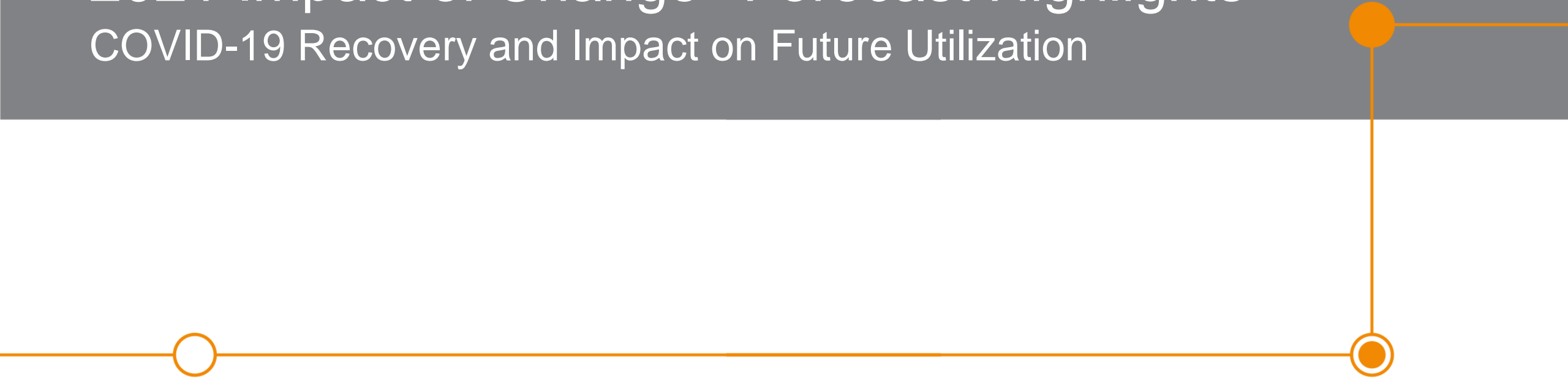


2021 Impact of Change[®] Forecast Highlights

COVID-19 Recovery and Impact on Future Utilization



June 2, 2021

Key Takeaway: Sites of Care Are Rapidly Changing

- Hospital Outpatient Departments (HOPD) and Ambulatory Surgery Centers (ASCs) will continue to experience rapid patient growth (19% and 25% by 2029, respectively), experiencing a patient volume that is 15 million higher in 2029 than in 2019. This will help drive down the cost of surgical procedures.
- This shift will accelerate as the Centers for Medicare & Medicaid Services (CMS) eliminates all of the procedures listed on their In-Patient Only List (more than 1,700 codes) and expands the number of ASC-covered procedures by 278 by the end of CY 2023.
- Physicians Offices and Clinics will see 18% growth by 2029, much of which driven by procedures formerly done in hospitals like cataract surgery and endovascular procedures.
- COVID-19 will leave a lasting impact, creating an enduring demand for specialist care required to support chronic COVID–impacted conditions, such as neurology and pulmonology.

Key Takeaway: Significant Growth in Hospital-at-Home Care for Chronic Diseases

- There will be shift of admissions to the home toward the end of the decade with home-based services increasing by 15% to an estimated volume of 474.9 million.
- Growth opportunities require organizations to invest in chronic disease management services.
- Health systems are making major investments in their ability to provide care to patients from the comfort of their own home with many programs currently in pilot stage. These programs enable patients that would traditionally be hospitalized, to be managed in the home with remote monitoring and virtual connections to the hospital team, and with in-person visits by a nurse or doctor.
- Part of the growth in hospital-at-home will be attributable to a reimagining of senior care that moves patients out of skilled nursing facilities, which will see a 5% reduction in patient volume by 2029, despite an aging population.

