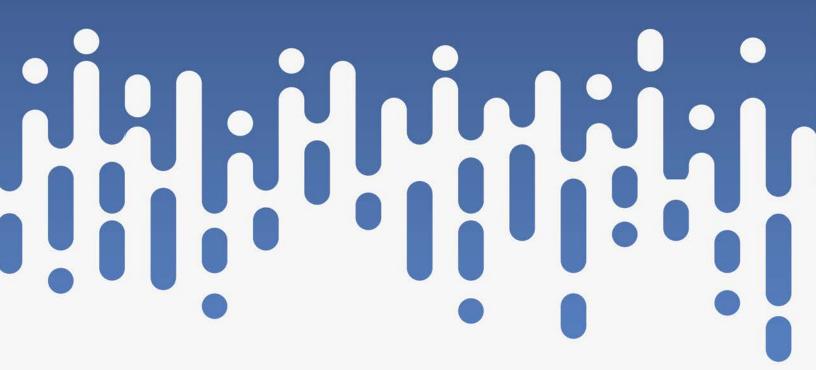


Advancing Health in America



ENVIRONMENTAL SCAN



The AHA's 2022 Environmental Scan is sponsored by





Welcome to the 2022 Environmental Scan

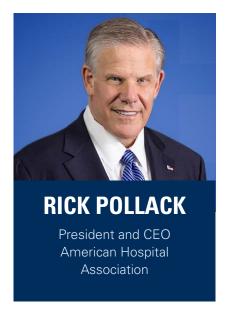
e had hoped that by now, COVID-19 would have been a public health emergency that had been solved or mostly brought under control. We now know that we will be co-existing with COVID-19 in some way for the foreseeable future, with no hard stop in sight. This will continue to affect not only our nation's health, but also the ability of hospitals and health systems to improve it ... let alone transform it.

The AHA's 2022 Environmental Scan offers a mixed picture for our field right now. There are bright spots for sure, promising developments and many inspiring stories to share. At the same time, there continue to be areas of serious concern, especially around the issue of strengthening the resiliency and capacity of our dedicated workforce.

With another year of pandemic experience under our belts, hospitals and health systems are

innovating as never before, finding and sharing solutions and best practices with each other.

The demonstrated ability of care providers to consider new ideas, try new methods and remain nimble in the face of the pandemic bodes well not only for the short term, but also for the long game as our field's established business models continue to undergo significant change.



'Our goal is to help you deal with the now, near and far as you approach every day with one goal in mind: providing the best care to every patient and protecting your community.'

The transformation of our health care system was well underway before COVID-19 appeared, and many of the future trends identified in the 2022 Environmental Scan are sure to be met with the same willingness to adapt and think creatively.

Even as the pandemic lingers, this is a good time to pause, take a breath and thoughtfully consider the landscape ahead, with plenty of focus on the post-COVID world.

What do we take away from this experience to reevaluate, reboot, and re-imagine to create a better future?

This report offers our best thinking and information to consider on a range of issues that confront us all, including: coexisting with COVID-19, access and affordability, innovation and delivery transformation, health equity, behavioral health, and the future of workforce and health care employment trends, among others.

We hope that the statistics and projections in this Environmental

Scan will help hospital and health system leaders chart the best course to the future for their organizations, providing a comprehensive understanding of the many influences at work that impact our health care system.

Our goal is to help you deal with the now, near and far as you approach every day with one goal in mind: providing the best care to every patient and protecting your community.



HOSPITAL & HEALTH SYSTEM LANDSCAPE

he pandemic has resulted in historic challenges for hospitals and health systems and the communities they serve. Hospitals and health systems are navigating financial and operational pressures that include: the high costs associated with preparing for a surge of COVID-19 patients and resource-intensive treatment; added expenses due to supply chain and labor market disruptions; and loss of revenue due to the lower patient volumes for nonemergent care. Economic stability must be gained to ensure that hospitals and health systems can continue to provide vital care to communities across the nation.



Hospitals' Financial Challenges

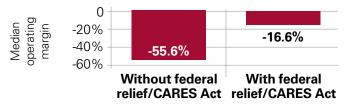
UNPRECEDENTED FINANCIAL LOSSES TO U.S. HOSPITALS AND HEALTH SYSTEMS CONTINUE IN 2021 AFTER HISTORIC LOSSES IN 2020

2021 net income loss estimate

Financial Effects of COVID-19: Hospital Outlook for the Remainder of 2021," Kaufman, Hall & Associates LLC, Sept. 2021

HOSPITALS' FINANCIAL HEALTH DETERIORATING

% Decrease in median operating margin in 2020 compared with 2019



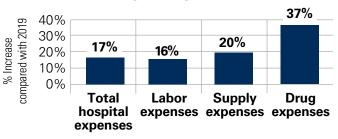
[&]quot;National Hospital Flash Report," Kaufman, Hall & Associates LLC, January 2021

2021 Financial insights

These projections examine data from Q1 & Q2 2021 and do not factor in recent increases in COVID-19 cases from the Delta variant, which could drive margins even lower in the second half of the year.

- Higher costs of caring for sicker patients and fewer outpatient visits than pre-pandemic levels could lead median hospital margins to be 11% below pre-pandemic levels by year's end.
- The median length of stay is up 8% compared to 2019 for most hospitals, and up as high as 18% for some hospitals with 500 beds or more.
- More than a third of hospitals are expected to end 2021 with negative operating margins.
- If there were no relief funds from the federal government, losses in net income would be as high as \$92 billion.

EXPENSES INCREASE COMPARED WITH PRE-PANDEMIC LEVELS



% Change in year-to-date expenses per adjusted discharge, 2021 compared with 2019 (Jan. 1 to Sept. 30)

LABOR COSTS INCREASE IN 2021

- Hospitals and health systems are paying \$24 billion more per year for qualified clinical labor than they did pre-pandemic.*
- The annual rate of turnover in emergency, ICU and nursing departments has increased from 18% prepandemic to 30% in 2021. This number could increase as mandates take effect.*
- The use of agency and temporary labor increased 132% for full-time workers and 131% for part-time workers.*
- Travel nurse rates jumped more than 200%. Hospitals are spending approximately 62.5% more for travel RNs than they did at the start of 2020.[†]

t "2021 NSI National Health Care Retention & RN Staffing Report," NSI Nursing Solutions Inc.,



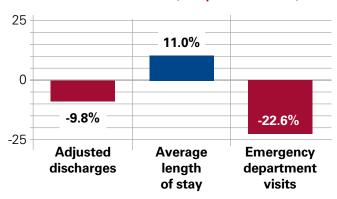
[&]quot;Financial Effects of COVID-19: Hospital Outlook for the Remainder of 2021," Kaufman, Hall & Associates LLC, Sept. 2021.

[&]quot;Financial Effects of COVID-19: Hospital Outlook for the Remainder of 2021," Kaufman, Hall & Associates LLC, Oct. 2021

^{*} Alkire, Michael J. et al. "PINC AI Data Shows Hospitals Paying \$24B More for Labor Amid COVID-19 Pandemic," Data & Analytics Blog, Premier, Inc., Oct. 6. 2021.

Hospital Volumes and Utilization

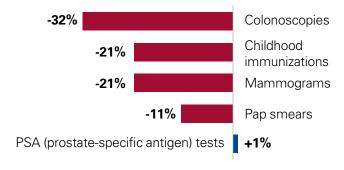
2020 NATIONAL VOLUMES (Compared with 2019)



"National Hospital Flash Report," Kaufman, Hall & Associates, LLC, January 2021.

MANY PREVENTIVE SERVICES DECREASED IN 2020

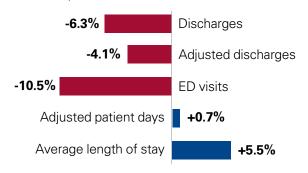
Showing % change when comparing March 13, 2020 -Dec. 31, 2020, with same time period in 2019.



Martin, Katie et al. "The Impact of COVID-19 on the Use of Preventive Health Care," Health Care Cost Institute, April 16, 2021

2021 NATIONAL VOLUMES, YEAR TO DATE

Showing % changed when comparing 2021 with 2019 (Jan. 1 to Sept. 30).



[&]quot;National Hospital Flash Report," Kaufman, Hall & Associates, LLC, Oct. 2021.

Looking Ahead to 2029

- Behavioral health virtual visits may increase by 50%.
- Growth in hospital-at-home helps to move patients out of skilled nursing facilities despite an aging population.
- Growth opportunities require organizations to invest in chronic disease-management services.
- COVID-19 creates an enduring demand for specialist care required to support chronic COVID-impacted conditions.

"2021 Impact of Change® Forecast Highlights: COVID-19 Recovery and Impact on Future Utilization," Sg2, a Vizient company, June 2, 2021.

2029 FORECAST: CARE IN ALTERNATIVE SETTINGS ON THE RISE

Site of care	Patient volumes 2019	Patient volumes 2029	% Change
Hospital outpatient department	35.5 million	42.3 million	+19%
Ambulatory surgery center	32.0 million	40.1 million	+25%
Physician office/clinic	19.2 million	22.7 million	+18%
Home-based services	413.8 million	474.9 million	+15%
Inpatient	30.4 million	30.1 million	-1%
Skilled nursing facility	3.2 million	3.0 million	-5%
Emergency department	91.7 million	86.9 million	-5%

[&]quot;2021 Impact of Change® Forecast Highlights: COVID-19 Recovery and Impact on Future Utilization," Sg2, a Vizient company, June 2, 2021.

Learn more about relief and recovery efforts through the AHA's advocacy efforts at aha.org/advocacy/action-center.

