Optimizing patient access and flow: strategies to improve capacity

Capacity management, a challenge fraught with obstacles, is increasingly complex in the current environment of staff shortages, workforce burnout, supply disruption and dynamic demand of healthcare resources.

Why capacity management, and why now?

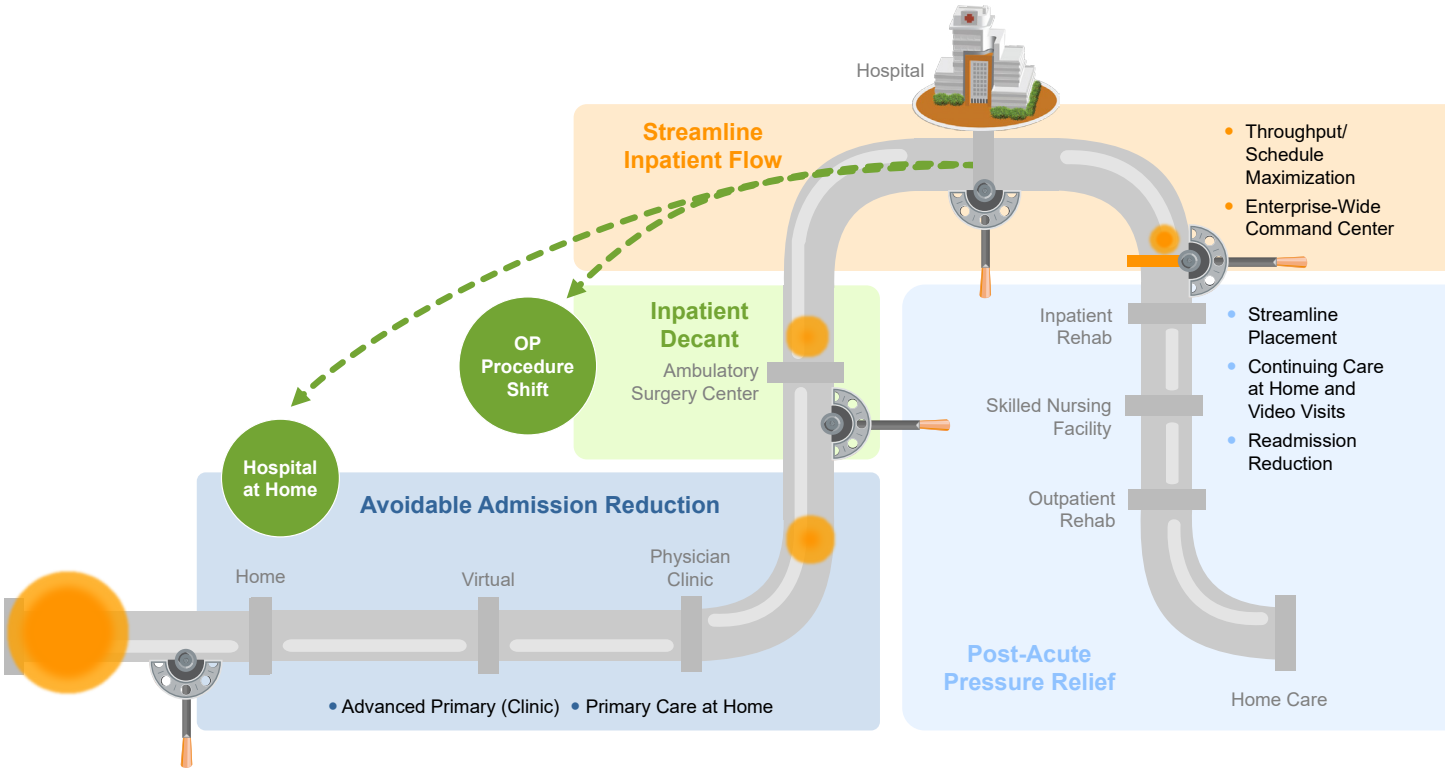
While capacity management and throughput aren't new challenges, the current stressors in today's environment have given these topics renewed attention as the entire healthcare sector is challenged to do more with less. Capacity management can be synonymous with throughput, patient flow, clinical progression and care transitions—in its simplest form it is providing the right care, in the right place, at the right time.