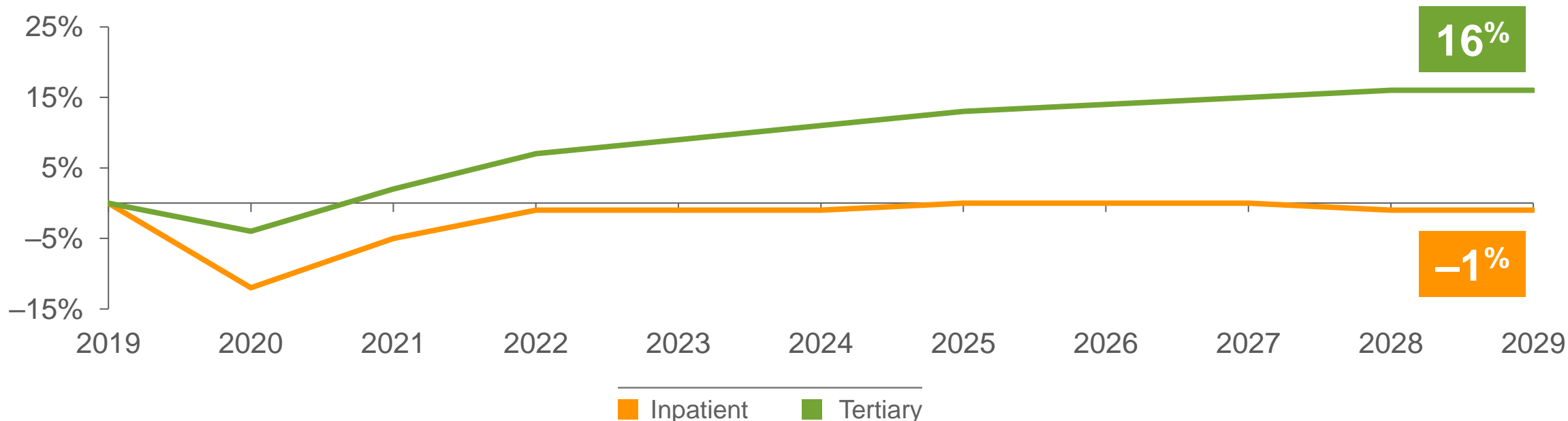


Inpatient Volumes Rebound Rapidly, but Demand Unlikely to Surpass 2019 Levels

Adult Inpatient Forecast Impact of Change® 2021

2019 IP Volumes: 30.4M
2019 Tertiary Volumes: 1.5M

2029 IP Volumes: 30.1M
2029 Tertiary Volumes: 1.8M

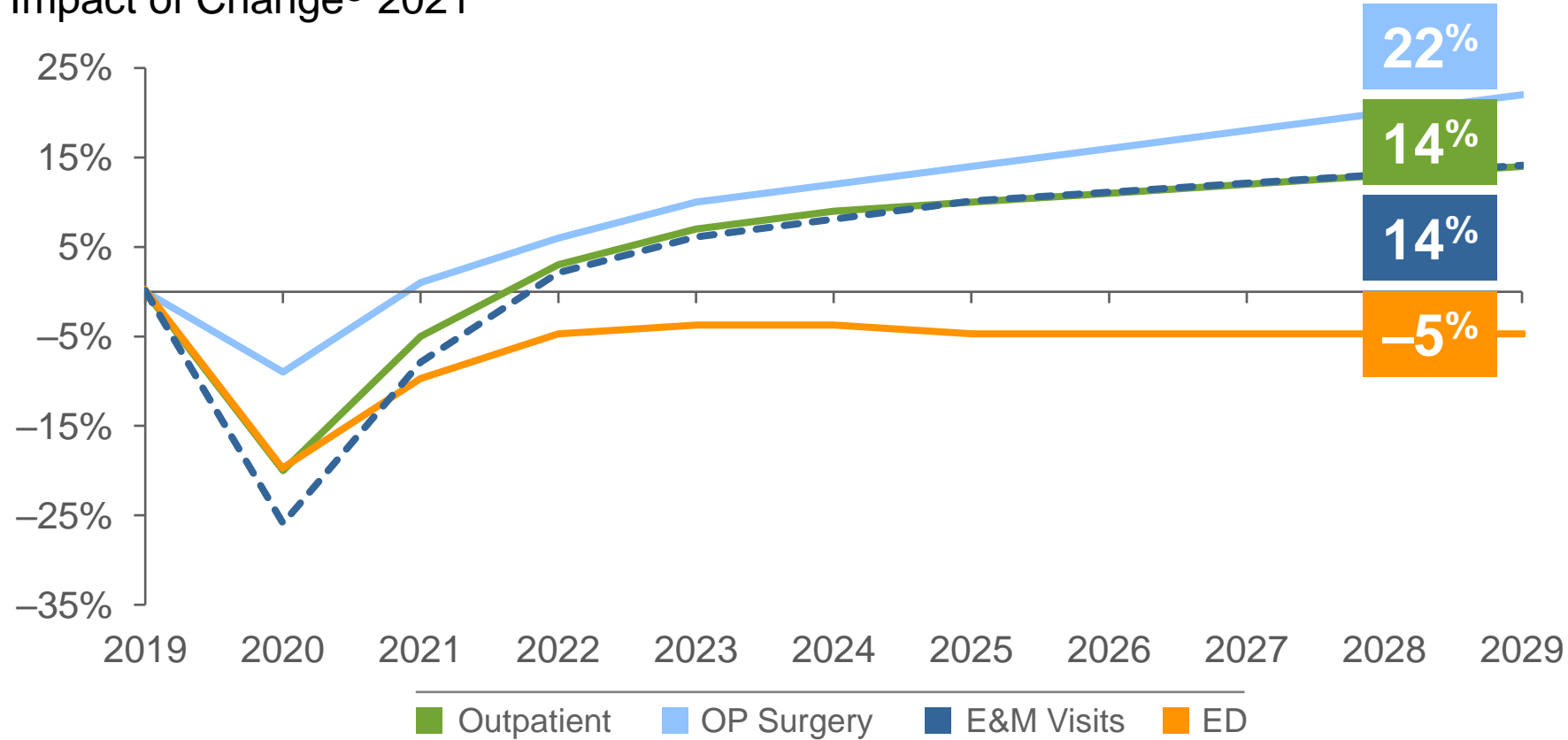


Note: Analysis excludes volumes for ICD-10 diagnosis code U07.1, COVID-19 infection. Tertiary defined as high acuity DRGs, these volumes are a subset of the total inpatient forecast. **Sources:** Impact of Change®, 2021; HCUP National Inpatient Sample (NIS). Healthcare Cost and Utilization Project (HCUP) 2018. Agency for Healthcare Research and Quality, Rockville, MD; Claritas Pop-Facts®, 2021; Sg2 Analysis, 2021.