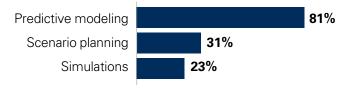


Supply Chain

SHORTAGES ARE PREVALENT

93% of provider executives reported experiencing supply chain shortages.

PLANNED INVESTMENTS



"Medical cost trend: Behind the numbers 2022," PwC's Health Research Institute, June 2021. © PwC. Not for further distribution without the prior written permission of PwC. PwC refers to the US member firm or one of its subsidiaries or affiliates, and may sometimes refer to the PwC network. Each member firm is a separate legal entity. Please see www.pwc.com/ structure for further details.

TOP STRATEGIES FOR RESILIENCE AND AGILITY

Investing now or will invest within two years

- Deepen collaborative relationships with key customers and suppliers.
- Diversify the supply base (multisourcing).
- Supply chain segmentation.
- Redesign products reduce variety, increase common components.
- Diversify markets including geographies or product lines.

"A New Role for CSCOs in Supply Sourcing: Postpandemic changes to supply bases, markets and manufacturing locations," Gartner Inc., 2021.

PPE MARKUP

Personal protective equipment (PPE) prices were marked up 2,000% for isolation gowns and 6,000% for N95 masks during the early weeks of the pandemic.

"Top health industry issues of 2021: Will a shocked system emerge stronger?" PwC's Health Research Institute, April 2021. © PwC. Not for further distribution without the prior written permission of PwC. PwC refers to the US member firm or one of its subsidiaries or affiliates. and may sometimes refer to the PwC network. Each member firm is a separate legal entity. Please see www.pwc.com/structure for further details

The AHA Dynamic Ventilator Reserve

This initiative is a public-private partnership that brings together health systems from across the country to share ventilators with hospitals experiencing shortages. The program was reactivated in August 2021 due to renewed demand. More than 100 ventilators have been shared nationwide.

Learn more at

ahadata.com/dynamic-ventilator-reserve.

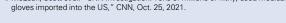
Challenges to sustainable domestic PPE manufacturing*

- Higher labor costs result in higher product costs.
- Limited access to raw materials makes scaling production challenging and costly. Each type of PPE requires raw materials that may be difficult to obtain domestically.
- Costs associated with meeting regulatory standards (i.e., new entrants, waste water treatment, testing fabrics).

Considerations to strengthen the supply chain

- Grow the capacity of the overall supply chain, increase the ability to store and manage excess supplies, and reevaluate just-in-time and lean inventory management principles.[†]
- Diversify manufacturing sites as well as sources of raw materials to ensure supply-chain sustainability, including on-shore and near-shore locations.[†]
- Support advancements in reuse and reprocessing technologies to mitigate supply challenges while decreasing waste and environmental impact.[†]
- Invest in new product development.[†]
- Encourage significant federal investment or incentives.†
- Increase end-user inventories and incentivize additional cushion.†
- Develop and adapt data standards including the Unique Device Identifier (UDI) to aid in early detection and mitigation of supply shortages.[†]
- Build a national inventory distribution network utilizing the approximately 500 distribution centers located across the country.[‡]
- Develop a complete picture of the end-to-end supply chain through increased visibility and mapping.*
- Consider the interdependencies of the global supply chain (i.e., raw materials).
- Use of data standards including the UDI to reduce/eliminate counterfeit product.#
- *"COVID-19: Continued Attention Needed to Enhance Federal Preparedness, Response, Service Delivery, and Program Integrity," U.S. Government Accountability Office, July 19, 2021.
- t"COVID-19 Part II: Evaluating the Medical Supply Chain and Pandemic Response Gaps," statement of the American Hospital Association for the Committee on Homeland Security and Governmental Affairs of the U.S. Senate, May 19, 2021. ‡"AHRMM Health Care Learning Community (HCLC): Recommended Inventory
- Reserve Strategies," The Association for Health Care Resource & Materials Management of the AHA, 2021.
- Ramaswami, Rama. "6 Key Actions to Manage Logistics and Supply Chain Disruptions," Gartner, Inc. Oct. 6, 2020.

 # McLean, Scott et al. "CNN Investigation: Tens of millions of filthy, used medical



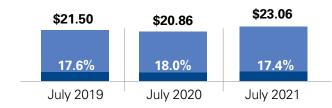


National Economic Landscape

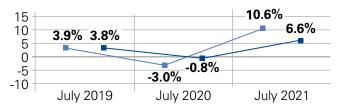
GROSS DOMESTIC PRODUCT (GDP)*

GDP growth is outpacing national health spending growth.



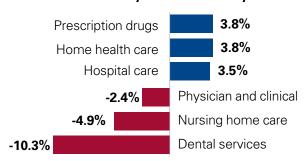


- GDP growth from prior year
- Health spending growth from prior year

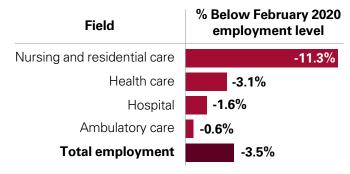


CUMULATIVE SPENDING GROWTH*

% Difference: July 2021 vs. January 2020



EMPLOYMENT: AUGUST 2021*



Over 20 million Americans lost their jobs in April 2020, driving the unemployment rate up to 14.7%, the highest rate since the Great Depression.[†]

CO-EXISTING WITH COVID-19

s the health care field and society move toward a new normal, science and public health practices will continue to be the guiding force to ensure that people can live, work and play safely. In addition to serving on the front lines of caring for COVID-19 patients, the people working in hospitals and health systems are trusted messengers and can share evidence-based information about the virus to their communities.



COVID-19 Infection and After-effects

Six most common post-COVID conditions

- 2. Breathing difficulties
- 3. Hyperlipidemia
- 4. Malaise and fatique
- 5. Hypertension
- 6. Anxiety

HOSPITALIZATION

The odds of death 30 days or more after initial diagnosis with COVID-19 were 46 times higher for patients who were hospitalized and discharged than for patients who had not been hospitalized.

POST-COVID CONDITIONS

	nts who OVID-19	% With at least one post-COVID condition		n
	All patients		23.3%	
Asy	mptomatic	19	9.0%	
Sympton not h	omatic, but ospitalized		27.5%	
F	lospitalized			50.0%

[&]quot;A Detailed Study of Patients with Long-Haul COVID: An Analysis of Private Healthcare Claims," FAIR Health Inc., June 15, 2021.

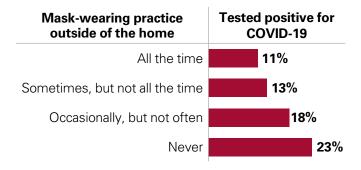


^{*} Miller, George and Turner, Ani et al. "September 2021 Health Sector Economic Indicators Briefs," Altarum, Sept. 17, 2021.

[†] Rugaber, Christopher. "U.S. unemployment surges to a Depression-era level of 14.7%," AP News, May 8, 2020.

[&]quot;A Detailed Study of Patients with Long-Haul COVID: An Analysis of Private Healthcare Claims," FAIR Health Inc., June 15, 2021.

COVID-19 POSITIVITY RATE IS LOWEST AMONG THOSE WHO ALWAYS WORE A MASK*



- Masking in combination with vaccination is even more effective at preventing COVID-19 transmission.[†]
- * Nather, David, "People who wore masks were less likely to get sick," Axios, June, 7, 2021 (Axios-Ipsos Coronavirus Index polling data from March 2020 to May 24, 2021).
- † Lockerd Maragakis, Lisa, M.D. "Coronavirus Face Masks & Protection FAQs," Johns Hopkins Medicine, June 3, 2021.

WEARABLES TRACK COVID-19 PATIENT RECOVERY

Length of time to return to baseline:

Resting heart rate

79 days

Step count

Sleep quantity

||||||||||||||||||||||| 24 days

Radin, Jennifer M. et al. "Assessment of Prolonged Physiological and Behavioral Changes Associated With COVID-19 Infection," JAMA Network Open, July 7, 2021. doi:10.1001/ jamanetworkopen.2021.15959

PANDEMIC PROMPTS CHANGES TO THE HOSPITAL PHYSICAL ENVIRONMENT

Top measures implemented to help address the pandemic

% Responses by construction and design professionals

Reduced seating in patient areas

82%

Added protective barriers to interaction spaces

74%

Increased airborne infectious isolation capacity

69%

Increased telehealth capacity

60%

Separate entry points for COVID-19 suspected vs. other patient types

Separate entry points for staff and patients

56%

"Health Facilities Management/ASHE 2021 Hospital Construction Survey," The American Society for Health Care Engineering of the AHA, April 2021.

Cost of COVID-19

MAJOR DECLINE IN LIFE EXPECTANCY IN U.S.

- Life expectancy declined by nearly two years from 2018 to 2020, the largest decline since 1943.
- The U.S. mortality rate increased by 23% in 2020, experiencing 522,000 more deaths than normally would be expected.
- Average loss of life expectancy in the U.S. was nearly nine times greater than the average in 16 other developed countries, whose residents can expect to live 4.7 years longer than Americans.
- Americans died at younger ages during this period.

YEARS OF LIFE EXPECTANCY LOST

Race/ethnicity	Years lost
White Americans	1.36
Black Americans	3.25
Hispanic Americans	3.88

Szabo, Liz. "Black and Hispanic Americans Suffer Most in Biggest US Decline in Life Expectancy Since WWII," Kaiser Health News, June 24, 2021.

COST OF A HOSPITALIZATION (JAN. 2020 – APRIL 2021)

	Median charge amount	Median estimated allowed amount (negotiated in-network fee with providers)
COVID-19 hospitalization with complexities	\$208,136	\$70,098
General COVID-19 hospitalization	\$54,262	\$25,188
COVID-19 non- hospitalization	\$2,289	\$893

^{&#}x27;National Average Charge for a Complex Hospital Stay for COVID-19 Is \$317,810, FAIR Health Finds," FAIR Health, Sept. 21, 2021.

