Advisory Board

2021 Oncology State of the Union

Leveraging partnerships to ensure future success

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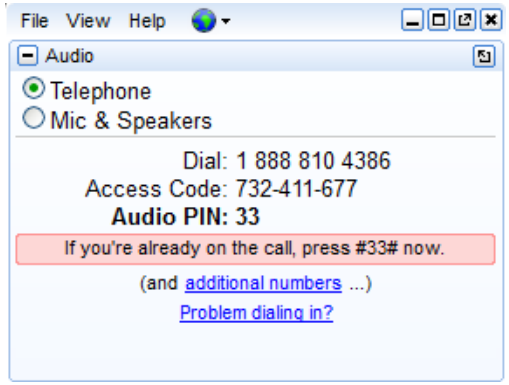

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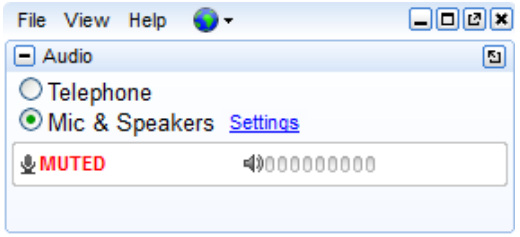

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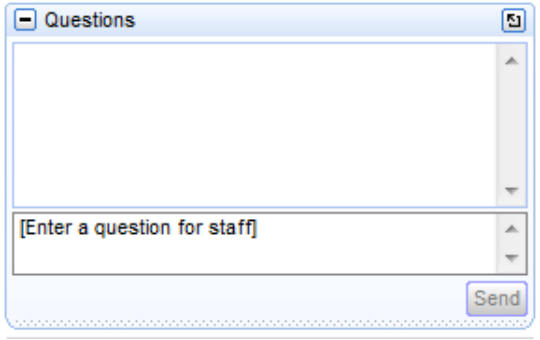

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2021 Oncology State of the Union

Leveraging partnerships to ensure future success

Presented by
Oncology Roundtable

Cancer programs stepped up during Covid-19

Sample strategies cancer programs implemented to reduce patient and staff risk of Covid-19 exposure

- Screening patients before visits
- Implementing rapid triage protocols for suspected cases
- Restricting entry and number of visitors
- Offering onsite “drive-thru” testing and testing tents
- Deploying telehealth
- Rescheduling non-essential visits
- Fast-tracking injections
- Separating lab and infusion visits
- Encouraging appointments during extended hours
- Minimizing patient “touches”
- Designating specific sites to treat Covid-19 patients
- Shifting patients on IV therapies to oral therapies
- Shifting care from inpatient to outpatient
- Shifting care to non-HOPD settings within or outside of your health system
- Shifting infusions to patient home
- Cancelling in-person events, activities, meetings
- Encouraging work from home when possible
- Restricting employee personal travel
- Planning for impending supply shortages

SAMPLE MODALITIES CANCER PROGRAMS USED TO COMMUNICATE COVID-19 INFORMATION AND UPDATES TO PATIENTS

Creating dedicated cancer program webpages

Sharing in-the-moment updates through social media

Making eye-catching in-person signage

Advisory Board interviews and analysis.

Refocusing on the ambition for cancer care

Ideal characteristics of cancer care

Affordable + Personalized + Equitable

Advisory Board interviews and analysis.

Renewed focus on evergreen priorities creates urgency

Current market forces driving industry transformation

1 *Increasing purchaser focus on controlling costs*

- Oncology costs projected to continue rising through 2030
- Increasing price transparency prompted by new CMS policies
- Biden administration's health care agenda includes drug pricing reform

2 *Accelerating pace of clinical innovation*

- Biden administration has signaled continued commitment to cancer research
- Increasing media attention on new cancer therapies

3 *Growing pressure to prioritize health equity*

- Increased national attention due to Covid-19, leading to changing consumer and health care employee expectations
- Biden administration has prioritized health equity

"New Year, New CMS Price Transparency Rule For Hospitals"

Health Affairs

"Jill Biden signals White House resolve on cancer research: 'This is the fight of our lives'"

The Cancer Letter

"A Terrible Price: The Deadly Racial Disparities of Covid-19 in America"

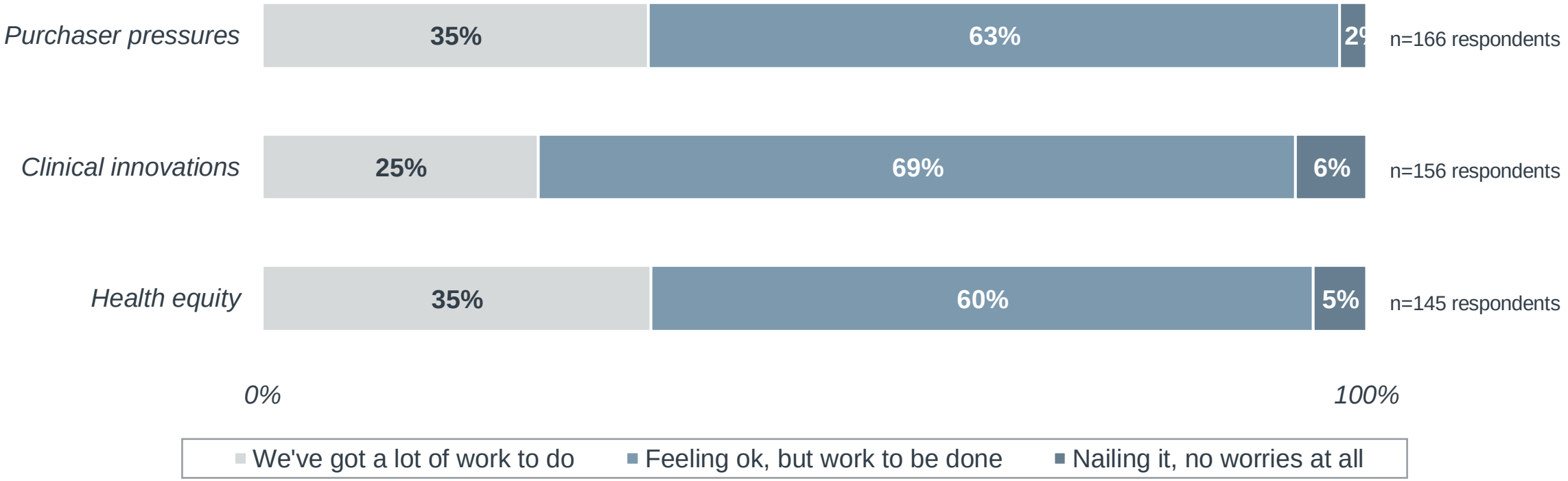
New York Times

Source: Taylor, R and Wheeler, C, "New Year, New CMS Price Transparency Rule For Hospitals," HealthAffairs, Jan. 19, 2021; "Jill Biden signals White House resolve on cancer research: "This is the fight of our lives"," The Cancer Letter, Feb. 5, 2021; Villarosa, R, "A Terrible Price: The Deadly Racial Disparities of Covid-19 in America," April 29, 2020.

Still more work to be done to ensure success for most

For each market force, how well positioned for success is your organization moving forward?

2021 Oncology State of the Union Attendee Survey, April 2021



Advisory Board interviews and analysis.