Rapid, Robust Outpatient Recovery Expected to Exceed Pre-Pandemic Levels by 2022

Adult Outpatient Forecast Impact of Change® 2021



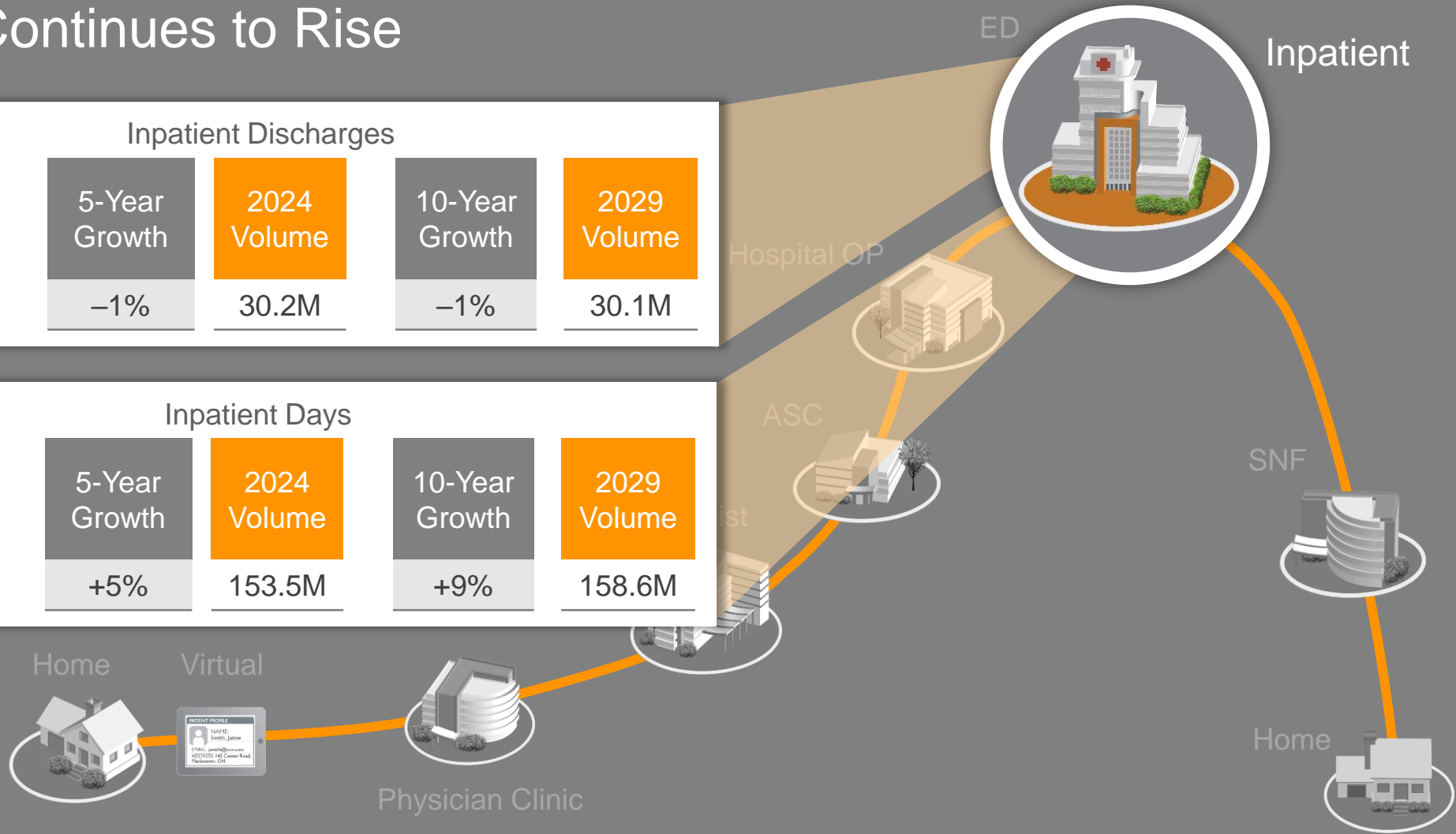
VOLUMES	
2019	2029
ED	
91.7M	86.9M
E&M Visits	
1.3B	1.5B
OP Surgery	
40.7M	49.7M
Outpatient	
4.0B	4.6B

Note: Analysis excludes volumes for ICD-10 diagnosis code U07.1, COVID-19 infection. OP surgery defined as outpatient procedures—major. E&M = evaluation and management. **Sources:** Impact of Change®, 2021; Proprietary Sg2 All-Payer Claims Data Set, 2018; The following 2018 CMS Limited Data Sets (LDS): Carrier, Denominator, Home Health Agency, Hospice, Outpatient, Skilled Nursing Facility; Claritas Pop-Facts®, 2021; Sg2 Analysis, 2021.

Inpatient Volumes Decline While Patient Acuity Continues to Rise

Inpatient Discharges				
2019 Baseline Volume	5-Year Growth	2024 Volume	10-Year Growth	2029 Volume
30.4M	-1%	30.2M	-1%	30.1M

Inpatient Days				
2019 Baseline Volume	5-Year Growth	2024 Volume	10-Year Growth	2029 Volume
146.1M	+5%	153.5M	+9%	158.6M



Note: Analysis excludes 0–17 age group. ASC = ambulatory surgery center; SNF = skilled nursing facility. **Sources:** Impact of Change®, 2021; HCUP National Inpatient Sample (NIS). Healthcare Cost and Utilization Project (HCUP) 2018. Agency for Healthcare Research and Quality, Rockville, MD; Claritas Pop-Facts®, 2021; Sg2 Analysis, 2021.



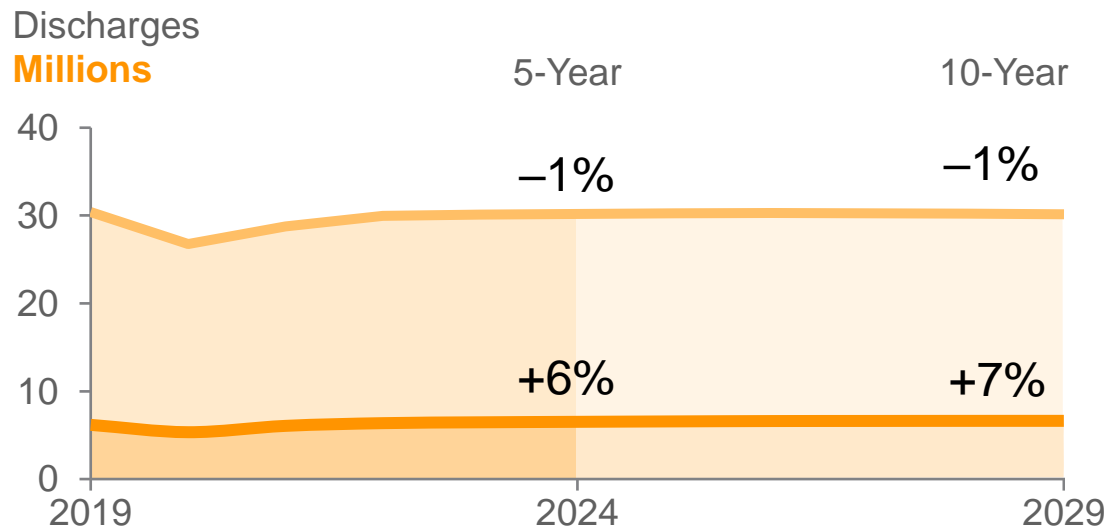
Demand for Chronic Disease and Chronic COVID–Related Conditions Outpaces Overall Forecasts