UNVACCINATED HOSPITALIZATION COSTS

Estimated cost of COVID-19 hospitalizations among unvaccinated adults from June BILLION through August 2021.

Amin, Krutika and Cox, Cynthia. "Unvaccinated COVID-19 hospitalizations cost billions of dollars," Health Spending Brief, Peterson-Kaiser Family Foundation Health System Tracker, Sept. 14, 2021



Vaccination

U.S. COVID-19 VACCINATION PROGRAM CURBS DEATH TOLL

Without a vaccination program, by the end of June 2021 there would have been approximately 279,000 additional deaths and as many as 1.25 million additional hospitalizations.

Galvani, Alison et al., "Deaths and Hospitalizations Averted by Rapid U.S. Vaccination Rollout," The Commonwealth Fund Issue Brief, July 7, 2021. https://doi.org/10.26099/wm2j-mz32.

COVID-19 VACCINATION EFFECTIVE AGAINST THE DELTA VARIANT

Compared with vaccinated adults, unvaccinated adults have:

infection

hospitalization

of death

Scobie, Heather M. et al. "Monitoring Incidence of COVID-19 Cases, Hospitalizations, and Deaths, by Vaccination Status — 13 U.S. Jurisdictions, April 4–July 17, 2021, "CDC MMWR Morbidity and Mortality Weekly Report ePub: Sept. 10, 2021. doi: http://dx.doi.org/10.15585/ mmwr.mm7037e1

VACCINATION REDUCES COVID-19 REINFECTION

Among individuals with previous COVID-19 infection, the unvaccinated were 2.3 times more likely to experience **reinfection** compared with those who were fully vaccinated.

Cavanaugh, Alyson M. et al. "Reduced Risk of Reinfection with SARS-CoV-2 After COVID-19 Vaccination — Kentucky, May-June 2021," CDC MMWR Morbidity and Mortality Weekly Report ePub: Aug. 6, 2021. doi: http://dx.doi.org/10.15585/mmwr.mm7032e1.

STATE VACCINATION RATES: IMPACT ON **CHILDREN**

In August 2021, hospitalizations for children up to age 17 were 3.7 times higher in states with the lowest vaccination rates compared with states with the highest vaccination rates.

Siegel, David A. et al. "Trends in COVID-19 Cases, Emergency Department Visits, and Hospital Admissions Among Children and Adolescents Aged 0–17 Years — United States, August 2020–August 2021," CDC MMWR Morb Mortal Wkly Report ePub: Sept. 3, 2021. doi: http://dx.doi. org/10.15585/mmwr.mm7036e1.

PHYSICIAN VACCINATION RATE

were vaccinated as



"Physician COVID-19 Vaccination Study (Final Report)," American Medical Association, June

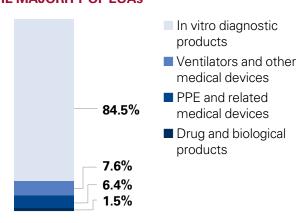
Emergency use authorizations (EUAs)

EUAs RISE SHARPLY

EUAs issued by the Food and Drug Administration (FDA) between 2010 and 2019.

EUAs issued by the FDA between Feb. 1 and Oct. 28, 2020.

IN VITRO DIAGNOSTIC PRODUCTS COMPRISE THE MAJORITY OF EUAs



"Top health industry issues of 2021; Will a shocked system emerge stronger?" PwC's Health Research Institute, April 2021. © PwC. Not for further distribution without the prior written permission of PwC. PwC refers to the US member firm or one of its subsidiaries or affiliates, and may sometimes refer to the PwC network. Each member firm is a separate legal entity. Please see www.pwc.com/structure for further details.

The AHA's Vaccine Confidence Resources

Hospitals and health systems have an important role to play in providing the public with clear and concise information about the benefits of vaccination. The AHA provides resources to assist the health care field's COVID-19 vaccination efforts.

Visit aha.org/vaccineconfidence.

The AHA Living Learning Network (LLN)

The LLN is a peer-to-peer community of health care professionals designed to discuss, ideate and reform health care in response to COVID-19 and prepare for future public health emergencies.

> Visit aha.org/center/ living-learning-network.



WORKFORCE



ospitals and health systems need compassionate and skilled professionals to fulfill the core mission of caring for people. The pandemic has exacerbated the challenges already facing the health care workforce, including shortages and burnout. The AHA and its members are committed to supporting structural changes, resources for individuals and capacity-building measures to ensure a strong, resilient and diverse workforce.



Resiliency

FRONT-LINE HEALTH CARE WORKERS

- 62% report that worry or stress related to the pandemic has a negative impact on their mental health.
- 13% report they received mental health services or medication, and 20% report they thought they might need such services but did not get them.

Kirzinger, Ashley et al. "KFF/The Washington Post Frontline Health Care Workers Survey," Kaiser Family Foundation, April 6, 2021.

Nurse leaders

SELF-REPORTED EMOTIONAL HEALTH

	% Reponses Feb. 2021	% Responses Aug. 2021	% Change
Emotionally healthy	51%	43%	-16%
Neutral	33%	32%	-3%
Not emotionally healthy	16%	25%	+56%

[&]quot;AONL COVID-19 Longitudinal Study Report: Nurse Leaders' Top Challenges and Areas for Needed Support, July 2020 to August 2021," American Organization for Nursing Leadership and Joslin Marketing, August 26, 2021.

NURSES' SENTIMENT TOWARD THEIR PROFESSION

The percentage of nurses who would encourage others to become a nurse



"COVID-19 Trend Data & the Impact on Nurses: Four Key Trends to Consider," AMN Healthcare, January 2021.

Nurses consider leaving profession

22% of nurses may leave their current position providing direct patient care within the next year.

Top 3 factors influencing the decision to leave

- Insufficient staffing levels
- Demanding nature/intensity of workload
- Emotional toll of the job

Top 3 initiatives that could effectively support well-being

- More appropriate and sufficient recognition
- Open lines of communication
- Embedding more breaks and flexibility in operating model

Berlin, Gretchen et al. "Nursing in 2021: Retaining the healthcare workforce when we need it most," McKinsey & Company, May 11, 2021.

TOP CHALLENGES DURING THE PANDEMIC

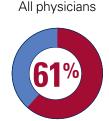
	% Reponses July 2020	% Responses August 2021	% Change
Emotional health and well-being of staff	50%	75%	+50%
Surge staffing, training and reallocation	54%	61%	+13%
Staff retention, furloughs, layoffs	24%	47%	+96%
Communicating and implementing changing policies	55%	34%	-38%
Access to PPE	47%	14%	-70%

"AONL COVID-19 Longitudinal Study Report: Nurse Leaders' Top Challenges and Areas for Needed Support, July 2020 to August 2021," American Organization for Nursing Leadership and Joslin Marketing, August 26, 2021.



Physicians

FREQUENTLY EXPERIENCE FEELINGS OF BURNOUT







Male physicians

Female physicians





Physicians younger than 46

Physicians 46 and older

PHYSICIANS' SENTIMENT TOWARD THEIR PROFESSION

The percentage of physicians who would encourage others to become physicians



"The Physicians Foundation 2021 Physician Survey, COVID-19 Impact Edition: A Year Later, The Physicians Foundation, 2021. Available at https://physiciansfoundation.org/physician-andpatient-surveys/the-physicians-foundation-2021-physician-survey

MENTAL HEALTH AMONG PUBLIC HEALTH WORKERS

Public health workers who report experiencing at least one mental health condition.

- Experiencing post-traumatic stress disorder (PTSD): 36.8%
 - Respondents 29 or younger experienced the highest percentage of PTSD: 47.4%
- Public health workers who reported being unable to take time off from work were more likely to report adverse mental health symptoms.

Survey conducted March 29 - April 16, 2021; respondents were asked to report symptoms in the preceding two weeks.

Bryant-Genevier, Jonathan et al. "Symptoms of Depression, Anxiety, Post-Traumatic Stress Disorder, and Suicidal Ideation Among State, Tribal, Local, and Territorial Public Health Workers During the COVID-19 Pandemic — United States, March-April 2021," CDC Morbidity and Mortality Weekly Report, July 2, 2021.

Learn more about the AHA's workforce agenda at aha.org/workforce.

Shortages

Health care leaders' perspective

COVID-19 IMPACT ON STAFFING SHORTAGES

Health care executives were asked which current staffing shortages are worse than one year ago.*

Nurses

69%

Behavioral and mental health providers

32%

Advanced practitioners

25%

Coding/Revenue-cycle experts

21%

Physicians

20%

IT-related experts 19%

Health care executives polled January - February 2021

90% of nurse leaders expect a nursing shortage postpandemic.†

Nurse Shortage

NURSING VACANCY RATE IN HOSPITALS

2021 average: **10%**

Average time for a hospital to hire an experienced RN, regardless of specialty: 89 days

"2021 NSI National Health Care Retention & RN Staffing Report," NSI Nursing Solutions Inc., March 2021

NURSING SCHOOLS

Enrollment in baccalaureate and graduate nursing programs increased by 5.6% in 2020.*

U.S. nursing schools turned away 80,521 qualified applications in 2020 due to an insufficient number of clinical sites and faculty as well as resource constraints.*

National nurse faculty vacancy rate: 7.2%.