Many inputs required to respond to each market force

Sample inputs needed to develop effective response strategy for major market forces

	Purchaser pressures	Clinical innovations	Health equity
Data	• Claims data • Billing data • Total cost of care data • EHR data • Clinical pathway data	• Real-world evidence • Patient safety data • Data on the cost of innovations • Ability to interpret genomic data, integrate into existing IT platforms	• Patient-level clinical data • Patient-level demographic data • Community-level outcomes data • Data on non-clinical factors impacting health
Resources	• Funds for capital investments (e.g., build new sites of care) • Additional staff to deal with administrative burden from policies	• Funds to invest in innovations • Clinical research infrastructure to provide access to innovations • Dedicated space	• Funds to invest in staff training, community outreach, etc. • People to staff community events • Space to host community events
Expertise	• Billing processes • Contracting with payers • Using and integrating biosimilars • Providing home infusion	• Interpreting genomic data • Managing unique side effects of innovation • Understanding workflow changes needed to integrate innovations	• Understanding community needs • Addressing SDOH • Providing culturally competent clinical care

Advisory Board interviews and analysis.

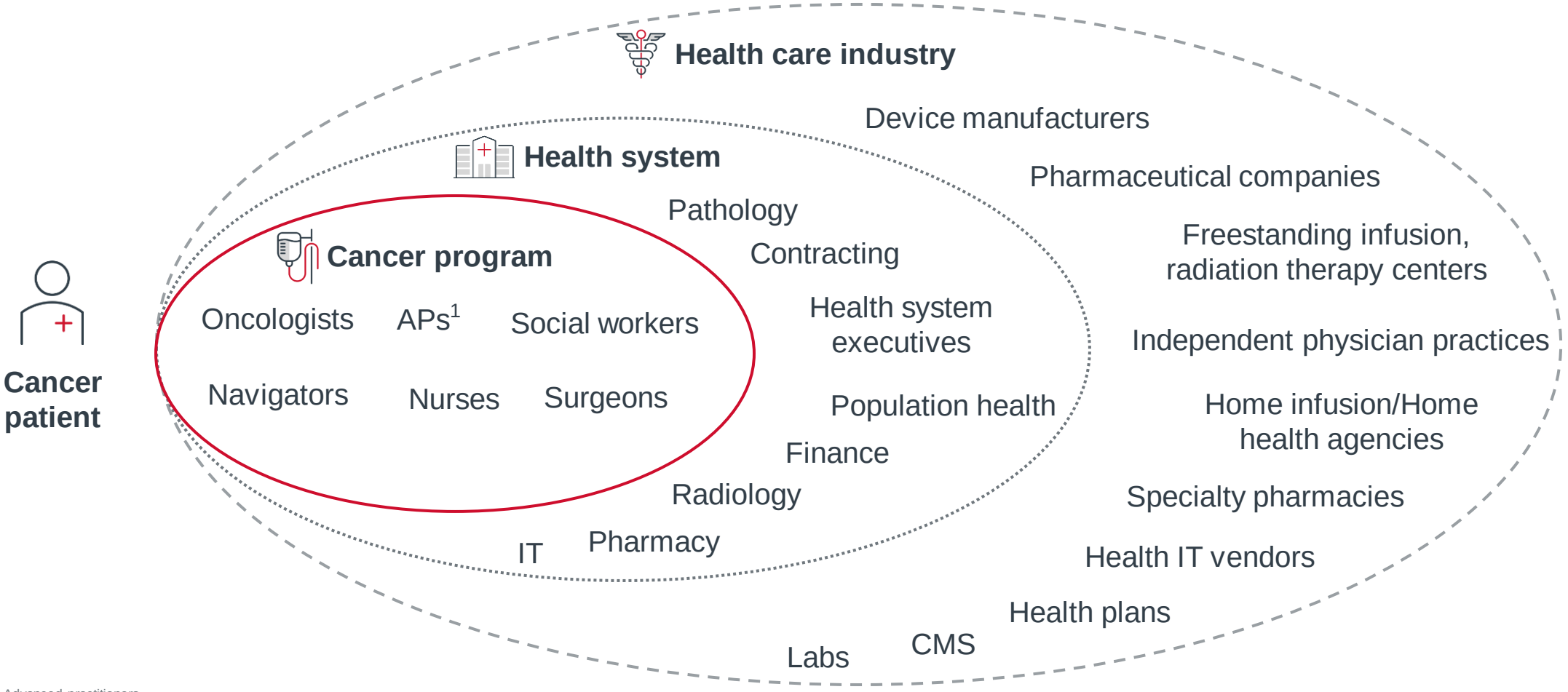
Oncology Roundtable has resources to get you started

Sample Oncology Roundtable resources for effectively responding to major market forces

	Purchaser pressures	Clinical innovations	Health equity
Data	• Oncology Hospital Operations, Quality, and Finance Benchmark Generator *Claims-based data on financial metrics for individual organizations compared to peers*	• Cancer Patient Experience Survey Results Portal *Survey data about cancer patients' priorities, including how patients value technology and treatment options when making care decisions*	• Cancer Incidence Estimator *Market-level estimates of new cancer cases, broken out by tumor site, age, and sex*
Resources	• Prior Authorization for Physician-Administered Drugs *Best practices for staffing, process improvement, and working with payers to reduce PA requirements*	• The precision medicine business plan template *Customizable template to develop your own precision medicine business plan to justify investment*	• Addressing racial health disparities in cancer screening *Outline of the financial benefits of an equitable screening strategy, to inform the business case*
Expertise	• Oncology home infusion *Thought leadership on what it is, why it's import, and how to decide if you should pursue it*	• Clinical Innovations in Oncology *Case studies and best practices for integrating oncology innovations into your practice*	• Community Advisory Boards *Overview to guide you in developing your own CAB to provide community perspective*

Advisory Board interviews and analysis.

Don’t have to go it alone, everyone has a stake



1. Advanced practitioners.

Leverage partnerships to respond to major market forces

Current state of cancer care

Ideal state of cancer care: Affordable, Personalized, Equitable

Market forces driving industry transformation:

1. Increasing purchaser focus on **controlling costs**
2. Accelerating pace of **clinical innovation**
3. Growing pressure to prioritize **health equity**

THREE COMMON TYPES OF PARTNERSHIPS

Transactional partnerships

Accountability based on contracts and incentives

Systemic partnerships

Accountability built around outcomes and sustainability

Structural partnerships

Accountability built around authority, equity, and control

Source: "The New Partnership Advantage," Advisory Board.

01

Increasing purchaser focus on controlling costs

Purchasers doubling down on cost control tactics

Top purchaser strategies for oncology cost control

Commercial payers

Shifting infusions to lower-cost settings

Requiring drug sourcing from specialty pharmacies (white bagging)

Increasing prior authorization requirements

Employers

Narrowing networks to high-value providers

Steering employees to centers of excellence

CMS

Testing value-based payment models

Creating regulations to control drug spend

WHAT TO WATCH

Biosimilars could become more important part of commercial payers' and employers' cost control strategies as wave of biologic patents expires in coming years

Advisory Board interviews and analysis.