When working to optimize patient access and flow, levers across the system of care must be accessed to relieve capacity constraints. Foundational strategies to keep top of mind when engaging in this work include a systems approach, utilization of advanced data and analytics, and a current assessment of space, technology and workflows (Figure 1).

Providing patients with the right care, in the right place, at the right time must be a strategic priority.

"Understanding patient flow requires looking at the entire hospital system of care, not just in isolated units. Reducing variation in flow has been shown to improve overall patient flow. Providing patients with timely access to appropriate care is an essential element of high-quality care, because *when* care is provided is often as important as *what* care is provided."[1]

Figure 1: Multiple levers exist to relieve acute care capacity constraints



Source: Vizient Connections Summit Presentation, COO Meeting, 2022

Foundational strategies for addressing capacity management

System approach

- Demonstrate a return on investment; adopting value-based care models to support improved flow[1]
- Establish multidisciplinary patient flow governance structure; define roles and responsibilities, and ensure co-location of key capacity players[2]
- Leverage **Gemba walks** to understand how patients flow through the organization, observe current processes, ask questions and learn more from staff on the front lines

Utilize advanced data and analytics

- Ensure transparent access to dashboards with key metrics
- Leverage predictive modeling and analytics to manage patient flow from admission through discharge; leveraging a real-time dashboard is also key to success
- Capture time stamped information: this level of detail provides the foundational data to forecast length of stay (LOS) at a more granular level, as well as identify distinct patterns that impact LOS

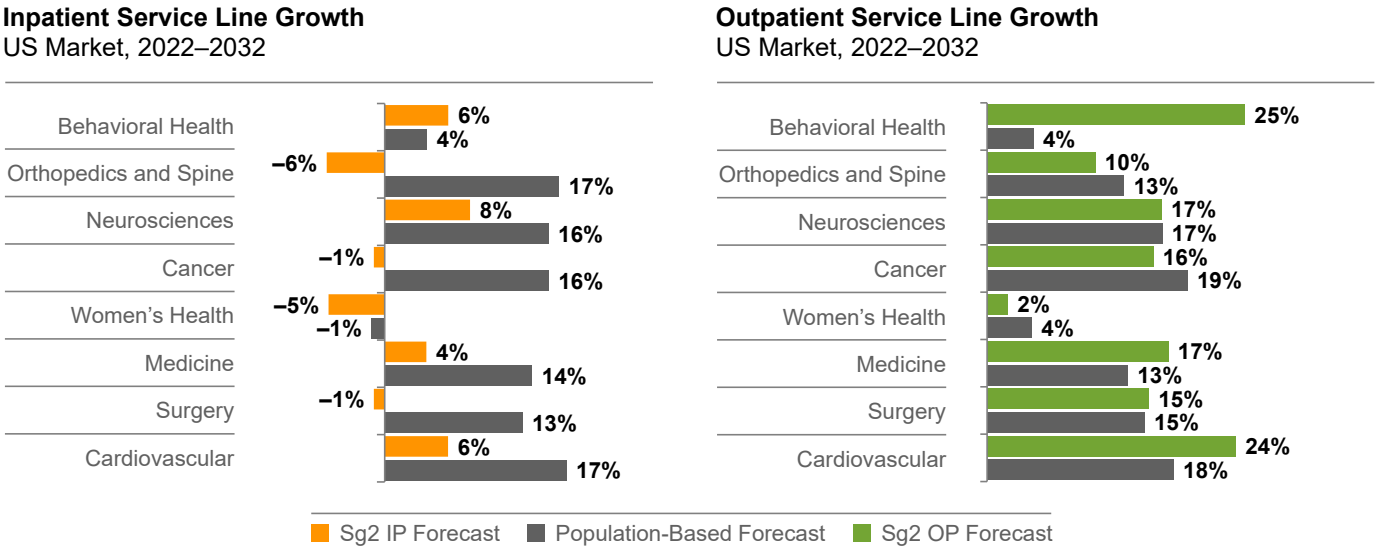
Assess space, technology and workflows

- Assessment of facilities should include evaluation of current and forecasted patient volumes
- Plan for change: a key to agility is standardization; customization of space inhibits flexibility and adaptability; environments should be designed to serve multiple functions
- Enable technology: **Vizient's Member-Backed Ventures** assesses and provides the opportunity for members to engage with the digital health ecosystem, focusing on technology solutions invested by providers