*"Student Enrollment Surged in U.S. Schools of Nursing in 2020 Despite Challenges Presented by the Pandemic," American Association of Colleges of Nursing, April 1, 2021. t"Fact Sheet: Nursing Faculty Shortage," American Association of Colleges of Nursing, September 2020

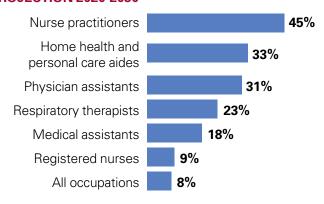


^{* &}quot;2021 Provider Health IT & Corporate Services Trends," Guidehouse Center for Health Insights analysis of an executive survey conducted by Healthcare Financial Management Association, May 26, 2021, https://guidehouse.com/insights/healthcare/2021/2021-provider-health-it-corp-svcs-

^{† &}quot;AONL COVID-19 Longitudinal Study Report: Nurse Leaders' Top Challenges and Areas for Needed Support, July 2020 to August 2021," American Organization for Nursing Leadership and Joslin Marketing, August 26, 2021.

Health care employment trends

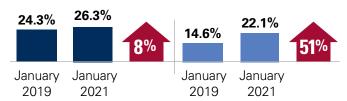
HEALTH CARE EMPLOYMENT GROWTH: PROJECTION 2020-2030



[&]quot;Occupational Outlook Handbook," U.S. Bureau of Labor Statistics, Sept. 8, 2021, https:// www.bls.gov/ooh/healthcare/home.htm.

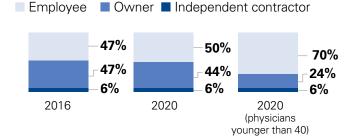
U.S. PHYSICIAN PRACTICE OWNERSHIP

- Practices owned by hospitals/health systems
- Practices owned by corporate entities



[&]quot;COVID-19's Impact On Acquisitions of Physician Practices and Physician Employment 2019-2020," Physicians Advocacy Institute, prepared by Avalere Health, June 2021

PHYSICIAN EMPLOYMENT WITHIN PRACTICE



Kane, Carol K. "Recent Changes in Physician Practice Arrangements: Private Practice Dropped to Less Than 50 Percent of Physicians in 2020," American Medical Association Policy Re Perspectives, May 14, 2021.

Black physicians

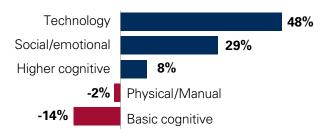
The proportion of U.S. physicians who are Black has increased by only 4% over the past 120 years, and the share who are Black men remains unchanged since 1940.

"Proportion of Black physicians in U.S. has changed little in 120 years, UCLA research finds," UCLA Health, April 20, 2021

Future of work

2030 FORECAST: JOBS WILL REQUIRE DIFFERENT **SKILLS**

% Change in total hours worked by 2030

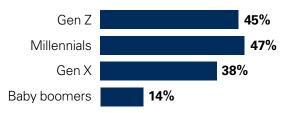


[&]quot;The Next Normal: The future of capability building," McKinsey & Company, www.mckinsey. com. Accessed Aug. 7, 2021

Remote work

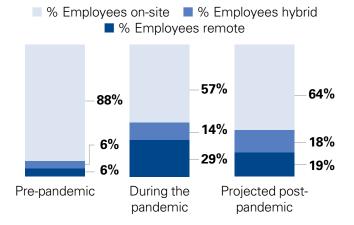
GENERATIONAL DIFFERENCES

Respondents were asked if they would sacrifice future earnings to work remotely.



"What's next for America's workforce post-COVID-19?" PwC's Workforce Pulse Survey findings, March 24, 2021. © PwC. Not for further distribution without the prior writter permission of PwC. PwC refers to the US member firm or one of its subsidiaries or affiliates, and may sometimes refer to the PwC network. Each member firm is a separate legal entity. Please see www.pwc.com/structure for further details.

REMOTE WORK: HEALTH CARE PROVIDERS



of health care organizations report changing hiring policies to source talent and let talent stay outside of their typical geographic footprint.

"Get Ready for the Post-Pandemic Healthcare Talent Revolution." Oliver Wyman, May 24, 2021,





he ongoing disproportionate impact of COVID-19 on structurally or historically marginalized communities has catalyzed hospitals and health systems to renew their commitment to promote racial justice and health equity. Health risks are associated with racial, ethnic, geographic, socio-economic and environmental factors. Advancing equitable practices are closely tied to the health care field's core work of improving value, quality and patient safety.



COVID-19 Disparities

COVID-19 CUMULATIVE DEATH RATE PER 100,000 POPULATION

All U.S. counties: 199 people

Nonmetropolitan counties: 227 people

COVID CASES AND DEATHS BY RACE/ETHNICITY AS OF SEPT. 12, 2021

Race/Ethnicity	% population	% cases	% deaths
White	60.11%	51.0%	59.0%
Hispanic/Latino	18.45%	27.4%	18.2%
Black	12.54%	11.8%	13.8%
Asian	5.76%	3.1%	3.7%
American Indian/ Alaska Native	0.74%	1.1%	1.2%
Native Hawaiian/ Pacific Islander	0.18%	0.3%	0.2%
Multiple/Other, non-Hispanic	2.22%	5.3%	3.8%

"COVID Data Tracker: Demographic Trends of COVID-19 cases and deaths in the US reported to CDC," CDC, https://covid.cdc.gov/covid-data-tracker/#demographics. Accessed Sept. 13, 2021

SINCE THE BEGINNING OF THE PANDEMIC, PEOPLE IN HISTORICALLY MARGINALIZED COMMUNITIES WERE:

- 48% more likely to have died from COVID-19.
- 28% more likely to have been diagnosed with COVID-19.
- 23% more likely to be in a COVID-19 hot spot.
- 17% less likely to have been tested for COVID-19.
- 8% less likely to have been fully vaccinated.

"The U.S. Covid Community Vulnerability Index," Surgo Ventures. precisionforcovid.org/ccvi. Accessed Sept. 27, 2021.

JOB LOSS INEQUITY IN 2020 (JAN. - NOV.)

- Black and Hispanic workers faced 1.6 to 2.0 times the unemployment rates compared with white
- Households with less than \$30,000 in annual income faced double the unemployment rates of higher-income households.
- Women accounted for 56% of workforce exits since the start of the pandemic, despite making up 48% of the workforce.

Dua, A., Ellingrud, K., Lazar, M., Luby, R., Srinivasan, S., and Van Aken, T. "Achieving an inclusive US economic recovery," McKinsey & Company, Feb. 3, 2021.

> **Learn more from the AHA Institute** for Diversity and Health Equity at ifdhe.aha.org.

Rural Health Care

RURAL HEALTH CARE COVERAGE

Americans live in rural areas.*

Rural adults are enrolled in Medicare.*

Rural adults ages 19-64 are uninsured.*

NEARLY

of rural individuals younger than 65 are covered by Medicaid.[†]

of rural adults are dually enrolled in Medicaid and Medicare.[†]

*"Access to Affordable Care in Rural America: Current Trends and Key Challenges Research Report," Assistant Secretary of Planning and Evaluation Office of Health Policy, July 9, 2021. †"Medicaid and Rural Health Issue Brief," Medicaid and CHIP Payment and Access Commission, April 2021



PANDEMIC EFFECTS ON RURAL AMERICANS

Rural households were asked about their experiences during the pandemic

Rural households using telehealth

46%

Unable to get medical care for a serious problem when they needed it

24%

White rural households facing serious financial problems

36%

Black or Latino rural households facing serious financial problems

85%

Adult household member has lost job, been furloughed or had wages/hours reduced

Serious problems caring for children

54%

Serious problems keeping the education of children going

34%

Households with children that have serious problems with internet connection to do schoolwork/jobs, or they lack high-speed internet connection at home

40%

The Impact of Coronavirus on Households in Rural America," NPR, Robert Wood Johnson Foundation, Harvard T.H. Chan School of Public Health, October 2020.

RURAL HEALTH ACCESS

- 28% of rural Americans live in a county without a rural health clinic.*
- 6 out of 10 primary care health professional shortage areas are located in rural areas.*
- 47% of rural hospitals have 25 or fewer staffed beds.[†]
- As of September 2021, 138 hospitals have closed since 2010.[‡]

Learn more about the AHA's rural health resources at aha.org/rural.

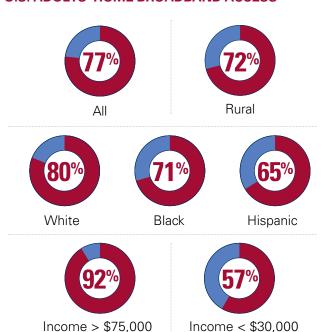
Digital Health Equity

Current barriers to digital access

There are millions of individuals across the country who lack the technology, finances or digital health literacy needed to take advantage of digital solutions. While there have been gains in bringing high-speed broadband service to all Americans, a recent report from Microsoft estimates that 157.3 million Americans do not use the internet at broadband speeds.* At the end of 2019, the Federal Communications Commission estimated that 14.5 million Americans lacked access to fixed broadband service at threshold speeds.

Even where broadband is available, there are millions of families that cannot afford it. [‡] According to estimates from the U.S. Census, 13.9% of urban households and 19.2% of rural households do not have a broadband subscription.§ Racial and ethnic populations, people living on tribal lands, older adults and people with lower levels of education and income also are less likely to have broadband at home.

U.S. ADULTS' HOME BROADBAND ACCESS



[&]quot;Internet/Broadband Fact Sheet," Pew Research Center, Washington, D.C., April 7, 2021, pewresearch.org/internet/fact-sheet/internet-broadband.