Adult Inpatient Forecast

Impact of Change® 2021

2019 IP Discharges: 30.4M

2019 IP COVID-Exacerbated Conditions Discharges: 6.2M

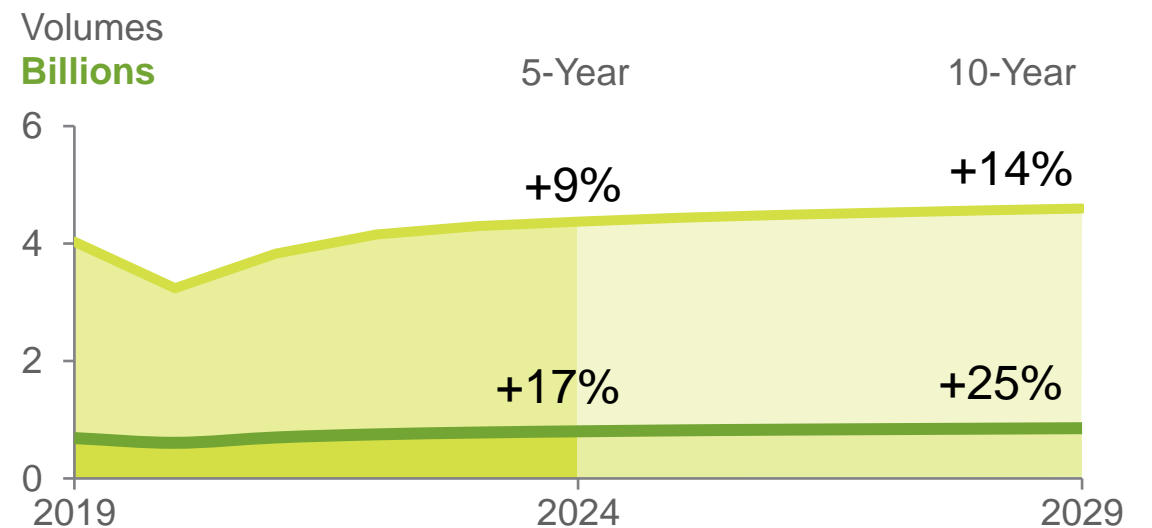


Adult Outpatient Forecast

Impact of Change® 2021

2019 OP Volumes: 4.0B

2019 OP COVID-Exacerbated Conditions Volumes: 686.3M



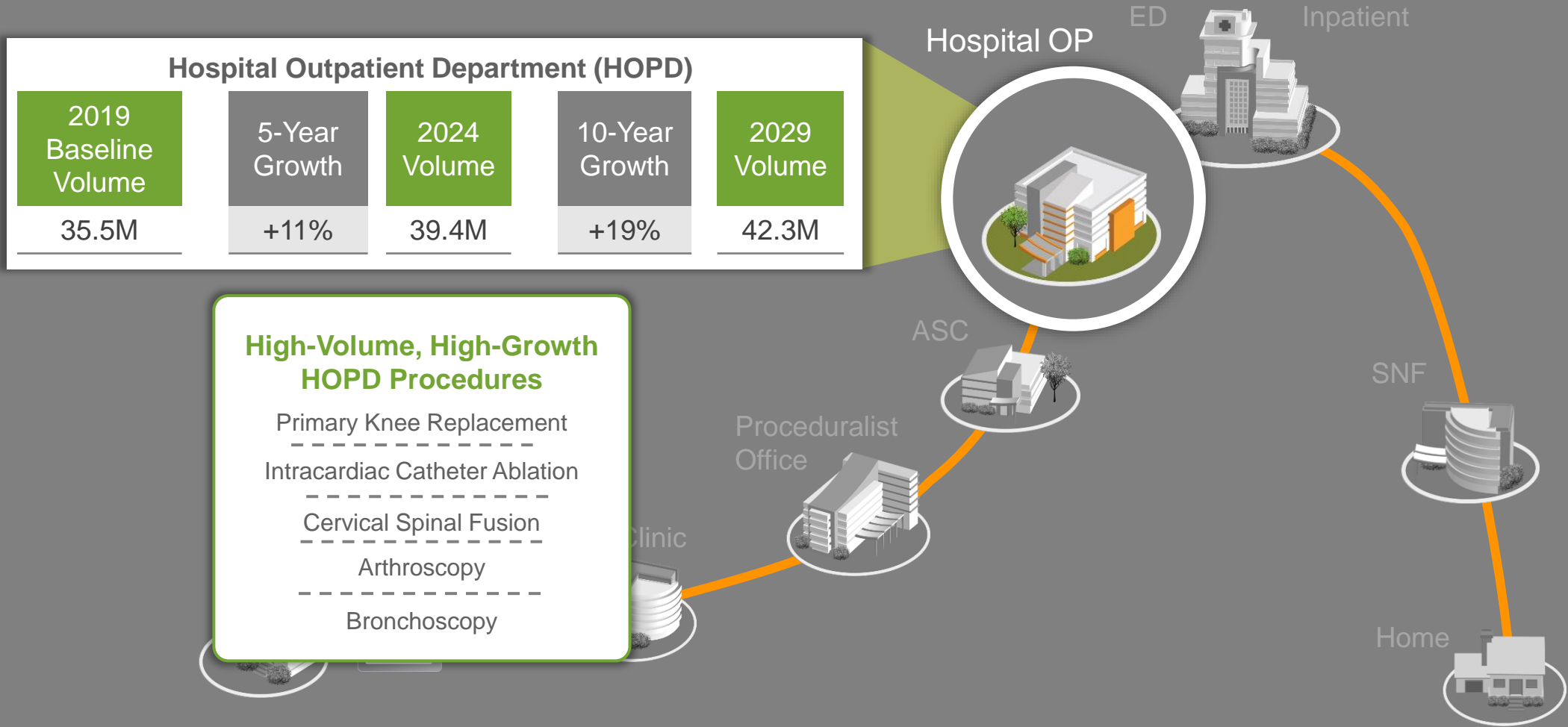
■ Sg2 IP Forecast
 ■ IP Chronic COVID
 ■ Sg2 OP Forecast
 ■ OP Chronic COVID

Note: Analysis excludes 0–17 age group. Analysis excludes volumes for ICD-10 diagnosis code U07.1, COVID-19 infection. COVID-exacerbated refers to post-COVID-19 syndromes. **Sources:** Impact of Change®, 2021; HCUP National Inpatient Sample (NIS). Healthcare Cost and Utilization Project (HCUP) 2018. Agency for Healthcare Research and Quality, Rockville, MD; Proprietary Sg2 All-Payer Claims Data Set, 2018; The following 2018 CMS Limited Data Sets (LDS): Carrier, Denominator, Home Health Agency, Hospice, Outpatient, Skilled Nursing Facility; Claritas Pop-Facts®, 2021; Sg2 Analysis, 2021.