Current capacity constraints, coupled with changing service line demands forecasted over the next 10 years (Figure 2), call for both macro and micro levers that need to be accessed by health systems to remain agile and ensure that patients can receive the care they need, when they need it. Outlined here are levers that can be pulled across the care continuum to ensure patients receive the right care, in the right place, at the right time.

Figure 2: Inpatient and outpatient service line growth, 2022 – 2032

Source: Sg2, 2022 Impact of Change © Forecast Highlights



Note: All service lines exclude 0–17 age group. Cardiovascular includes cardiology and vascular. Medicine includes allergy and immunology, dermatology, endocrinology, gastroenterology, genetics, hematology, hepatology, infectious diseases, nephrology, pulmonology, and rheumatology. Surgery includes burns and wounds, otolaryngology, general surgery, ophthalmology, and urology. Sources: Impact of Change®, 2022; HCUP National Inpatient Sample (NIS). Healthcare Cost and Utilization Project (HCUP) 2019. Agency for Healthcare Research and Quality, Rockville, MD; Proprietary Sg2 All-Payer Claims Data Set, 2019; The following 2019 CMS Limited Data Sets (LDS): Carrier, Denominator, Home Health Agency, Hospice, Outpatient, Skilled Nursing Facility; Claritas Pop-Facts®, 2022; Sg2 Analysis, 2022.

Vizient member example

An academic medical center set strategic priorities that included becoming a leader in complex care, optimizing access and expanding reach. One step in achieving these strategic priorities was the creation of a patient capacity management center. Core pillars of this center include bed allocation, capacity management, affiliate expansion and a transfer center. After acknowledging that the system lacked real-time visibility into flow failures across care settings, an early step towards a solution with a systematic approach involved outreach to large systems across the country to collaborate, network and learn.

Today, this organization is building out a command center, complete with 14 screens to display dashboards, workstations and hotel spaces, all adjacent to c-suite offices. At the core of this effort is space for improvement, growth and maximizing opportunity and expertise of the multi-disciplinary team.

Source: Vizient Performance Improvement Collaboratives, Member Spotlight, 2022

"The increased cost to build and operate our ambulatory care sites has brought a focus on their utilization. We can significantly increase utilization by leveraging unused capacity. Better utilization of what we have avoids capital investment."