Partnerships can promote sustainability under pressure

Common cancer program challenges with purchaser policies, and sample ways partnerships can help

Revenue loss

Partners can mitigate cancer programs' resource and expertise gaps, and thus reduce investments needed to meet purchaser demands

Difficulty coordinating care

Partners involved in the infusion drug sourcing and administration process can minimize the safety issues and care delays caused by increasingly complex requirements

Patient dissatisfaction

Partners can reduce care delays, site-of-care changes, and other impacts of purchaser pressures that cause patients to be confused or frustrated

Administrative burden

Partners involved in setting or carrying out new requirements can help streamline processes to alleviate the administrative burden associated with purchaser policies

Advisory Board interviews and analysis.

Site-of-care and white bagging policies are increasing

87%

Of health system pharmacy leaders report increase in required **use of non-HOPD settings** for infusions across 2019 and 2020

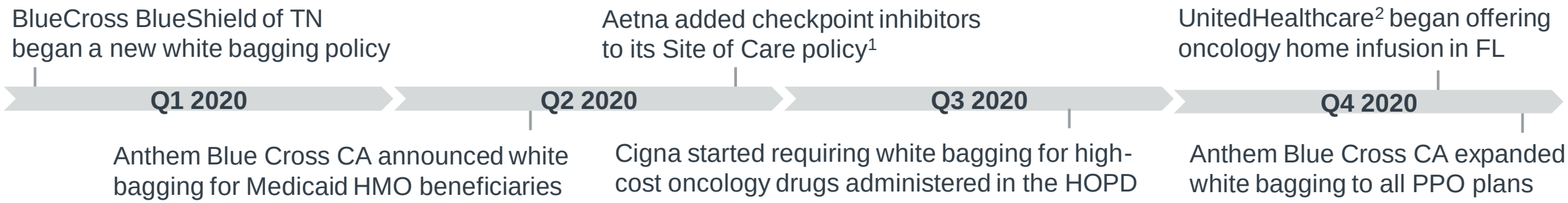
84%

Of health system pharmacy leaders report increase in required **white bagging** for infusions across 2019 and 2020

CHALLENGES FOR CANCER PROGRAMS

- Difficulty coordinating care
- Volume and revenue loss
- Administrative burden

Select commercial payer oncology site-of-care and white bagging policy changes in 2020



1. Requires the use of non-hospital facilities for infusions administered as monotherapy for maintenance.
2. Advisory Board is a subsidiary of UnitedHealth Group. All Advisory Board research, expert perspectives, and recommendations remain independent.

Source: "Select oncology medications are being added to the Site of Care management program," Aetna; "Oncology Home Infusion Program," UnitedHealthcare; "Specialty Medical Injectables with Reimbursement Restriction," Cigna; "Anthem PPO added to specialty medication policy," California Medical Association; "7 key facts about our specialty pharmacy changes," BlueCross BlueShield of Tennessee; Infusion Site of Care Survey, Pharmacy Executive Forum, Advisory Board.

Advisory Board interviews and analysis.

Purchasers willing to partner to reduce financial burden

OhioHealth worked with commercial payers to keep infusions in HOPD with home-grown algorithm

Clinical algorithm design

- Multidisciplinary team conducted clinical analysis, cost analysis, and medical necessity review
- Designed algorithm to determine clinical appropriateness of infusing drug outside HOPD
- Embedded clinical evidence to support analysis

Agreement

- OhioHealth patients remain in HOPD
- Payers reimburse OhioHealth at freestanding rates for infusions clinically appropriate to be delivered in a freestanding clinic
- Freestanding rates only enforced when appropriate as determined by OhioHealth's clinical algorithm

Payer negotiations

- Managed care team led discussions with payers regarding algorithm
- Worked with payers on resolving technical issues for maintaining billing compliance

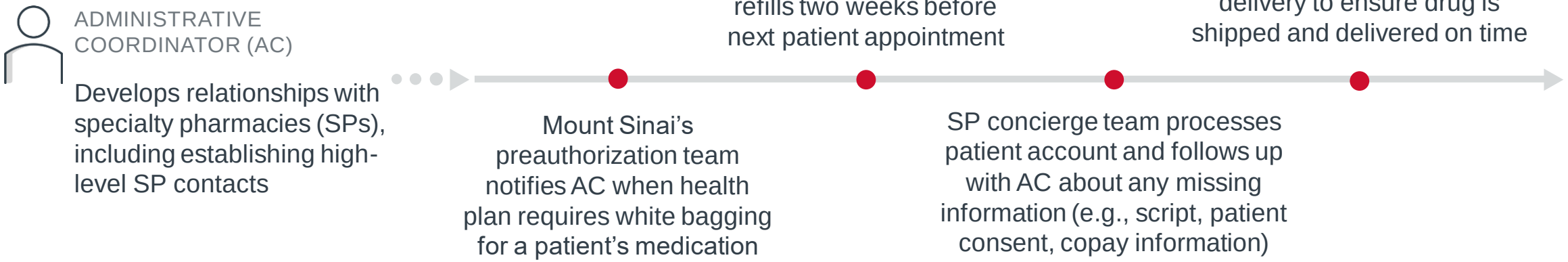
Source: OhioHealth, Columbus, OH.

Advisory Board interviews and analysis.

Partner with specialty pharmacies for coordinated care

Mount Sinai worked with specialty pharmacies to develop processes to better manage white bagging

WHITE BAG INFUSION WORKFLOW



RESULTS

Close relationships with 10 SPs	Greater care coordination	Fewer care delays	Reduction in lost packages and other errors	Decline in patient dissatisfaction

Source: Mount Sinai Health System, New York City, NY.

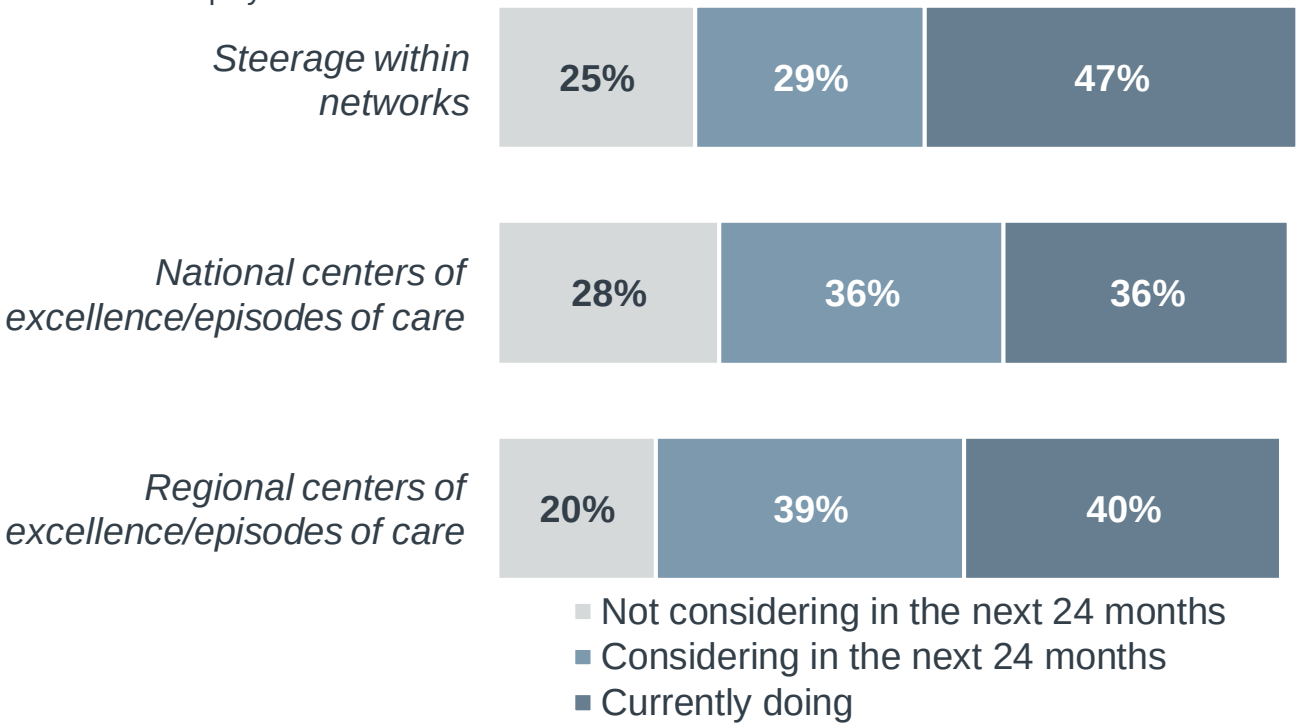
Advisory Board interviews and analysis.