SITE OF CARE SHIFTS

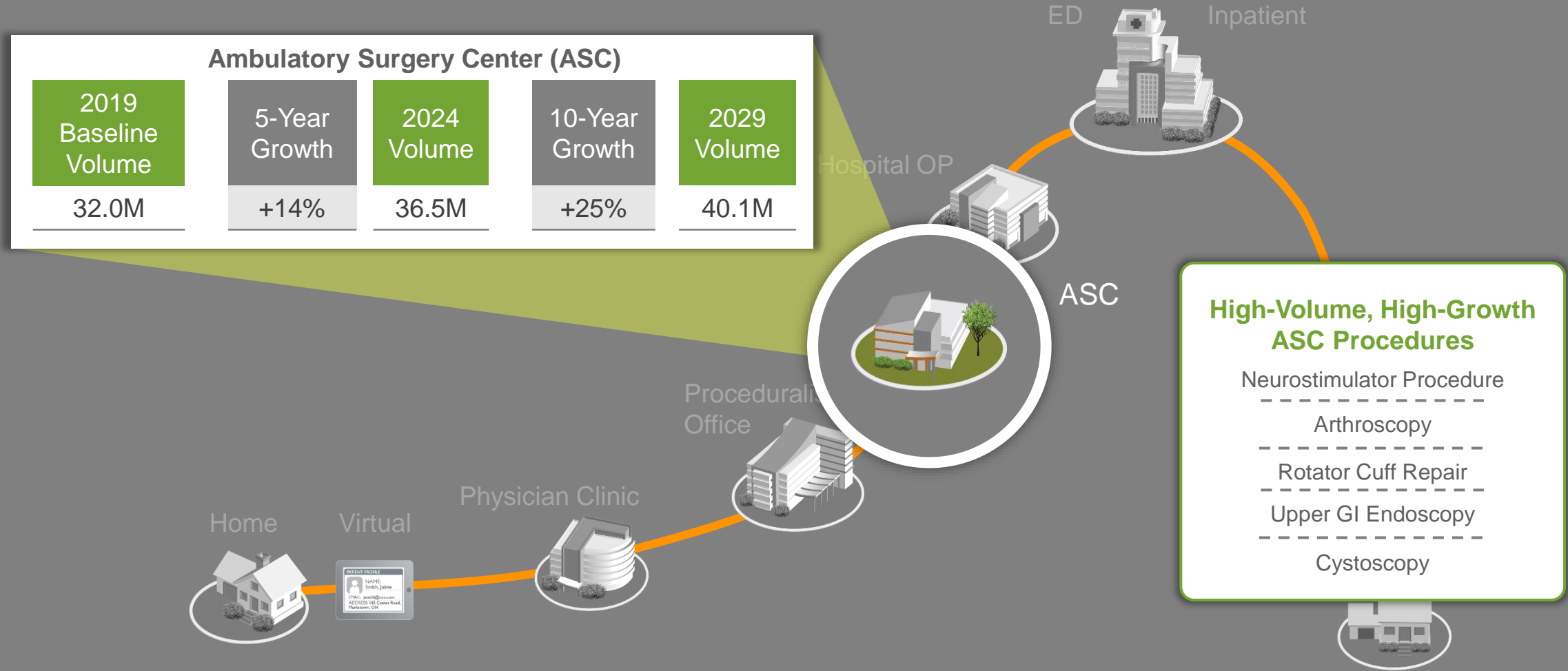


Surgical Volumes Shift to Lower-Cost Care Sites



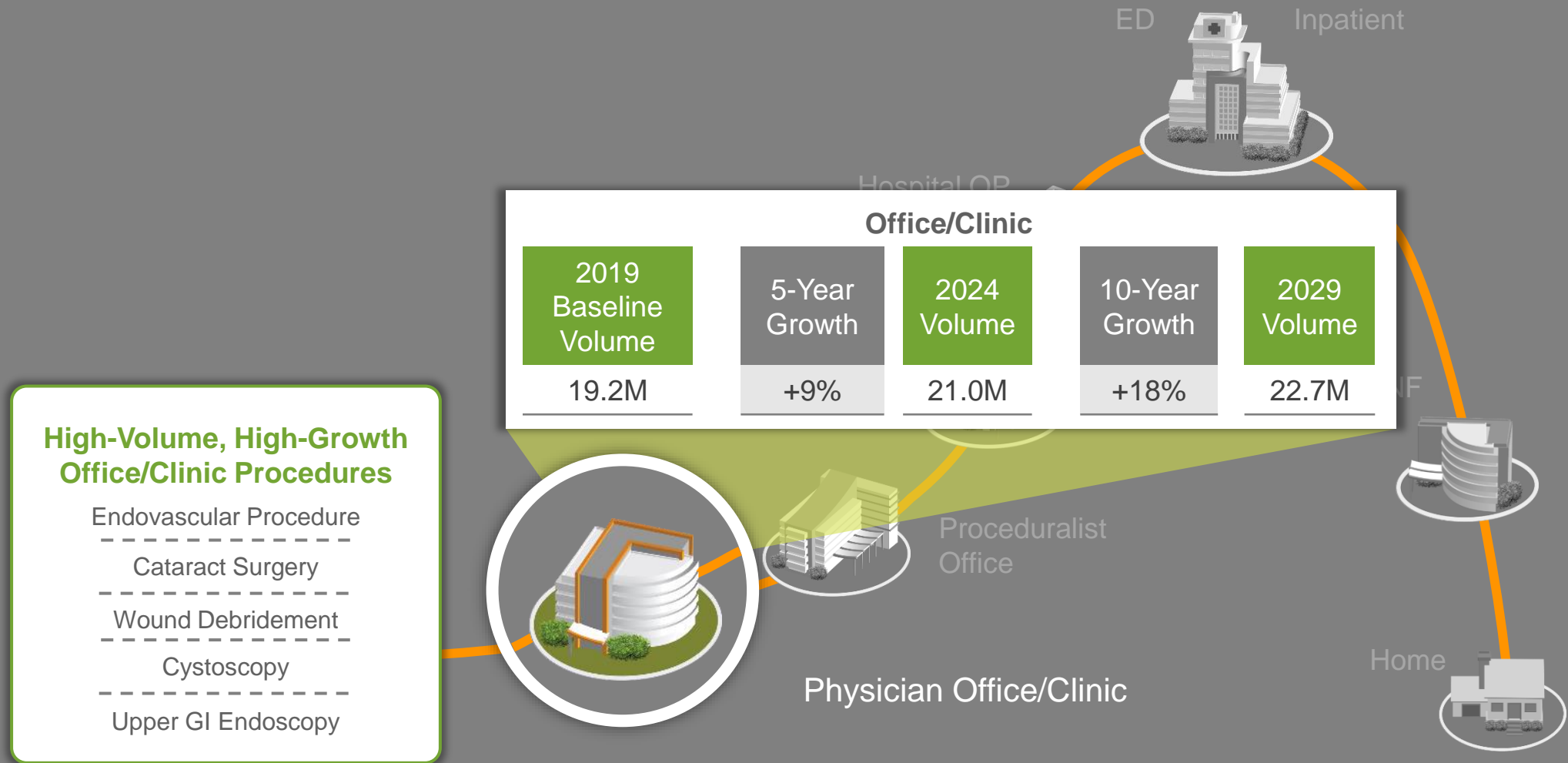
Note: Analysis excludes 0–17 age group. Forecast pulled for procedures—major and endoscopy volumes only. **Sources:** Impact of Change®, 2021; Proprietary Sg2 All-Payer Claims Data Set, 2018; The following 2018 CMS Limited Data Sets (LDS): Carrier, Denominator, Home Health Agency, Hospice, Outpatient, Skilled Nursing Facility; Claritas Pop-Facts®, 2021; Sg2 Analysis, 2021.