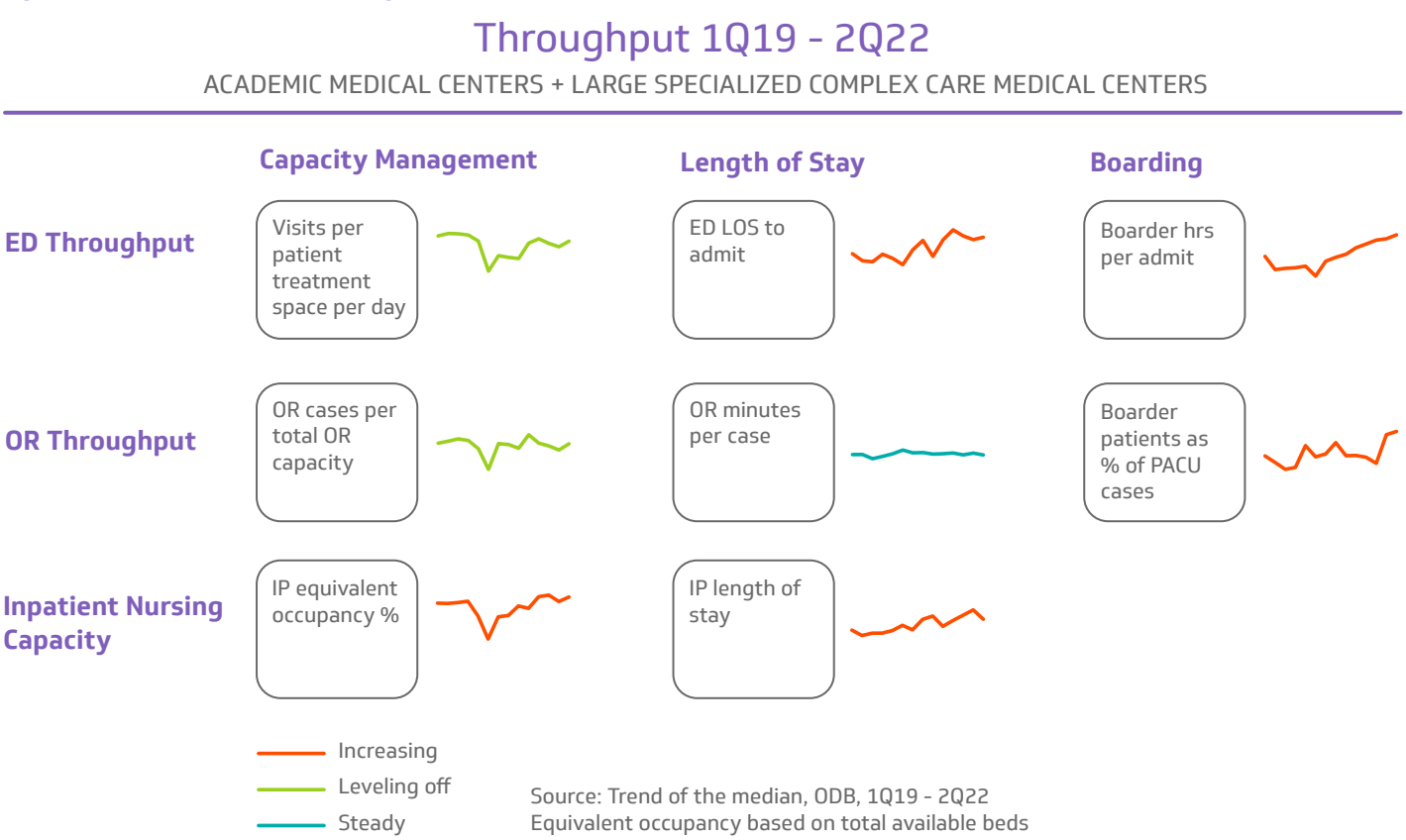
Thomas Wallen
AIA Principal, Vizient - Facility Design Services Architect

Levers for achieving system of care patient flow

Bottlenecks at any point throughout the system of care can have ripple effects across the continuum. The Vizient Operational Data Base (ODB) reveals insights about capacity constraints organizations face today (Figure 3).

Rising pressure on the system of care is seen as inpatient occupancy is increasing, along with inpatient LOS and ED LOS to admission. Many of these strategies are leading practices identified by members and subject matter experts as part of the Vizient Performance Improvement Collaboratives.

Figure 3: Bottlenecks exist throughout the system of care



Vizient member example

A large medical office building attached to a regional medical center grew over time to become very siloed and inefficient. This situation is typical across many healthcare systems resulting from reactionary expansion projects rather than planned expansion projects. Consolidation of services within this space resulted in 30% of the space to become available for expansion of services. Additionally, the redesign of the space resulted in higher utilization of technology and staff. Some vacant positions that were difficult to fill are no longer needed. The redesign resulted in:

- Increased capacity
- Fewer staff positions to backfill
- More care delivery in less space
- Avoidance of capital investment

Source: Vizient Facility Design Solutions participant

Avoidable admission reduction[3]

Reduce avoidable admissions by connecting patients with providers before reaching the inpatient setting.