Employer focus on patient steerage jeopardizes volumes

Employer interest in narrow networks and centers of excellence

2020

n=165 U.S. employers



"[Employers] are seeing it as their obligation to narrow networks to only high-quality, high-value providers."

Elizabeth Mitchell, CEO
Purchaser Business Group on Health

CHALLENGES FOR CANCER PROGRAMS

- Volume and revenue loss
- Administrative burden

Source: "Pulse of the Purchaser Survey: Healthcare Strategy & Beyond, September 2020 Results," National Alliance of Healthcare Purchaser Coalitions, September 28, 2020, https://connect.nationalalliancehealth.org/viewdocument/pulse-of-the-purchaser-survey-heal; "How Employers Think About Addressing Rising Prices of Health Insurance," AJMC, October 14, 2020, https://www.ajmc.com/view/how-employers-think-about-addressing-rising-prices-of-health-insurance.

Advisory Board interviews and analysis.

Digital platforms can help capture employer volumes

MSK[1] and Carrum Health aligned visions and capabilities to offer cancer care bundles to employers

FINDING A PARTNER WITH SHARED GOALS

MSK

sought to align financial incentives while doing what's best for patients

Carrum

wanted to offer higher value to the employers they serve

Both organizations

spent the prior 5-6 years working independently on cancer care bundles

DESIGNING SOLUTIONS THAT PROMOTE QUALITY AND VALUE

DETERMINING PRICE

1.5 **years spent contracting**

MSK had dedicated team studying costs to determine bundle pricing

Carrum provided real-world data to inform cost analyses

DEFINING SERVICES

2 **-year bundles for non-metastatic breast and thyroid cancer patients**

MSK provides cancer care services for a single upfront payment from employers

Carrum

- provides patient with case manager and digital communication platform
- sends MSK all relevant patient records
- coordinates between MSK and local oncologists
- organizes patient travel

1. Memorial Sloan Kettering Cancer Center.

Source: Carrum Health, San Francisco, CA; Memorial Sloan Kettering, New York, NY.

Advisory Board interviews and analysis.

Finalization of RO Model puts financial viability at risk

Radiation Oncology Model starts January 1, 2022

- Mandatory for all radiation therapy providers and suppliers within randomly selected Core-Based Statistical Areas
- Prospective, site neutral, episode-based payments will cover radiation therapy services for 16 cancer types
- Model qualifies as an Advanced APM[1] and MIPS APM
- Includes 3D-CRT, IMRT, SRS, SBRT, proton, and IGRT, but not IORT or brachytherapy
- Reporting and performance on quality measures, clinical data, and patient experience are factored into payments

CHALLENGES FOR CANCER PROGRAMS

- Revenue loss
- Difficulty knowing which clinical, operational, and strategic changes to make and committing resources to ensure financial sustainability
- Resource and staffing burden associated with meeting model requirements
- Trouble balancing competing priorities of value-based and fee-for-service payment models

1. Alternative payment model.

"Radiation Oncology Model," CMS, https://innovation.cms.gov/innovation-models/radiation-oncology-model.

Advisory Board interviews and analysis.

OCM results create uncertainty about future CMS plans

Impact of the Oncology Care Model (OCM) on service utilization and spending during performance periods 1-5

$317.6M

overall loss to Medicare during first four performance periods

- ✓ $297 reduction in spending per patient episode, with greater reduction among high-risk patients (not including MEOS[1])
- ✓ 1.1% decrease in EOL hospitalizations
- ✓ More cost-conscious use of Part B non-chemotherapy drugs

- ✗ No reduction in ED visits, hospitalizations, or unplanned readmissions
- ✗ No improvements in symptom management or adherence to oral chemo
- ✗ No changes to chemotherapy drug treatment or radiation therapy

CHALLENGES FOR CANCER PROGRAMS

- Unpredictability of impact on structure of potential Oncology Care First Model proposal
- Lack of understanding about which care practice changes result in meaningful cost savings
- Possibility that future models will require cancer programs to take on greater financial risk

1. Monthly enhanced oncology services (MEOS). MEOS are payments that Medicare provides OCM practices in addition to Medicare FFS payments to aid in effectively managing and coordinating care.

Source: "Evaluation of the Oncology Care Model: Performance Periods 1-5," CMS, January 2021, https://innovation.cms.gov/data-and-reports/2021/ocm-evaluation-pp1-5.

Advisory Board interviews and analysis.

Partner around value-based care to benefit both parties

US Oncology Network's participation in value-based contracts

53 VALUE-BASED CARE CONTRACTS

50% OCM PRACTICES ENGAGED IN TWO-SIDED RISK

Two key strategies for incorporating drug costs into value-based contracts

1. Include utilization measures to indicate how you're lowering costs (i.e., biosimilar conversion, generic utilization, pathways adherence)
2. Measure cost by looking at utilization compared to others in the market and normalize anything above trend to ASP

OCM performance demonstrates potential for impact

100K PATIENTS ENROLLED

$122M CUMULATIVE MEDICARE SAVINGS AFTER MEOS AND PERFORMANCE PAYMENTS

IP ADMISSIONS 7% ▼

ED ENCOUNTERS 3% ▼

HOSPICE UTILIZATION 5% ▲

Source: The US Oncology Network, The Woodlands, TX.

Advisory Board interviews and analysis.

Considerations for partnering around purchaser pressures

QUESTIONS TO ASK YOURSELF	
01	Which purchaser pressures are we experiencing most acutely? Which do we expect to increase in the next 1-3 years?
02	Which purchaser pressure impacts (e.g., revenue loss, disruptions to care coordination, added administrative burden) do we want to prioritize for addressing through partnerships?
03	What opportunities can we leverage to proactively shape purchaser policies?