Surgical Volumes Shift to Lower-Cost Care Sites



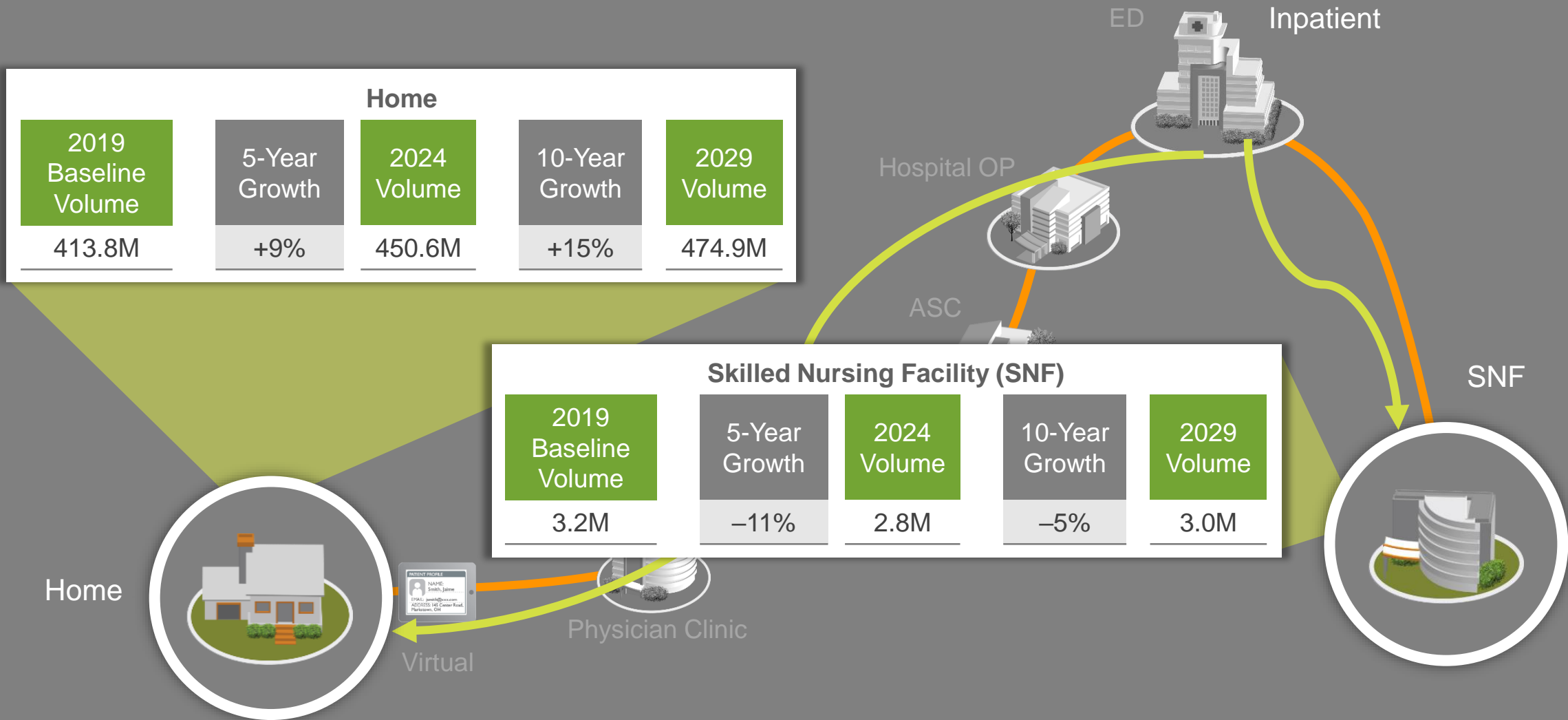
Note: Analysis excludes 0–17 age group. Forecast pulled for procedures—major and endoscopy volumes only. GI = gastrointestinal. **Sources:** Impact of Change®, 2021; Proprietary Sg2 All-Payer Claims Data Set, 2018; The following 2018 CMS Limited Data Sets (LDS): Carrier, Denominator, Home Health Agency, Hospice, Outpatient, Skilled Nursing Facility; Claritas Pop-Facts®, 2021; Sg2 Analysis, 2021.

Surgical Volumes Shift to Lower-Cost Care Sites



Note: Analysis excludes 0–17 age group. Forecast pulled for procedures—major and endoscopy volumes only. **Sources:** Impact of Change®, 2021; Proprietary Sg2 All-Payer Claims Data Set, 2018; The following 2018 CMS Limited Data Sets (LDS): Carrier, Denominator, Home Health Agency, Hospice, Outpatient, Skilled Nursing Facility; Claritas Pop-Facts®, 2021; Sg2 Analysis, 2021.