- **Hospital at home**
  - Observation and acute care at home
- **Chronic care at home**
  - Primary care at home
  - Mobile integrated health
  - Oncology, dialysis, infusion at home
  - Palliative care, hospice care
- **Virtual care**
  - Initial visit for new complaint in place of ED visit
  - Post-discharge follow-up visit
  - Remote patient monitoring (vitals, A1c-diabetes levels, oxygen, COPD)
  - Patient portal (message providers, access discharge instructions)
- **On-demand care at home**
  - Lab at home
  - Direct to consumer testing
  - Urgent care at home
- **Physician clinic**
  - Post-discharge follow-up appointment confirmation

Vizient member example

A Vizient member organization tackled capacity management by addressing patient flow structure and ownership through the implementation of a bed assignment escalation pathway, daily patient flow and occupancy huddles and dashboards highlighting bed assignment and bed turnaround data points. Key lessons learned from this work, done as part of a Vizient Performance Improvement Collaborative, include:

- Leverage a system-wide approach to capacity management
- Include physicians as essential partners in capacity management and patient flow
- Co-locate key roles to streamline decision-making and information sharing
- Establish ownership, accountability and transparency to create and sustain change

Source: Vizient Performance Improvement Collaboratives, Capacity Management Collaborative Knowledge Transfer, 2020

Inpatient decant

Alleviate pressure in the acute care setting by shifting care, where appropriate, to a different setting.[3]

- **Outpatient procedure shift:** Key drivers of outpatient procedure shift include pressure from payers and capacity constraints. Orthopedics is the specialty shifting most rapidly. Regulatory changes can also impact procedure shift.
  - Evaluate which procedures are expected to shift, what settings they will shift to (hospital outpatient department or ambulatory surgery center) and what are additional growth opportunities
  - Think strategically when focusing on your organization's inpatient backfill strategy. Consider acuity of cases that can fill inpatient beds as outpatient shift occurs and inpatient capacity increases
  - Clarify the organization's alignment playbook (joint venture, gainsharing, co-management, management service organization, professional service agreement, employment) so decisions can be made quickly when the time is right
- **Ambulatory surgery centers:** Sg2 forecasts site of care changes between now and 2032. Ambulatory surgery center (ASC) and hospital outpatient procedures are anticipated to experience a 10% volume increase.
  - Service lines with largest ASC procedure volume are orthopedics, neurosciences, gastroenterology
  - Factor capacity, staffing and incentives for all surgical support services when determining service mix and footprint of a new ASC
- **Implement algorithms and checklists to engage palliative care early for appropriately triaged ICU patients**[4]
  - Ensure alignment of goals of care are established with patients and families
  - Provide education to clinician's around palliative care. Early intervention is key to ensure that patients receive the right care, at the right time, in the right place.

Vizient member example

Despite efforts to improve length of stay, a healthcare organization reported a length of stay index (LOSI) 15–20% above average from 2016–2019. A renewed commitment to improvement in this area led to a focus on frontline engagement and LOSI index goal of 1.0 or better. Leveraging robust data and a team approach, three working groups were created to improve LOSI in obstetrics, psych and sepsis patients. Dramatic improvements were realized across these three areas, and key insights revealed that executive support, along with data and accountability, are key to success.

Source: 2022 Vizient Connections Summit, Power Huddle

Streamline inpatient flow

Identify opportunities to optimize patient flow throughout the acute care setting.

- **Throughput and schedule maximization**
  - Ensure representatives from multi-disciplinary groups on the front lines have a seat at the table during regularly scheduled meetings (environmental services, scheduling, clinician representatives, therapists)
  - Leverage enterprise-wide command center
- **Manage interhospital transfers optimally**[4]
  - Leverage transfer centers
    - Centralize and standardize processes to document admission and transfer requests
    - Implement multi-disciplinary approach with possible physician oversight for interhospital transfers
  - Deploy algorithms and checklists to engage palliative care early for appropriately triaged intensive care unit (ICU) patients
  - Implement a mortality risk stratification assessment tool
  - Develop collaboration between receiving and transferring hospitals to improve strategies for identifying those patients who will benefit most from an interhospital transfer
- **Improve efficiencies, LOS, and throughput in ED, short stay units, ICU, med/surg**
  - Optimize admission, discharge and transfer processes
    - Deploy virtual discharge RNs, or a team of RNs specifically dedicated to admissions, discharges and transfers
    - Monitor functional status and ensure mobilization. If functional status is not monitored or declines during an inpatient stay, length of stay increases and likelihood of discharge to home decreases[5,6,7]
- **Improve efficiencies and throughput in OR**[8]
  - Utilize data to identify largest opportunity for improvement and efficiencies in the OR
  - Schedule management (block ratio, block release, case length accuracy, add ons) is a key priority and should align with overall strategy
  - Prioritize preoperative optimization for quality and efficiency, with monitoring of first case on time starts and cancellation rate being the key indicators
  - OR throughput data, analysis, governance, policies and procedures should be aligned, implemented and enforced