POTENTIAL PARTNERS

- CMS/CMMI
- Commercial payers
- Freestanding infusion centers
- Home infusion agencies
- Other health systems
- Pharmaceutical manufacturers
- Physician practices
- Specialty pharmacies
- Technology vendors
- Internal health system stakeholders, such as:
  - Billing, contracting, finance, home health, heath system executives, other service lines, pharmacy

Advisory Board interviews and analysis.

02

Accelerating pace of clinical innovation

Clinical innovations are transforming cancer care

Sample oncology innovations becoming more widespread

Liquid biopsy for early detection of multiple cancers

1st multi-cancer blood test was launched by StageZero Life Sciences on April 1, 2021

Biomarker testing and targeted therapies

~4x growth in proportion of global oncology trial using biomarkers from 2000 (15%) to 2018 (55%)

Immuno-oncology treatments

3x growth in global immune checkpoint inhibitor clinical trial pipeline over past 3 years

Carbon ion therapy

1st U.S. carbon ion therapy facility will start construction in Q4 2021

Source: "StageZero Life Sciences Introduces Aristotle, The First Multi-Cancer Test From A Single Sample of Blood," StageZero, April 5, 2021; "The Evolution Of Biomarker Use In Clinical Trials For Cancer Treatments," Personalized Medicine Coalition, November 26, 2019; "Immunotherapy Drug Development Pipeline Continues Significant Growth in 2020 Despite Global Pandemic Impact," Cancer Research Institute, September 18, 2020; "Mayo prepares to expand Jax campus, digital network in 2021," CareerSource Northeast Florida, February 17, 2021.

Rapid innovation creates need for external partners

Common cancer program challenges with clinical innovations, and sample ways partnerships can help

Unrealistic patient expectations

Partners from outside the clinical setting can help manage patient expectations regarding novel technologies and treatments

Financial liability

Partners can reduce the financial risk of investing individually and make innovations more affordable for cancer programs and patients

Lack of clarity into when and how to translate new research findings into clinical practice

Partners can set standards for implementing new evidence and assist with incorporation into clinical practice

Inadequate resources or infrastructure for providing patients access to clinical trials

Partners can enable cancer programs to more easily enroll patients in a wider array of trials

Insufficient expertise

Partners can eliminate the need for in-house expertise on accessing, implementing, and managing every innovation

Difficulty changing clinical workflows

Partners can help cancer programs establish procedures for using new technologies while reducing bottlenecks and pressure points

Advisory Board interviews and analysis.

High cost of innovations hinders access

1 Insurance coverage for new innovations can be uncertain

Carbon ion therapy is not currently reimbursed in the United States due to its experimental and investigational status

2/3

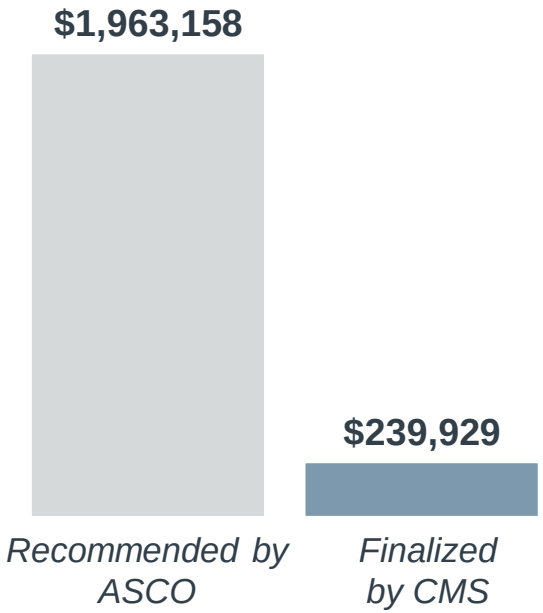
of cancer patients with commercial insurance had their initial request for **proton therapy** coverage denied

LEGISLATION TO WATCH

CMS coverage of FDA-approved multi-cancer early detection tests is dependent on Congressional approval of the Medicare Multi-Cancer Early Detection Screening Coverage Act of 2021 (H.R. 1946)

2 Expensive innovations can come without sufficient reimbursement

Unadjusted Medicare payment rate for inpatient CAR-T services



"We remain concerned, however, that the reimbursement rate will be insufficient to cover the cost of CAR-T therapy and associated services, which could restrict access to this important treatment."

ASCO in Action

Source: Gupta A, et al., "Insurance Approval for Proton Beam Therapy and its Impact on Delays in Treatment," *International Journal of Radiation Oncology, Biology, Physics*, https://www.redjournal.org/article/S0360-3016(18)34187-7/fulltext; "Medicare Reimbursement Update for CAR-T Finalized," ASCO, September 4, 2020, https://www.asco.org/practice-policy/policy-issues-statements/asco-in-action/medicare-reimbursement-update-car-t.

Advisory Board interviews and analysis.

Consider competitors as partners for costly innovations

CASE STUDY

New York Proton Center (NYPC)

Proton therapy facility in New York City, NY

Memorial Sloan Kettering Cancer Center, Montefiore Medical Center, and Mount Sinai Health System partnered to open New York's first proton center in July 2019.

"I think this consortium model can be applied to anything in medicine, even beyond oncology"

Charles Simone, CMO

Collaborative partnership structure

- Leaders from each institution are equally represented on both the NYPC Medical Executive Committee and the NYPC Board
- Faculty members from each institution rotate between disease-based teams at NYPC and home institutions

Mutual benefits

- Financial sustainability
- Market differentiation
- Scaled research abilities

Indicators of success

- All partners equally engaged
- Over 1,000 patients treated
- Positive patient feedback

CONSIDER THIS TYPE OF PARTNERSHIP FOR INNOVATIONS THAT…

- Are expensive
- Have limited demand
- Need high volumes to justify investment

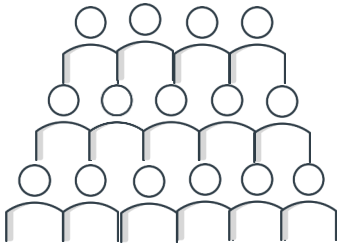
Source: New York Proton Center, New York, NY; Montefiore Health System, Bronx, NY.

Advisory Board interviews and analysis.

Cancer programs face barriers to offering clinical trials

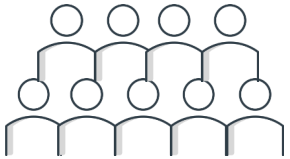
75%

of Americans would be willing to participate in an oncology clinical trial if they had cancer



