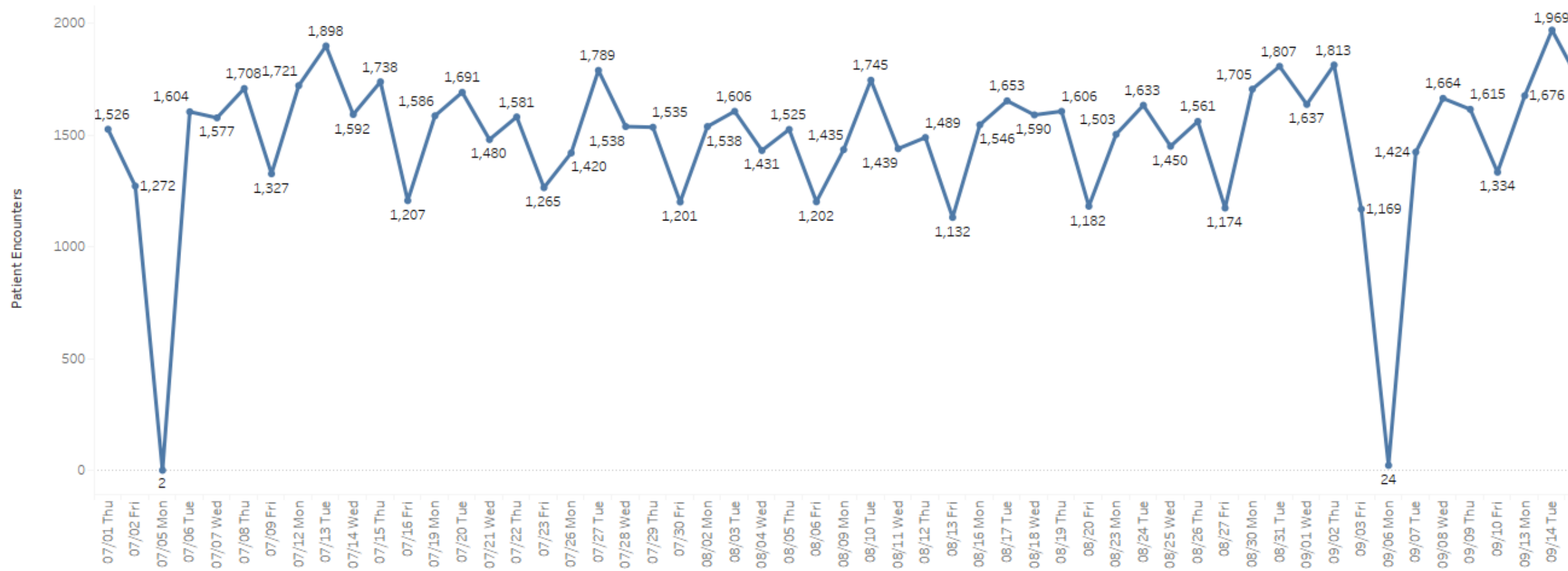
Summary

▶ COVID-19 catalyzed telehealth expansion facilitating access to care

▶ Patients with low health literacy, BIPOC, LEP, older age, multimorbidity face ongoing challenges and are at risk of suboptimal visit quality

▶ Health systems, payers should operationalize telehealth best practices
- Engage patients/caregivers
- Interpreter services
- Simplify technology and workflows
- Offer training and support to patients and staff
- Continuously quality of services to ensure access & equity in telehealth

Questions?

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