^{*&}quot;Medicaid and Rural Health Issue Brief." Medicaid and CHIP Payment and Access Commission, April 2021

[&]quot;Fast Facts: U.S. Rural Hospitals," AHA Annual Survey Database, FY2015-FY2021, May 2021. ‡"181 Rural Hospital Closures since January 2005," The Cecil G. Sheps Center for Health Services Research, https://www.shepscenter.unc.edu. Accessed Sept. 23, 2021

^{*}McKinley, Shelley. "Microsoft Airband: An annual update on connecting rural America," Microsoft, March 5, 2020.

^{†&}quot;Fourteenth Broadband Deployment Report," Federal Communications Commission, Jan. 19, 2021

[‡]Porter, Eduardo. "A Rural-Urban Broadband Divide, but Not the One You Think Of," New York Times, June 1, 2021. §Martin, Michael. "Computer and the Internet Use in the United States: 2018,"

United States Census Bureau, April 2021. ||"Internet/Broadband Fact Sheet," Pew Research Center, April 7, 2021."Expanding

Broadband Access," U.S. Department of the Interior, bia.gov/service/infrastructure/ expanding-broadband-access, Accessed Nov. 14, 2021.



As the healthcare industry continues to be disrupted by the pandemic and many other hurdles, having the right leaders in place is more critical than ever. Consider these key areas as you build your own leadership investment strategy.

IDENTIFY NEW LEADERSHIP ATTRIBUTES

Vision/Strategy

Communication Agility Integrity

These attributes were listed as most in demand for today's executives.

CREATE NEW AND RE-ENVISION EXISTING ROLES

Entirely new positions and departments have emerged carrying titles such as Patient Experience, Transformation, Innovation, Population and others designed to align with current leadership realities. AMN survey data shows that executives listed the following as growing roles of importance:

GROWING ROLES OF IMPORTANCE

	42%	28% Behavioral Health	26% Population Hea	llth Management
58% Telehealth	Clinical Leadership	26% Value-Based Care	19% Risk/Security	18%
44% Quality/Safety	38% Patient Experience	24% Finance	18% Innovation	Diversity



TAKE A PORTFOLIO APPROACH

No one individual can exhibit strength in all of these desired competencies, so resist the temptation to pile up skill requirements when recruiting leaders. A coordinated portfolio perspective across the team can yield the right skill mix.

MAINTAIN ADVANCEMENT PATHWAYS

of executives feel they have to leave their organization to advance. Organizations need to offer clear advancement opportunities that don't overly rely on seniority and tradition.

MANAGE TURNOVER & RETENTION

All healthcare organizations are facing increased turnover across the continuum. In addition to the obvious impacts of burnout and mental health, executives called our variables that most impacted their intent to remain with an organization:



EXPAND LEADERSHIP RECRUITING EFFORTS

Our research consistently shows that finding quality candidates for leadership positions is difficult - 46% of respondents to our recent 2021 Healthcare Trends Survey Report rated the task extremely/very challenging.

Persistent shortages for some roles, candidate geographic mobility barriers, expanding role requirements - these and other variables can limit the pipeline. "Going wide" via aggressive recruiting using all available tools is clearly needed. Supplement traditional efforts with actions that promote search success such as:

Look outside the industry. Executives from technology, retail, finance, and other sectors can bring leadership experience directly relevant to healthcare's competitive, fast-changing market.

Shape a meaningful institutional "employment brand" that is attractive to leaders and may serve to overcome geographic and other recruiting constraints.

Leverage interim leaders.

Experienced interims are a valuable investment, allowing time to conduct extensive searches while minimizing organizational disruption from executive vacancies.

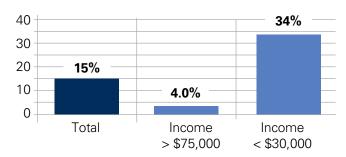
HEALTHCARE'S TRUSTED PARTNER FOR INTERIM AND EXECUTIVE LEADERSHIP SEARCH SOLUTIONS

From interim leadership to executive search, we help healthcare organizations deliver on strategic objectives for patient care, growth and innovation. We are the market leader in interim search and the largest provider of interim, leadership, physician and executive search services, with a powerful track record of diverse placements across all specialty areas.

Visit www.BESmith.com or call 855.296.6318 for more information.

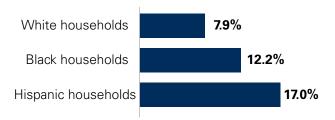
BROADBAND AFFORDABILITY

% of home broadband users who had trouble affording high-speed internet during the pandemic



McClain, Colleen. "34% of lower-income home broadband users have had trouble paying for their service amid COVID-19," Pew Research Center, Washington, D.C., June 3, 2021, pewresearch. org/fact-tank/2021/06/03/34-of-lower-income-home-broadband-users-have-had-trouble-paying-fortheir-service-amid-covid-19.

LACK OF COMPUTER ACCESS BY RACE/ETHNICITY

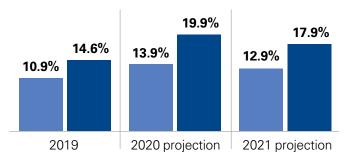


2021 State of Black America, "The New Normal: Diverse, Equitable, and Inclusive," executive summary, National Urban League, July 2021.

Social Determinants of Health

FOOD INSECURITY

- % Total population experiencing food insecurity
- % Children experiencing food insecurity



"The Impact of the Coronavirus on Food Insecurity in 2020 & 2021," Feeding America, March

Learn more about the AHA's resources and framework addressing societal factors that influence health at

aha.org/societalfactors.

Maternal Health

RATES OF SEVERE MATERNAL MORBIDITY

- Increased by 9% for all women from 2018 to 2020.*
- 63% higher in majority Black communities than majority White communities in 2020.*
- 32% higher in majority Hispanic communities than majority White communities in 2020.*
- Women in rural and underserved communities face additional risks and challenges that can lead to higher rates of maternal mortality and other severe health complications.†

Learn more about the AHA's Better Health for Mothers and Babies initiative at

aha.org/advocacy/maternal-and-child-health.

Gun Violence

COST OF GUN VIOLENCE



Initial hospital costs of gun injuries. Costs associated with physicians' fees not included could add 20% to that total.

"Firearm injuries: Health Care Service Needs and Costs," U.S. Government Accountability Office, June 2021.

ELECTRONIC HEALTH RECORDS SHOW INCREASE IN FIREARM INJURIES

- 73% increase in 2020, compared with 2018 and 2019.
- From March 2018 to April 2021:
 - Increased between 76% and 89% for communities. of color.
 - Increased 40% for the White population.
 - Black male patients ages 18 34 experienced more firearm incidents than patients from other groups.

Bohochik, Ryan and Johnston, Thayer et al. "2020 Firearm Injuries Up More Than 70% – Worse in Black and Hispanic Young Men," Epic Health Research Network, Sept. 15, 2021. Retrieved from: ehrn.ora.

Learn more about the AHA's Hospitals Against Violence initiative at aha.org/violence.



^{*&}quot;Racial Disparities in Maternal Health," Blue Cross Blue Shield, The Health of America Report® May 20, 2021.

t"The Additional Risks and Challenges for Pregnant Women in Rural and Underserved Communities," U.S. Government Accountability Office, May 13, 2021.

BEHAVIORAL HEALTH

ospitals and health systems provide essential behavioral health care services to millions of Americans. The pandemic will have a long-term effect on people's mental health and the behavioral health ecosystem. The health care field is stepping up to improve access to care, including the integration of physical and behavioral health services, community partnerships to expand the care continuum, suicide prevention and stigma reduction.



Mental Health and Lifestyle

COVID-19 AND MENTAL HEALTH

40.9% of adults reported at least one behavioral condition related to the pandemic, including symptoms of anxiety, depression, trauma or stress-related disorder, or having started or increased substance use to cope with stress or emotions related to COVID-19.

Czeisler, Mark É. et al. "Mental Health, Substance Use, and Suicidal Ideation During the COVID-19 Pandemic — United States, June 24 – 30, 2020," CDC Morbidity and Mortality Weekly Report, 69(32), August, 14, 2020, doi: 10.15585/mmwr.mm6932a1.

PANDEMIC IMPACT ON HEALTH & LIFESTYLE

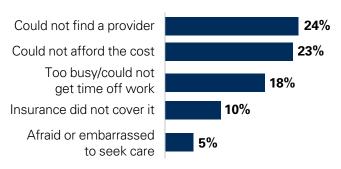
	% Increase: All respondents	% Increase: Men	% Increase: Women
Anxiety	37%	32%	40%
Stress	35%	31%	38%
Weight gain	33%	31%	34%
Nicotine	21%	28%	17%
Alcohol	20%	28%	15%
Opioids	10%	15%	7%

[&]quot;The 2021 Health Care Insights Study," CVS Health, July 8, 2021.

ACCESS TO MENTAL HEALTH SERVICES

of adults say they needed but were unable to get mental health services from March 2020 to March 2021.

THE MAIN REASONS ADULTS DID NOT RECEIVE **MENTAL HEALTH SERVICES**

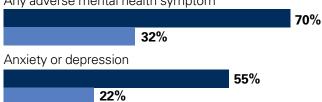


Kearney, Audrey. "Mental Health Impact of the COVID-19 Pandemic: An Update," Kaiser Family Foundation, April 14, 2021

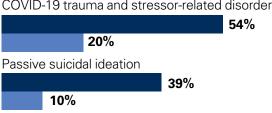
CAREGIVERS' MENTAL HEALTH DURING THE **PANDEMIC**

- Parents and/or caregivers of adults
- Nonparent/ noncaregiver

Any adverse mental health symptom



COVID-19 trauma and stressor-related disorders



Serious suicidal ideation



Czeisler Mark É. et al. "Mental Health Among Parents of Children Aged <18 Years and Unpaid Caregivers of Adults During the COVID-19 Pandemic — United States, December 2020 and February-March 2021," CDC Morbidity and Mortality Weekly Report, June 18, 2021, 70(24);879-887.