44%

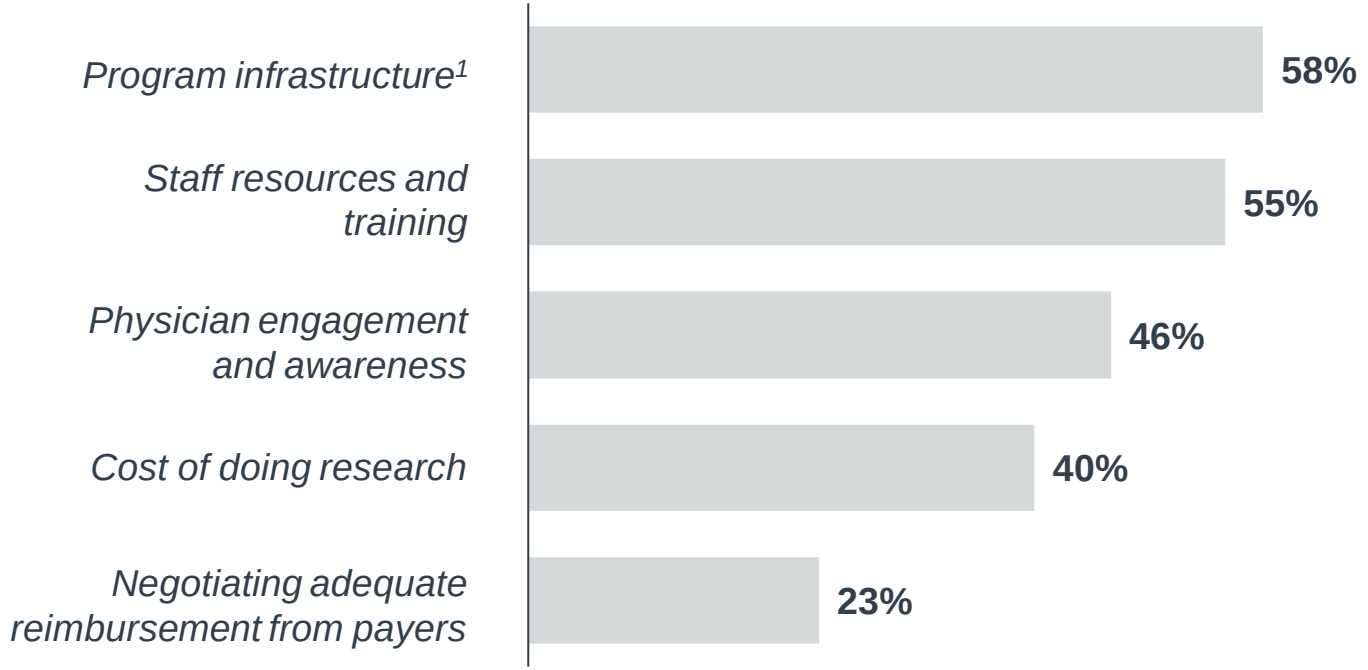
of cancer patients have a clinical trial available at their institution



Top programmatic challenges to offering cancer patients clinical trials

Percentage of respondents who ranked challenge in top three, 2018

n=121



Source: "National Survey Reveals Racial Differences in Perceptions of Inequities in Health Care and Concerning Delays in Cancer Screenings Amid COVID-19," ASCO, October 1, 2020; Unger J, et al., "Role of Clinical Trial Participation in Cancer Research: Barriers, Evidence, and Strategies," *American Society of Clinical Oncology educational book*, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5495113/; "Another Health Disparity: Clinical Trials," ACCC, February 28, 2020; "2019 Cancer Patient Experience Survey," Advisory Board.

1. E.g., technology to identify eligible patients and track outcomes.

Advisory Board interviews and analysis.

Virtual trial company can help enroll patients in trials

Cancer program role

In some models, patients' providers participate in study data capture

Components of the Science 37 platform that support completely virtual clinical trials

Virtual administration systems

- Patient recruitment and enrollment
- Electronic consent
- Scheduling

Network of staff

- In-house telemedicine investigators
- Home health nurses

Decentralized study methods

- Video chat
- Door-step study medicine delivery
- Digital self-photography
- Remote monitoring
- Mobile nurse visits
- Questionnaires

Data capabilities

- Data collection
- Trial analytics

CONSIDER THIS TYPE OF PARTNERSHIP FOR INNOVATIONS THAT…

- Are still in clinical trials
- Patients may have trouble accessing in traditional care setting

Source: Miseta E, "Physicians And The Patient Recruitment Problem," Clinical Leader, December 18 2017; Science 37, Los Angeles, CA.

Innovations can alter typical care processes

Sample ways diagnostic testing innovations could impact traditional progression of care

Liquid biopsy testing for early cancer detection by non-traditional providers may impact **when and how patients are referred** to the cancer program

Turnaround time for receiving biomarker test results can extend timeline for treatment decision, delaying initiation

Liquid biopsy test results may necessitate **further testing**

Biomarker test results can trigger **additional assessments**

Advisory Board interviews and analysis.

Biotech and pharma can help implement innovations

GRAIL is partnering with Providence to integrate Galleri test into clinical setting

GRAIL's Galleri multi-cancer early detection blood test

- Detects cancer in asymptomatic patients by measuring cell-free nucleic acids
- Demonstrated 99.3% specificity across more than 50 cancer types, with 93% accuracy in identifying tissue of origin

Benefits to Providence

- Make innovative technology available to providers and patients in CA, WA, and OR, and eventually the entire health system
- Get GRAIL's support in implementation, including consultation for providers after results are received

CONSIDER THIS TYPE OF PARTNERSHIP FOR INNOVATIONS THAT…

- Are the first of their kind
- May change the typical care process

Benefits to GRAIL

- Gain recognition and drive adoption by launching test in notable health system
- Optimize processes for ordering, administration, and interpretation
- Learn about provider utilization and how to best support providers and ensure positive patient experience
- Demonstrate clinical utility to support payer coverage and FDA approval

Source: "GRAIL Announces First Health System to Offer Galleri, Novel Multi-Cancer Early Detection Blood Test," GRAIL, March 2, 2021, https://grail.com/press-releases/grail-announces-first-health-system-to-offer-galleri-novel-multi-cancer-early-detection-blood-test/; "GRAIL Announces Validation of its Multi-Cancer Early Detection Test Published in Annals of Oncology," GRAIL, March 30, 2020, https://grail.com/press-releases/grail-announces-validation-of-its-multi-cancer-early-detection-test-published-in-annals-of-oncology/.

New evidence outpaces ability to change practice

Cancer programs struggle to quickly adjust clinical practices based on new evidence and guidelines

22%

of NSCLC[1] patients received testing for all guideline recommended biomarkers *EGFR, ALK, ROS1,* and *BRAF*

45%

of NSCLC patients with targetable mutation in *EGFR, ALK, ROS1,* or *BRAF* received targeted therapy

Industry confusion over treatment efficacy makes it hard to make evidence-based treatment decisions for patients

6

Anti-PD-(L)1 immune checkpoint inhibitor indications voluntarily withdrawn from the market by manufacturers following discussions with the FDA

4

Immune checkpoint inhibitor indications recommended for continued accelerated approval by an FDA panel despite required trials not confirming clinical benefit

1. Non-small cell lung cancer.

Source: "KRAS—A Key Oncogenic Driver and Novel Investigational Target in NSCLC," Amgen Oncology, 2019; "FDA In Brief: FDA Oncologic Drugs Advisory Committee to Review Status of Six Indications Granted Accelerated Approval," FDA, March 11, 2021.