Reimagining Senior Care: Patients Move to Home Care, Driving Down SNF Volumes



OT = occupational therapy; PT = physical therapy. **Note:** Analysis excludes 0–17 age group. **Sources:** Impact of Change®, 2021; Proprietary Sg2 All-Payer Claims Data Set, 2018; The following 2018 CMS Limited Data Sets (LDS): Carrier, Denominator, Home Health Agency, Hospice, Outpatient, Skilled Nursing Facility; Claritas Pop-Facts®, 2021; Sg2 Analysis, 2021.

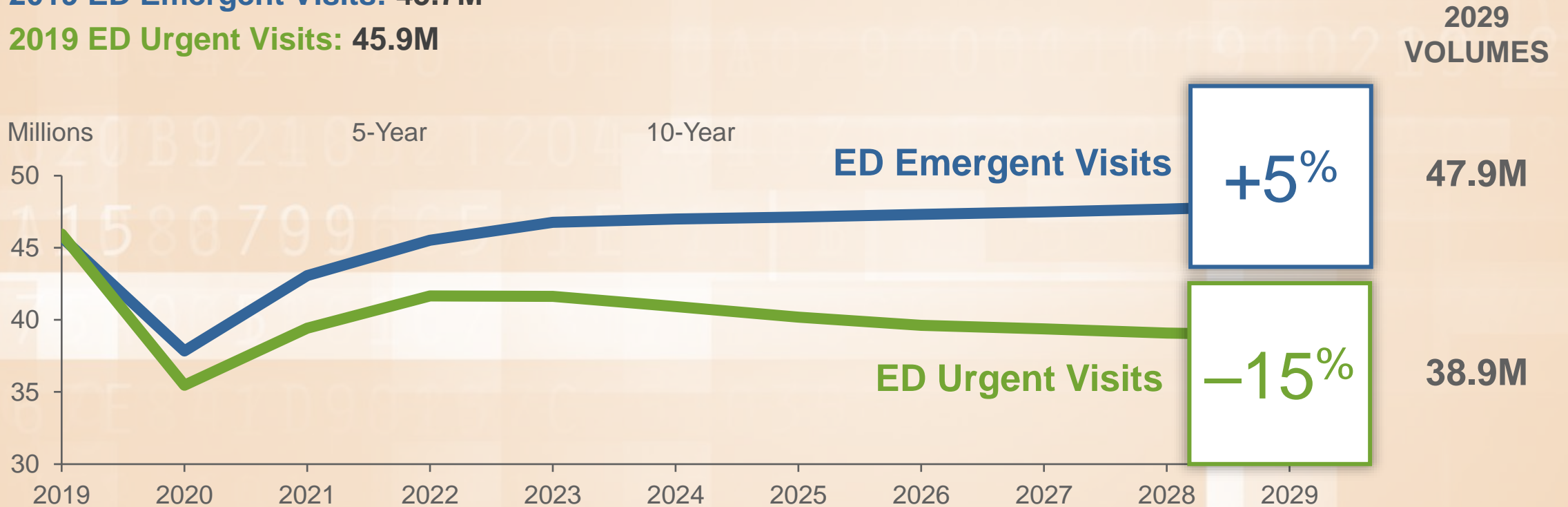
ED Demand Declines as Patients Shift to Alternate Sites of Care

ED Visit Forecast

Impact of Change[®] 2021

2019 ED Emergent Visits: 45.7M

2019 ED Urgent Visits: 45.9M

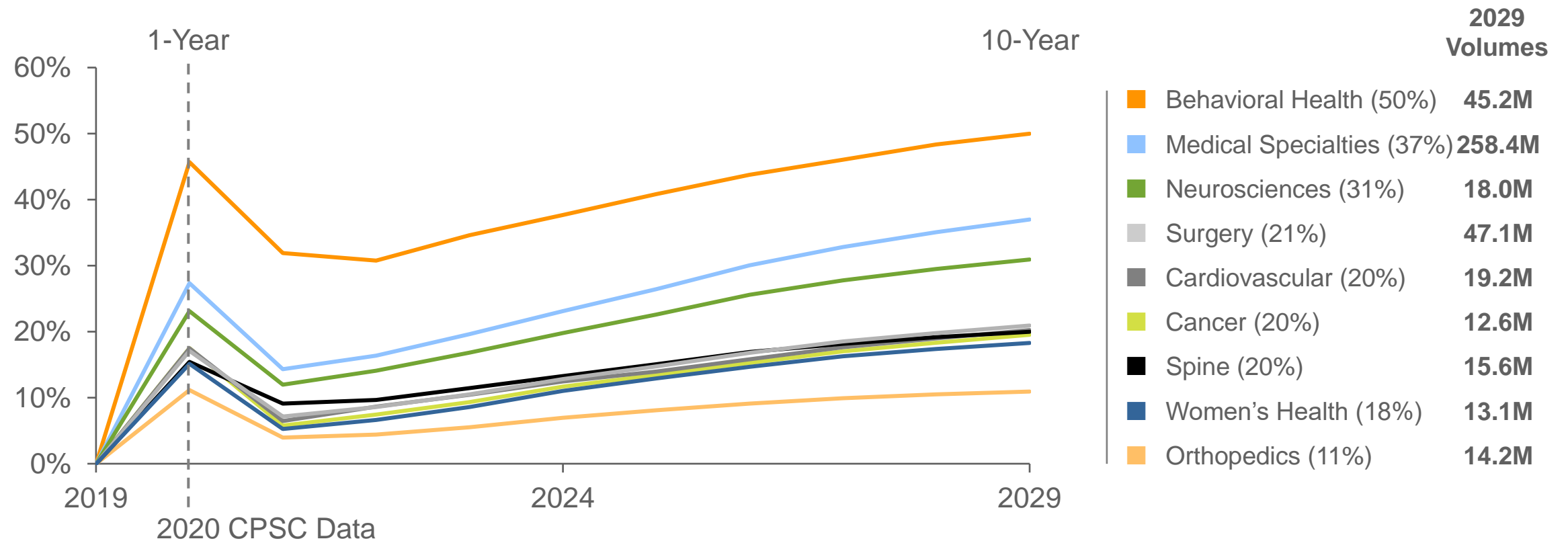


Note: Analysis excludes 0–17 age group. **Sources:** Impact of Change[®], 2021; Proprietary Sg2 All-Payer Claims Data Set, 2018; The following 2018 CMS Limited Data Sets (LDS): Carrier, Denominator, Home Health Agency, Hospice, Outpatient, Skilled Nursing Facility; Claritas Pop-Facts[®], 2021; Sg2 Analysis, 2021.