Post-acute pressure relief[9]

Post-acute care, reaching from home health, long-term care hospitals, inpatient rehabilitation facilities to skilled nursing facilities represents an area that is a very large piece of the capacity management puzzle. Ensuring patients receive the right care, in the right place, at the right time is a challenge when there are bottlenecks that exist, slowing the discharge process of medically stable patients to the most appropriate post-acute care setting.

- **Streamline placement and address bottlenecks**
  - Designate staff at an acute care facility to initiate prior authorization for discharge to a post-acute care setting
  - Establish a discharge lounge, utilize discharge committee meetings to identify opportunities and consider establishing a discharge clinic
  - Ensure strong post-acute facility partnerships; ensure that partners are included in strategy conversations, and ensure partners are informed of any process changes
- **Post-acute care strategy**
  - Optimize post-acute care network management
    - Develop post-acute care network strategy shaped around balancing competition and collaboration in the same market, ensuring considerations for limited resources are made
    - Prioritize and maintain engagement with preferred providers, meeting regularly to build relationships, review performance results and continue to establish shared ownership
    - Hold preferred provider meetings/gather partners together to discuss and review performance results, process outcomes, progress tracking, quality improvement and financial opportunities
  - Formalize care team roles and responsibilities
    - Provide staff orientation and education on care transition communication pathways and discharge protocols
    - Deliver transitional care education programs for post-acute care, acute care and partner staff
    - Assure coordination with palliative/hospice care team for appropriate patient placement
  - Enhance patient and family engagement experience
    - Create specific touch points throughout care continuum to assess for risk of care path deviation
    - Develop dynamic care management plan with patient and family involvement
  - Ensure proactive post-acute care planning is in place
    - Perform patient identification and risk stratification for those at risk for poor transitions, readmission or patients that may become at risk in a new setting of care
    - Employ proactive assessments early on during acute stay to identify appropriate post-acute care disposition
  - Maximize technology for communication and information transfer
    - Establish bi-directional communication pathways, standardized handoff forms and data sharing

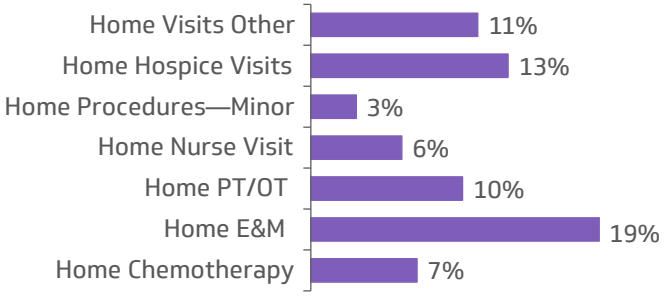
"Our inability to more effectively design and manage care processes also wears on clinicians and staff – decreasing their efficiency and productivity, contributing to burnout, and decreasing job satisfaction."
(IHI, 2020)

Maureen Bisognano
President Emerita and Senior Fellow, Institute for Healthcare Improvement

Source: Achieving hospital wide patient flow, second edition, 2020

- **Continue care at home:** the shift of medical volumes to home gains speed. Sg2 forecasts a 20% increase in care provided at home over the next 10 years (Figure 7).
  - Rehab at home
  - Hospice at home
  - Palliative care at home

Figure 7: Home procedures five-year forecast, Sg2



20%

increase in care provided at home over the next 10 years (forecasted by Sg2)

Source: Vizient Performance Improvement Collaboratives, Integrated Performance Solution: Care at Home, 2022

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