Clinical technology vendors can enable data integration

Rush University Medical Center partnered with Tempus and Epic to integrate tumor genomic data into their EHR

The challenge

Patients' tumor genomic sequencing data, stored in pdfs in the media tab of Rush's Epic EHR, were unsearchable and hard to use

CONSIDER THIS TYPE OF PARTNERSHIP FOR INNOVATIONS THAT…

- Involve robust collection or interpretation of data
- Can't be properly documented in typical EHR modules

The solution

Rush worked with Tempus and Epic to design and launch Epic's genomic module for tumor next generation sequencing results

Rush

Health system

- Provided expertise to Tempus and Epic on designing way to receive, parse, and display genomic data elements that would be useful to clinicians
- Created order sets that interfaced to outside reference lab, Tempus
- Created interface to receive Tempus results and display them in EHR
- Produced workflows for clinical decision support and best practices to accompany sequencing results

Tempus

Technology company and clinical laboratory

- Designed new interpretive pipeline for exporting genomic data in EHR-compatible format, with quality assurance and feedback from Rush

Epic

EHR vendor

- Provided paid consultative services to both organizations throughout the design and implementation process

Source: Rush University Medical Center, Chicago, IL.

Advisory Board interviews and analysis.

Considerations for partnering to keep up with innovation

QUESTIONS TO ASK YOURSELF

01	Which innovations has our cancer program struggled to implement? Which innovations would we like to implement in the future?
02	What are the biggest limitations that impede our ability to adopt innovations (e.g., expertise, funding, infrastructure, standardization, tracking changing recommendations)?
03	Which partners can best help us overcome these challenges?

POTENTIAL PARTNERS

- Clinical trials startups
- Diagnostic companies
- Labs
- Other health systems
- Pharmaceutical manufacturers
- Professional organizations
- Purchasers
- Technology vendors
- Internal health system stakeholders, such as:
  - Finance, financial navigation, health system executives, IT, pathology, patient navigation, pharmacy, physician champions, pulmonology and other specialties

Advisory Board interviews and analysis.

03

Growing pressure to prioritize health equity

Advisory Board interviews and analysis.

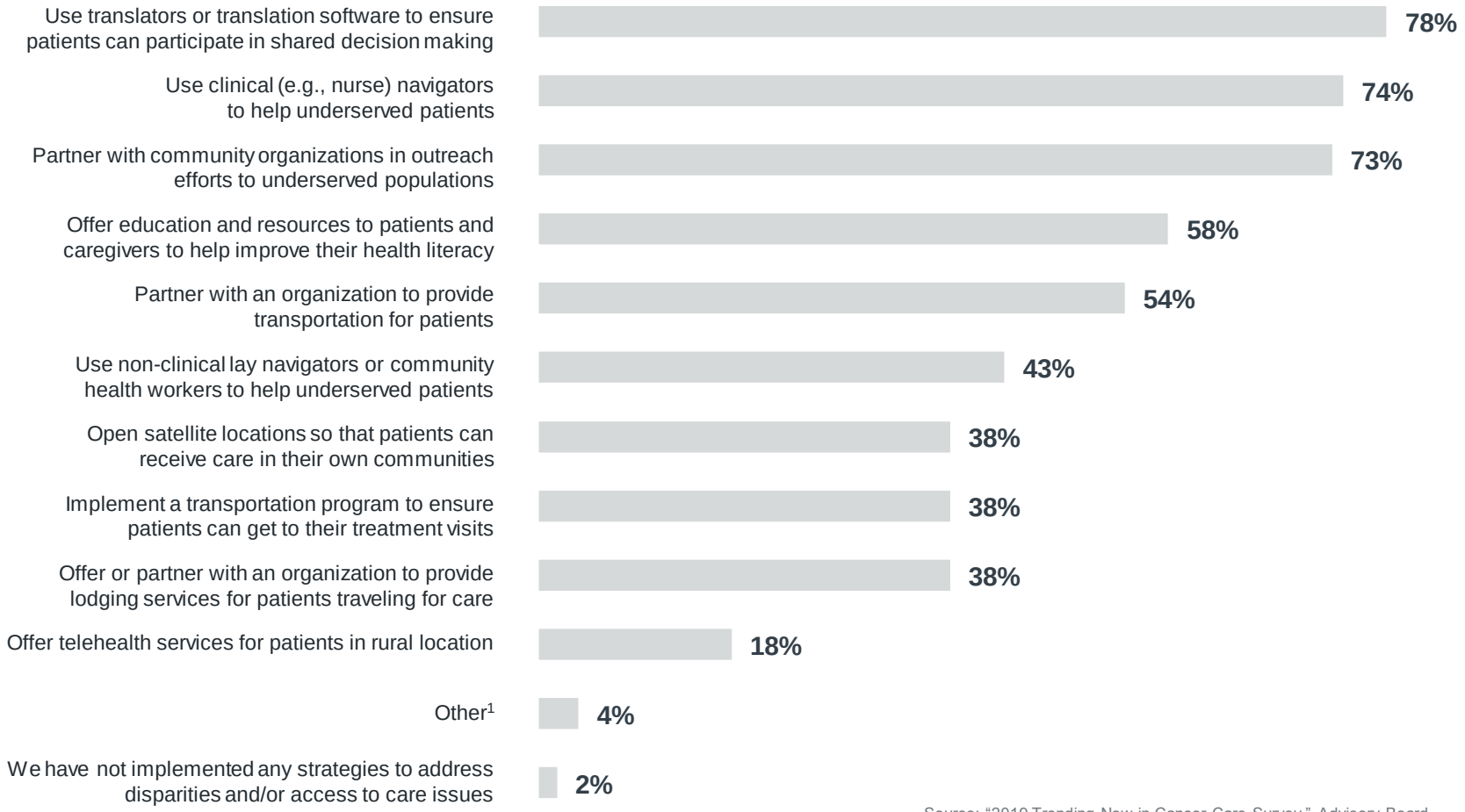
One-off initiatives to tackle disparities aren't enough

2019 Trending Now in Cancer Care Survey

What strategies do you use to address health care disparities and/or access issues?

Percentage of respondents

n=120



Source: "2019 Trending Now in Cancer Care Survey," Advisory Board.

1. E.g., low-cost dental clinic, Spanish speaking financial advocates.

Disparities documented across cancer care continuum

Health disparities or inequities *refer to differences that are socially determined and/or deemed unnecessary, avoidable, or unjust*

Prevention

1.5x △

Higher tobacco and alcohol use in LGBTQ population, creating higher risk for certain cancers

Early detection

27% ▽

Lower likelihood of getting a screening mammogram for who women who only speak Spanish compared to English speakers

Diagnosis & treatment

50% ▽

Lower likelihood of receiving chemotherapy for metastatic bladder cancer patients with low socioeconomic status compared to those with high socioeconomic status

Survivorship & EOL[1] care

40% △

Higher breast cancer mortality rate among Black women compared to white women

Source: "LGBTQ people with cancer fact sheet", ACS, https://www.cancer.org/content/dam/cancer-org/cancer-control/en/booklets-flyers/lgbtq-people-with-cancer-fact-sheet.pdf; "Limited English-language proficiency may affect frequency of screening mammograms", ASCO, https://ascopost.com/news/october-2020/limited-english-language-proficiency-may-affect-frequency-of-screening-mammograms/; "Patterns and trends in age – specific Black-white difference in breast cancer incidence and mortality, CDC, https://www.cdc.gov/mmwr/volumes/65/wr/mm6540a1.htm?CDC; Racial and socioeconomic disparities in bladder cancer survival", *NCBI*, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7821748/.