MENTAL HEALTH PROFESSIONAL SHORTAGE

- There are more than 5,800 mental health professional shortage areas in the U.S.
- The shortages impact nearly 129 million Americans.

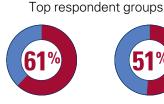
"Data.HRSA.gov: Shortage Areas," Health Resources & Services Administration, https://data. hrsa.gov/topics/health-workforce/shortage-areas, Sept 9, 2021.



LONELINESS IN THE U.S. DURING THE PANDEMIC

% of respondents reporting serious loneliness







18-25

Mothers of young children

Loneliness is linked to early mortality, depression, anxiety, heart disease, substance abuse and domestic abuse.

Weissbourd, Richard et al. "Loneliness in America: How the Pandemic Has Deepened an Epidemic of Loneliness and What We Can Do About it," Making Caring Common Project of Harvard Graduate School of Education, February 2021

Delivery model strategies to increase coordination and integration of behavioral health care

- · Include behavioral health in value-based payment or total cost of care models.
- Support new provider partnerships.
- Eliminate regulatory barriers to care coordination.
- Reimburse for transitional care.
- Provide access to the full continuum of services including inpatient and residential behavioral health care.
- Provide funding for infrastructure development.
- Encourage greater availability of telepsychiatry.
- Address inadequate reimbursement and workforce shortages, and fully implement the mental health parity law.

"TrendWatch: Increasing Access to Behavioral Health Care Advances Value for Patients, Providers and Communities," American Hospital Association, May 2019.

LGBTQ+

LGBTQ YOUTH AND MENTAL HEALTH

- 70% stated that their mental health was poor most of the time or always during COVID-19.
- 42% seriously considered attempting suicide in the past year.
- 48% reported they wanted counseling from a professional in the past year, but were unable to receive it.
- 30% experienced food insecurity in the past month.

"National Survey on LGBTQ Youth Mental Health 2021," The Trevor Project, May 2021.

HISTORICALLY UNDERREPRESENTED POPULATIONS

U.S. adults reporting more stress and mental health challenges within the past year (June 2021)

Populations	% reporting an increase of challenges	% receiving treatment
LGBTQ+	49%	41%
Black	46%	21%
Native American	45%	24%
Hispanic	42%	26%
Asian American	40%	11%
All adults	40%	24%

The top obstacles for seeking treatment: Cost and insurance coverage

"National Council for Mental Wellbeing: Minority Mental Health Month Polling," Poll conducted by Morning Consult and released by the National Council for Mental Wellbeing, July 21, 2021.

Drug overdoses and opioids

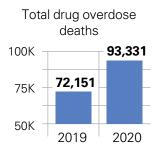
EMERGENCY DEPARTMENT VISITS INCREASE

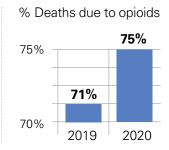


Increase in emergency department visits for opioid overdoses in the U.S. in 2020.

Soares, William E. et al. "Emergency Department Visits for Nonfatal Opioid Overdose During the COVID-19 Pandemic Across Six US Health Care Systems," Annals of Emergency Medicine, July 28, 2021; doi: 10.1016/j.annemergmed.2021.03.013.

DRUG OVERDOSE DEATHS INCREASE*





 Highest number of overdose deaths ever recorded in a 12-month period and largest increase since 1999[†]

Learn more about the AHA's behavioral health resources at

aha.org/behavioralhealth



^{*&}quot;Vital Statistics Rapid Release: Provisional Drug Overdose Death Counts," CDC National Center for Health Statistics, https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm Accessed Aug. 4, 2021

[†]Chappell, Bill. "Drug Overdoses Killed A Record Number Of Americans In 2020, Jumping By Nearly 30%," NPR, July 14, 2021.

ACCESS AND AFFORDABILITY

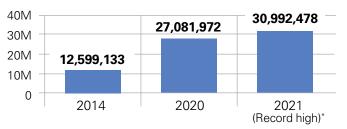
he pandemic has spurred a national conversation about how to strengthen the health care system. To create a reimagined health ecosystem, individuals and communities need to be able to access and afford health care. Health coverage opens the door to health care services. For people who have this access, cost can still be a barrier to essential services. The AHA and its members are working to preserve and expand access to high-quality, equitable, affordable care.



Coverage

AFFORDABLE CARE ACT (ACA) ENROLLMENT

Total ACA-related enrollment: marketplace, Medicaid and the basic health program.



*Record high, does not include totals from the special enrollment period Feb. 15 - Aug. 15, 2021.

"Health Coverage Under the Affordable Care Act: Enrollment Trends and State Estimates," Assistant Secretary for Planning and Evaluation, Office of Health Policy, June 5, 2021.

ACA SPECIAL ENROLLMENT PERIOD

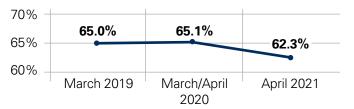
Number of people who enrolled in the ACA during the special enrollment period from MILLION Feb. 15 - Aug. 15, 2021.

Includes enrollment in federally facilitated and state-based marketplaces.

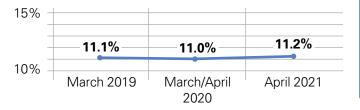
"2021 Final Marketplace Special Enrollment Period Report," Department of HHS & Centers for Medicare & Medicaid Services, Sept. 15, 2021.

HEALTH INSURANCE COVERAGE TRENDS AMONG U.S. ADULTS YOUNGER THAN 65

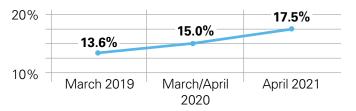
Employer-sponsored insurance coverage



Uninsured rate



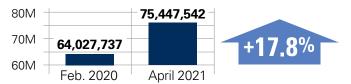
Public coverage (Medicaid, ACA)



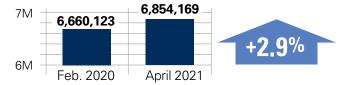
Karpman, Michael and Zuckerman, Stephen. "The Uninsurance Rate Held Steady during the Pandemic as Public Coverage Increased, "The Urban Institute," August 2021.

MEDICAID AND CHILDREN'S HEALTH INSURANCE PROGRAM (CHIP)

Medicaid growth



CHIP growth



As of April 2021:

- A record high 82.3 million people are covered through Medicaid and CHIP.
- Children represent 48.5% of the total Medicaid and CHIP program enrollment.

"April 2021 Medicaid and CHIP Enrollment Trends Snapshot," CMS Center for Medicaid and CHIP Services, Sept. 15, 2021.



MEDICARE ADVANTAGE GROWTH

Year	Number of enrollees	% of Medicare beneficiaries
2019	22 million	36%
2020	24 million	39%
2021	26 million	42%

Fried, Meredith et al. "Medicare Advantage in 2021: Enrollment Update and Key Trends," Kaiser Family Foundation, June 21, 2021

Prescription Drugs

AFFORDABILITY

U.S. adults were surveyed about the cost of prescription

- 83% report that the cost of prescription drugs is unreasonable.
- **26%** say it is difficult to afford the cost of their medicine.
- 29% do not take their medicine as prescribed due to costs.

Hamel, Liz. "Public Opinion on Prescription Drugs and Their Prices," Kaiser Family Foundation, Oct. 18, 2021.

PRESCRIPTION DRUG PRICES HIGHER IN THE U.S.

Results of an analysis of 20 brand-name prescription drugs among the highest expenditures in the U.S. Medicare Part D program:

• U.S. prices paid at the retail level by consumers and other payers were more than two to four times higher than prices in Australia, Canada and France.

"Prescription Drugs: U.S. Prices for Selected Brand Drugs Were Higher on Average than Prices in Australia, Canada, and France, "U.S. Government Accountability Office, March 2021.

AMERICANS WANT NEGOTIATION

of Americans feel the federal government should directly negotiate with pharmaceutical companies to reduce the cost of prescription drugs.

"Health Insurance Trends," eHealth, May 2021.

Learn more about the AHA's leadership on the issues of affordability and value through The Value Initiative at

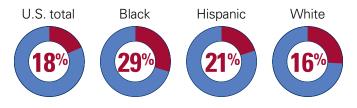
aha.org/value-initiative

Consumers

ABILITY TO AFFORD HEALTH CARE

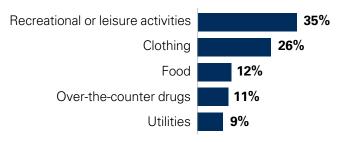
Over a 12-month period, which covers the first full year of the COVID-19 era, 18% of U.S. adults and 35% of low-income earners report that they or a member of their household did not seek treatment for a health problem due to cost of care.

% OF U.S. ADULTS UNABLE TO AFFORD QUALITY **CARE IF NEEDED TODAY**



REDUCTION IN HOUSEHOLD SPENDING **DUE TO COST OF CARE**

U.S. adults who reduced spending due to cost of care did so on the following household items:



Witters, Dan. "In U.S., An Estimated 46 Million Cannot Afford Needed Care," Gallup, March 31, 2021.

TOP FACTORS CONSUMERS CONSIDER WHEN **DECIDING WHERE TO SEEK CARE**



PATIENT CHALLENGES

Providers said that all or most of their patients are facing a significant challenge with:



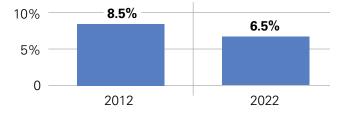
[&]quot;The 2021 Health Care Insights Study," CVS Health, July 8, 2021.