One in Three Visits to Occur Virtually by 2029; Shift to Virtual Is Variable Across Service Line Groups

Virtual Visit Shift by Service Line Group Impact of Change[®] 2021



Note: Analysis excludes volumes for ICD-10 diagnosis code U07.1, COVID-19 infection. AAMC = Association of American Medical Colleges; CPSC = Clinical Practice Solutions Center.

Sources: Impact of Change[®], 2021; Proprietary Sg2 All-Payer Claims Data Set, 2018; The following 2018 CMS Limited Data Sets (LDS): Carrier, Denominator, Home Health Agency, Hospice, Outpatient, Skilled Nursing Facility; Claritas Pop-Facts[®], 2021; AAMC-Vizient Clinical Practice Solutions Center[®], 2021; Sg2 Analysis, 2021.

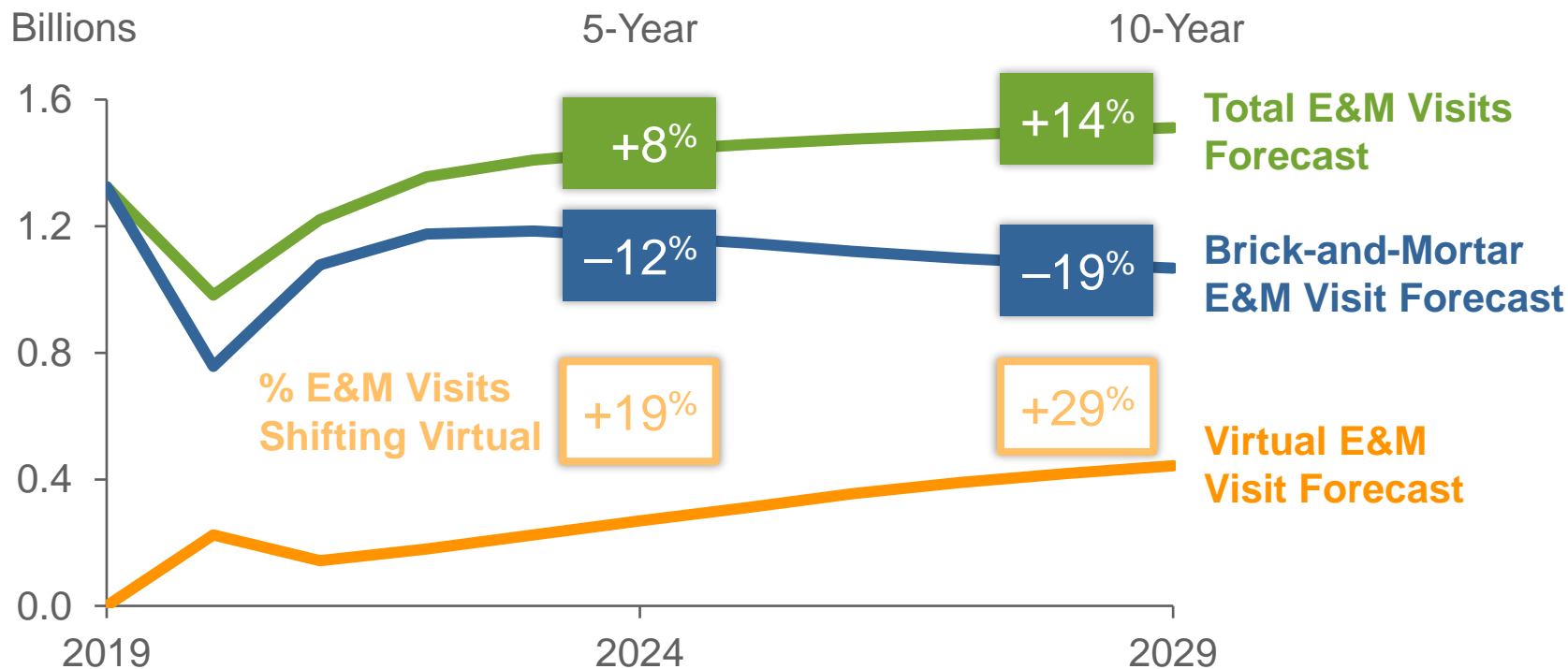


Shifts to Virtual Capabilities Drive Decline in In-person Visits for Evaluation and Care Management Services

Evaluation and Management Visits Forecast

Impact of Change[®] 2021

Volumes
Billions



VOLUMES		
2019	2024	2029
ALL E&M		
1.3B	1.4B	1.5B
Brick-and-Mortar		
1.3B	1.2B	1.1B
Virtual		
0	269.4M	443.4M

Note: Analysis excludes 0–17 age group. **Sources:** Impact of Change[®], 2021; Proprietary Sg2 All-Payer Claims Data Set, 2018; The following 2018 CMS Limited Data Sets (LDS): Carrier, Denominator, Home Health Agency, Hospice, Outpatient, Skilled Nursing Facility; Claritas Pop-Facts[®], 2021; Sg2 Analysis, 2021.

Methodology

THE POWER OF DISEASE-BASED FORECASTING

By starting with trends in the prevalence and incidence of underlying health conditions, the disease-based Impact of Change model analyzes patient-level data and local market trends to project demand across inpatient and outpatient services. Each year, Sg2's experts evaluate and update a series of impact factors to forecast how each of these variables will influence volumes. Each impact factor reflects the trends specific to disease groupings and procedures within the population.

SOURCES

Impact of Change[®], 2021; HCUP National Inpatient Sample (NIS). Healthcare Cost and Utilization Project (HCUP) 2018. Agency for Healthcare Research and Quality, Rockville, MD; Proprietary Sg2 All-Payer Claims Data Set, 2018; The following 2018 CMS Limited Data Sets (LDS): Carrier, Denominator, Home Health Agency, Hospice, Outpatient, Skilled Nursing Facility; Claritas Pop-Facts[®], 2021; Sg2 Analysis, 2021.

Sg2, a Vizient company, is the health care industry's premier authority on health care trends, insights and market analytics.

Our analytics and expertise help hospitals and health systems achieve sustainable growth and ensure ongoing market relevance through the development of an effective System of CARE.



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