1. End of life care.

Non-clinical factors contribute to health disparities

Six domains of social determinants of health

Economic stability

Employment, income, debt, expenses, medical bills, support

Education

Literacy, language, early childhood education, vocational training, higher education

Food

Hunger, access to healthy options

Neighborhood and physical environment

Housing, transportation, safety, parks, playgrounds, walkability, ZIP code/geography

Community and social context

Social integration, support systems, community engagement, discrimination, stress

Health care system

Health coverage, provider availability, provider linguistic and cultural competency, quality of care

Source: "Beyond Health Care: The Role of Social Determinants in Promoting Health and Health Equity," Kaiser Family Foundation, https://www.kff.org/racial-equity-and-health-policy/issue-brief/beyond-health-care-the-role-of-social-determinants-in-promoting-health-and-health-equity/.

Cancer programs can't afford to overlook disparities

The business case for cancer programs to prioritize health equity

- Growing cancer program accountability for outcomes and costs, which are affected by disparities, under oncology risk-based payment models
- Existing disparities in patient experience may impact ability to attract and retain cancer patients
- Many oncology accreditation programs have specific standards related to addressing health disparities (e.g., CoC[1], NCI[2])
- Attracting and retaining oncology employees may be increasingly dependent on ability to demonstrate commitment to promoting equity
- Grant opportunities for research and community initiatives are increasingly focused on social needs and health equity

Annual cost of cancer disparities in the U.S.

$2.3B

Estimated reduction in national medical costs associated with elimination of **racial/ethnic disparities** in cancer care

$237M

Estimated reduction in national medical costs associated with elimination of **poverty disparities** in cancer care

$345M

Estimated reduction in national medical costs associated with elimination of **education disparities** in cancer care

1. Commission on Cancer.
2. National Cancer Institute.

Source: "The Societal and Economic Impact of Cancer Disparities," C-Change, https://www.ceoroundtableoncancer.org/sites/default/files/2010_the_societal_and_economic_impact_of_cancer_health_disparities_report.pdf

Advisory Board interviews and analysis.

Make health equity a strategic priority for oncology

Dimensions of a comprehensive health equity strategy

Governance

Do we have a leadership structure that can develop a strategy to address health equity?

Social needs and community outreach

Are we addressing community-wide SDOH and their root causes?

Data collection

Do we collect quantitative and qualitative patient data to improve care and support identification of disparities at the population level?

Data analysis

Do we analyze our data to identify health disparities in our patient population?

Goals

Do we set measurable goals for reducing disparities?

Staff training

Do we provide comprehensive skill-building training for our staff?

Holistic care

Do we provide culturally sensitive care to every patient who enters our system?

Workforce diversity, equity, and inclusion

Do we employ people from our community and build a workforce and organizational culture that reflects our patient population?

Source: "Maturity Model for Reducing Health Disparities," Advisory Board.

Advisory Board interviews and analysis.

Partnerships can help health equity efforts find footing

Common cancer program challenges with developing and implementing a comprehensive health equity strategy, and sample ways partnerships can help

Insufficient data

Partners can supply relevant data and support analysis to identify population-level disparities

Limited resources

Partners can provide funding, staff, or other resources to help address community-wide SDOH and their root causes

Lack of expertise

Partners can provide insight into community needs, skill-building training for staff, and guidance on how to foster an inclusive organizational culture

Lack of executive support

Partners can help cancer programs build a business case for making health equity a strategic priority

Advisory Board interviews and analysis.

Northwestern partners to address health equity challenges

Lurie Cancer Center at Northwestern Memorial Hospital's approach to address SDOH in community

Step 1:

Identify neighborhoods with differential outcomes to target

Challenge: Insufficient data

Partners: No formal partnerships, but relied on publicly available data from many external organizations

Step 2:

Build infrastructure of the Chicago Cancer Initiative (CCI)

Challenge: Limited resources, lack of expertise

Partners: Pharmaceutical companies, advocacy groups, philanthropic foundations, community organizations, city and state public health departments

Step 3:

Understand and prioritize community needs

Challenge: Lack of expertise, insufficient data

Partners: Community organizations, private sector

Step 4:

Implement interventions to address highest-priority community needs

Challenge: Limited resources, lack of expertise

Partners: Community organizations, advocacy groups, schools, health system, local providers

Source: Northwestern Medicine, Chicago, IL.

Advisory Board interviews and analysis.

CCI gets off the ground through diverse partnerships

Types of partnerships leveraged to build CCI infrastructure

Funding

Partners provide one-time and ongoing financial support:

- Pharmaceutical and biotech companies (e.g., Genentech)
- Philanthropic and research foundations (e.g., Pritzker Foundation)

Non-financial resources

Partners provide space for events, access to resources and networks, and connections to community:

- Community organizations
- Advocacy groups (e.g., Susan G. Komen Chicago)

Strategic guidance

Partners serve on CCI governance board:

- Apostolic Faith Church
- Chicago Department of Public Health
- FQHC[1] with two locations in Bronzeville
- Mixed-income residential complex in Bronzeville

KEY STRATEGIES FOR PITCHING THE PARTNERSHIP

Focused on the high-level vision for a meaningful and sustainable impact on the community

Established CCI as a separate entity from the Lurie Cancer Center to allow industry partners to help fund the program

Dissociated Northwestern's name from the initiative to demonstrate intentional focus on the community not the hospital

1. Federally qualified health center.

Source: Northwestern Medicine, Chicago, IL.

Considerations for partnering to prioritize health equity

QUESTIONS TO ASK YOURSELF

01	Where are our biggest strengths and gaps across the eight dimensions of a comprehensive health equity strategy?
02	Which of the common challenges developing and implementing a comprehensive health equity strategy are most acute for our program?
03	Which partners can best help us overcome our top challenges?
04	Who will be responsible for coordinating with partners?

POTENTIAL PARTNERS

- Advocacy groups
- Community organizations (e.g., businesses, faith-based orgs, social service orgs)
- Device manufacturers/IT vendors
- Federal and local government agencies
- Other cancer centers
- Pharmaceutical companies
- Philanthropic organizations
- Public health departments
- Universities/Medical schools
- Internal health system stakeholders, such as:
  - Data analytics team, other service lines, population health department

Advisory Board interviews and analysis.

Leverage partnerships to respond to major market forces

Current state of cancer care → Ideal state of cancer care: Affordable, Personalized, Equitable

Market forces driving industry transformation:

1. Increasing purchaser focus on **controlling costs**
2. Accelerating pace of **clinical innovation**
3. Growing pressure to prioritize **health equity**

In today's interconnected world, an **institution's survival can hinge on** its ability to develop, refine, and manage **partnerships**.

Source: "The New Partnership Advantage," Advisory Board.

Advisory Board interviews and analysis.

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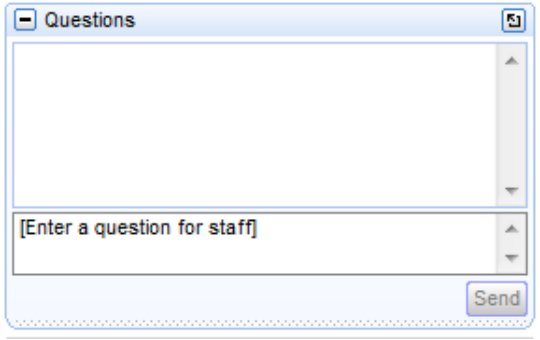

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