Employers and Employees

MEDICAL COST TREND ESTIMATE

Medical cost trend is the projected percentage increase in the cost to treat patients from one year to the next, assuming benefits remain the same. It impacts commercial insurers' plans and is used to calculate premiums for the coming year.



Potential catalysts of increased health care spending in 2022

- Some care deferred during the pandemic returns in 2022.
- COVID-19 costs (i.e., testing for COVID-19, treating patients and administering vaccinations) likely will persist.
- The mental health and substance-use crises will persist.
- Poor pandemic-era behaviors may lead to deterioration of U.S. population health.
- Preparation costs for the next pandemic including forecasting tools, supply chain, PPE, staffing and infrastructure changes.
- · Addressing health disparities highlighted by the pandemic, including greater diversity in clinical trials and investment in social determinants of health.
- Improving patient relationships and expanding capacity through mobile apps, patient portals, CRM tools, virtual care and analytics.

Potential reasons for decreased health care spending in 2022

- Consumers embrace lower-cost sites of care.
- Health systems find ways to provide more health care for less, including remote workforces, process automation and cloud technology.

INNOVATION **AND DELIVERY**

he AHA is working with its member hospitals and health systems to rebuild and reimagine the health care system. The pandemic's acceleration of telehealth is another step forward in delivery transformation. Investment in digital health and adoption of novel technologies will continue and amplifies the need to prioritize cybersecurity. New models focused on value-based care will not only advance transformation but also may better prepare the health system for the next pandemic.



Telehealth

Virtual health care and business models are evolving, moving to a range of services enabling longitudinal virtual care, integration of telehealth with other virtual health solutions and hybrid virtual/in-person care models.

PANDEMIC IMPACT ON TELEHEALTH

Telehealth utilization:

- April 2020: **78 times higher** than pre-pandemic
- February 2021: **38 times higher** than pre-pandemic levels.

Consumers:

• 40% will continue using telehealth going forward.

Physicians:

- 58% view telehealth more favorably than they did before the pandemic.
- 84% offer virtual visits and 57% would prefer to continue offering virtual care.

Bestsennyy O., Gilbert G., Harris A & Rost J. "Telehealth: A quarter-trillion-dollar post-COVID-19 reality?" McKinsey & Company, July 9, 2021.



[&]quot;Medical cost trend: Behind the numbers 2022," PwC's Health Research Institute, June 2021. © PwC. Not for further distribution without the prior written permission of PwC. PwC refers to the US member firm or one of its subsidiaries or affiliates, and may sometimes refer to the PwC network. Each member firm is a separate legal entity. Please see www.pwc.com/ structure for further details.

CONSUMER USE OF TELEHEALTH

Surveyed U.S. adults who see a health care provider at least once a year (March 2021)

of U.S. patients report having seen a health care provider via telehealth since the pandemic began.

of U.S. patients would be likely to switch, or have switched, to a different provider if their current provider did not offer telehealth appointments.

March 2021 NextGen survey conducted by The Harris Poll among 1,733 U.S. patients 18+. "National Survey Shows Online Access and Telehealth are Keys to Patient Loyalty," May 20, 2021. For further information on the survey, contact tstegmaier@nextgen.com.

MEDICARE PROVIDERS OFFERING TELEHEALTH:

Before the pandemic

18%

Six months into the pandemic

64%

MEDICARE TELEHEALTH ACCESS

27% of beneficiaries participated in a telehealth visit

Method of communication







Telephone

Video

Wyatt, Koma et al. "Medicare and Telehealth: Coverage and Use During the COVID-19 Pandemic and Options for the Future," Kaiser Family Foundation, May 19, 2021.

Telehealth: Health care provider perspective

Top areas for future telehealth expansion

- Chronic care management
- Mental/behavioral health
- Urgent care
- Primary care

Top barriers to advancing telehealth

- Patient access to technology
- Uncertainty around reimbursements
- Clinical workflows/integration into the electronic health record
- Rural access to broadband

"The Intersection of Value and Telehealth," Center for Connected Medicine & KLAS Research, August 2021.

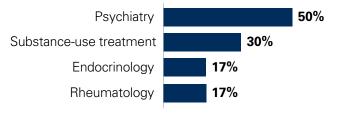
Telehealth insurance claims

CLAIMS INCREASE

Increase in telehealth insurance claims from March 2019 to March 2020

"Health Industry Cybersecurity — Securing Telehealth and Telemedicine," Healthcare & Public Health Sector Coordinating Councils, April 2021

SHARE OF TELEHEALTH OUTPATIENT AND OFFICE **VISIT CLAIMS — TOP SPECIALTIES**



Bestsennyy O., Gilbert G., Harris A & Rost J. "Telehealth: A quarter-trillion-dollar post-COVID-19 reality?" McKinsey & Company, July 9, 2021.

Learn more about the AHA's telehealth resources at aha.org/telehealth

Technology

Consumer sentiment: Digital technology

WEARABLE TECH AND HEALTH DEVICES

Own a wearable health device or use a smartphone to track wellness

Would allow information to be sent directly from the device to their doctor's office

Believe the data are useful and want them collected by their doctor

SOCIAL MEDIA

72% of Americans have some type of social media profile

62% Trust the information they get from social media, if it comes directly from health care providers

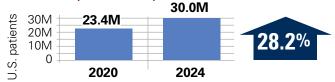
INTERNET

Google processes about **70,000** health-related search queries every minute.

"NRC Health 2021 Healthcare Consumer Trends Report," NRC Health, Jan. 13, 2021.



REMOTE PATIENT MONITORING-UTILIZATION **FORECAST (IN MILLIONS)**



Dolan, Shelagh. "The technology, devices, and benefits of remote patient monitoring in the healthcare industry." Insider Intelligence, July 28, 2021

VENTURE CAPITAL INVESTMENT INTO THE DIGITAL HEALTH SPACE



Krasniansky, Adriana et al. "Q3 2021 digital health funding: To \$20B and beyond!" Rock Health, Oct. 4, 2021

AUTOMATION OF ADMINISTRATIVE TASKS

of health care provider executives said their organizations are working on improving the clinician experience by automating administrative tasks.

"Top health industry issues of 2021: Will a shocked system emerge stronger?" PwC's Health Research Institute, April 2021. © PwC. Not for further distribution without the prior written permission of PwC. PwC refers to the US member firm or one of its subsidiaries or affiliates, and may sometimes refer to the PwC network. Each member firm is a separate legal entity. Please see www.pwc.com/structure for further details.

Health systems and Al

50% of health care leaders report using AI to help manage COVID-19. Examples include:

- Clinical decision support.
- Bed management, device management and staffing.
- Analytics and assessment.
- Tracking ICD-10 codes to find at-risk individuals.
- · Contact tracing.

Top uses of Al

- Clinical decision support: 61%
- Dictation assistant or transcription: 50%
- Diagnostic medical imaging: 48%

Planning to leverage Al for:

- Virtual assistant: 41%
- Revenue-cycle management: 38%
- Fraud detection: 28%

"Top of Mind for Top Health Systems 2021 — Digital health priorities in the era of COVID-19." Center for Connected Medicine and KLAS, October 2020.

Cybersecurity

AI AND CYBER DEFENSE

20% of executives in health care reported seeing benefits from using artificial intelligence in cyber defense.

"Medical cost trend: Behind the numbers 2022," PwC's Health Research Institute, June 2021. © PwC. Not for further distribution without the prior written permission of PwC. PwC refers to the US member firm or one of its subsidiaries or affiliates, and may sometimes refer to the PwC network. Each member firm is a separate legal entity. Please see www.pwc.com/ structure for further details.

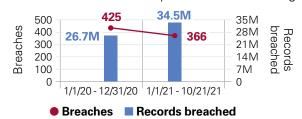
TELEHEALTH CYBERSECURITY CHALLENGES

Challenge	% Increase in 2020
Website/internet-protocol malware security alerts	117%
Security patching of known vulnerabilities	65%
Endpoint vulnerabilities that enable data theft	56%
File-transfer protocol vulnerabilities	42%

"Health Industry Cybersecurity — Securing Telehealth and Telemedicine," Healthcare & Public Health Sector Coordinating Councils, April 2021.

HEALTH CARE HACKING/IT INCIDENTS

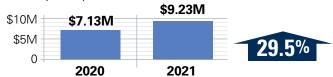
The number of records breached per incident is increasing.



"Cases Currently Under Investigation," Department of HHS Office for Civil Rights, https:// ocrportal.hhs.gov/ocr/breach/breach_report.jsf. Accessed Oct. 29, 2021.

COST OF A DATA BREACH

For 11 consecutive years, health care had the highest industry cost per breach.



"Cost of a Data Breach Report 2021," Ponemon Institute and IBM Security, July 28, 2021.

Learn more about the AHA's cybersecurity resources at aha.org/cyberrisk



Delivery and Payment Models

Accountable Care Organizations (ACOs)

Organizations participating in value-based payment arrangements during the pandemic had greater financial resilience and flexibility to provide care through novel approaches. They had developed organizational competencies they could redeploy during a public health emergency.

ACO TRENDS AND LIVES COVERED: ALL PAYERS

Year - Q1	Total number of ACOs	Total lives covered
2018	1,015	37,113,213
2019	950	37,214,760
2020	990	36,848,375
2021	956	36,254,938

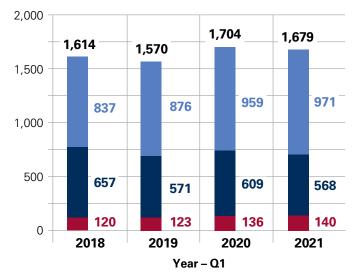
ACO ENTRANTS AND EXITS: ALL PAYERS

Year	Number of ACO entrants	Number of ACO exits
2018	122	72
2019	59	77
2020	61	36

ACO CONTRACTS BY PAYER







Note: The average number of contracts per ACO has increased slightly from 1.6 in Q1 2018 to almost 1.8 in Q1 2021

Data from Muhlestein, David et al. "All-Paver Spread Of ACOs And Value-Based Payment Models In 2021: The Crossroads And Future Of Value-Based Care," Health Affairs Blog, June 17, 2021. doi: 10.1377/hblog20210609.824799.

HEALTH CARE EXECUTIVES' PERSPECTIVE

of providers already participating in at-risk or value-based programs plan to add value-based contracts within the next 12 months.

report that the pandemic accelerated the need for health care delivery

Team-based care

The pandemic is a pivotal event that may have lasting influence on core values and attitudes toward teamwork and interprofessional practice.*

IMPROVED OUTCOMES AND COST REDUCTIONS ASSOCIATED WITH INTERPROFESSIONAL COLLABORATIVE PRACTICE[†]

Outcome measure	% Reduction
Patient charges	48.2%
Hospitalizations	17.7%
Emergency department visits	16.7%
Hemoglobin A1c levels	0.8%

Study occurred with high-risk patients in a family medicine residency program.



The AHA Center for Health Innovation provides resources that address innovation capacity, digital transformation, population health and performance improvement.

Learn more about the AHA Center for Health Innovation at aha.org/center.



[&]quot;A Provider Outlook on Value-based Innovations in Care Delivery," Sage Growth Partners and DataGen, Aug. 3, 2021.

^{*}Barret, Michalec and Lamb, Gerri. "COVID-19 and team-based healthcare: The essentiality of theory-driven research," Journal of Interprofessional Care, Aug. 18, 2020, 34:5, 593-599, doi:10.1080/13561820.2020.1801613.

[†]Guck, Thomas P. et al. "Improved Outcomes Associated With Interprofessional Collaborative Practice," Annals of Family Medicine, August 2019, 17 (Suppl 1) S82, doi: 10.1370/afm.2428.

Hospital-at-Home (HaH)

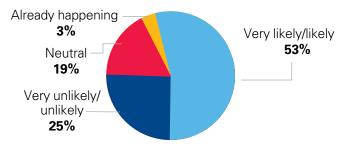
Hospital-at-Home: Success factors

The pandemic and associated public health emergency amplified the need for providers to increase capacity to provide safe care outside the hospital setting. Recent regulatory flexibilities allowed for providers to leverage the latest innovations to pursue this aim. In addition to telehealth, some providers were able to implement or expand hospital-at-home programs.* HaHs have existed since the mid-1990s. Various studies have shown that HaH is feasible, safe, highly satisfactory and cost-effective. Success factors include:

- **People:** Well-coordinated multidisciplinary team that includes clinical teams, suppliers, nursing care coordinators and supporting nonclinical staff.
- **Processes:** Patient screening and enrollment. care delivery protocols including daily virtual and in-person check-ins and escalation of care.
- **Technology:** EHR, home-monitoring tools, telehealth and a communication platform.
- Supply chain: Service provider partners and goods such as medical equipment, oxygen, medicines and food.
- Analytics: Quality metrics and cost data.
- *"CMS Announces Comprehensive Strategy to Enhance Hospital Capacity Amid COVID-19 Surge," CMS Press release, Nov. 25, 2020.
 †Farah, Marina, M.D. "Hospital at Home: Delivering hospital-level care without the
- hospital," The Hospitalist, May 25, 2021.

HOSPITAL-AT-HOME EXPANSION

Health care strategists were asked about their likelihood of incorporating HaH services by 2027 for at least 50% of stable, chronically ill patients.



"Futurescan 2022-2027: Health Care Trends and Implications," AHA's Society for Health Care Strategy & Market Development, 2021

> **Learn more about the AHA's** hospital-at-home resources at aha.org/hospitalathome



Advancing Health in America

Vision

A society of healthy communities where all individuals reach their highest potential for health.

Mission

To advance the health of individuals and communities. The AHA leads, represents and serves hospitals, health systems and other related organizations that are accountable to the community and committed to health improvement.

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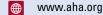


AHA Market Scan e-newsletter brings you insights and analysis on the field's latest developments in health care disruption, transformation and innovation. Subscribe at aha.org/marketscan.



AHA's Advancing Health podcast series features conversations with hospital and health system leaders on a variety of issues that impact patients and communities. Visit aha.org/advancing-health-podcast.

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Re-imagining health care while co-existing with COVID-19

Q: What is the most critical issue facing hospitals as we head into 2022?

A: The hospital field continues to face many challenges brought on by the pandemic. We need to vaccinate more people and strengthen our supply chain. Hospitals and health systems need financial stability to be able to care for our nation's patients and communities. However, I

believe workforce challenges are the most pressing issue facing our members at this moment. We know that workforce supply and resiliency were fragile before the pandemic. Now we are in a critical situation.

As the Environmental Scan indicates. 62% of front-line health care workers report that stress related to the pandemic has had a negative impact on their mental health. The use of agency and temporary labor has increased greatly, as has turnover in the emergency, intensive care unit and nursing departments. Some hospitals had to decrease the number of available hospital beds or turn to federal or state government resources to support their workforce needs.

We know that people are at the heart of high-quality, compassionate care. The AHA is working with

members to keep the workforce safe, healthy and fulfilled. Members are enhancing resiliency programs, adjusting staffing models, reskilling employees, strengthening team dynamics and maximizing technology to improve workflows and patient care. Through advocacy work, strategic partnerships and diversity initiatives, we're working to increase the health care workforce pipeline. We need to continue to support, develop, rebuild and redesign our workforce now and for years to come.

In addition to workforce resources located at aha.org/workforce, the AHA collaborates with physician and nurse leaders through the

AHA Physician Alliance and the American **Organization for Nursing Leadership** to tackle these challenges and develop forward-thinking solutions.

Q: How has the pandemic changed the AHA's strategic planning?

A: Our strategic plan incorporates lessons we've

learned from our experiences with COVID-19. In addition to workforce issues, we're building on our current initiatives to address behavioral health, health equity and affordability issues. The pandemic has highlighted new ways to connect with patients and heightened our focus on the consumer experience, digital engagement and data analytics. We're working to improve the sustainability of hospitals and health systems, explore innovative delivery models and enhance our collaboration with community and public health entities.

Multiple AHA governance and leadership groups contribute to our planning process and finetune our priorities. As hospitals have shifted in response to changing circumstances, so, too, will the AHA. Advocacy and Representation, Agent of

Change, Thought Leadership and Knowledge **Exchange** are the principles through which the AHA will continue to provide a strong voice for our members while pursuing the AHA mission to advance the health of individuals and communities.

The pandemic created day-to-day operational challenges for the field, but it also has given us an opportunity to re-imagine the health care system. Our strategy must address both shortterm and long-term issues. This is our time to hold meaningful dialogue, take substantial action and create positive change.



FROM THE 2021 AHA CHAIR

Rod Hochman, M.D. President and CEO Providence

Moving forward together with compassion

hough the COVID-19 pandemic has brought tremendous loss and has challenged our health care system like never before, I also firmly believe that it has been our finest hour. Teams in hospitals and health systems across the country have adapted, responded and persisted with great compassion. This is our strength and our path forward as we continue to improve health and well-being. Whether it's vaccination education, health equity, new technology or taking care of the caregivers who put the heart in our hospitals, we always do our best work together. Rooted in our communities, we are evolving into a more resilient and resourceful health care system to the benefit of our patients and everyone we serve."

Take a Deep Dive into Rebuilding and Reimagining Health Care

Futurescan 2022-2027

The AHA's Society for Health Care Strategy and Market Development (SHSMD) offers a deep dive into key forces that are transforming the future of health care through Futurescan 2022-2027. Here is a sampling of insights from this thought leadership publication to help hospitals and health systems think strategically about these issues.

Emergency Preparedness

Hospital and health system leaders should view emergency management not as a peripheral function and cost center but rather as essential to quality management and safety. Emergency preparedness is an investment in overall hospital operations, resulting in process improvements that can positively impact efficiency, care flows, and interdepartmental working relationships. Many of the steps a hospital takes to become

more efficient at disaster response are those that also improve overall efficiency, and therefore have a positive impact on daily operations.

Gregory R. Ciottone, M.D.,

President. World Association for Disaster and **Emergency Medicine**

Virtual Health

Telemedicine may be the most prevalent form of virtual health but will soon be far from the only one. As health care transitions to a value-based environment, virtual health will play a major role in containing costs and improving quality and access. By efficiently delivering care in the low-cost home or community setting, hospitals and health systems may be able to scale their services into at-risk contracts and share



the significant savings with payers. Just as important, patients are ultimately healthier and stay in their own homes, improving their life experience. Telehealth and virtual care can address a lot of the inefficiency and inequity in care and access. If we get it right, we can put more affordable and accessible services in people's hands.

Randy D. Oostra, D.M., FACHE, President and CEO. ProMedica

Care Transformation

C-suite executives need to recognize that health care is a service industry. Patients today are different than they were 20 years ago. They have more knowledge and access to technology, which they use to compare prices, convenience, services and more. What our health care customers want is kindness, punctuality, easy access and friendly staff. Quality is assumed. Digital strategies will become integral to serving consumers over the next five years. From online scheduling, texted appointment reminders and virtual check-in to the collection of health data online or via wearable technology, consumers are primed for digitalfirst encounters before they even see their clinicians.

> Michael Dowling, President and CEO. Northwell Health

Learn more about these topics as well as additional trends by visiting shsmd.org/futurescan.









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