

10:30 AM – 11:20 AM

General Session 3: *It's not the Plane, It's the Pilot*: How You can use Early Detection to Mitigate the Impact of Delayed Cancer Care during COVID

Speakers:

Christine Hale, MD, MBA
Lockton Dunning Benefits



Ray Page, DO, PhD
The Center for Cancer & Blood Disorders



Joseph Badolato, DO
Guardant Health



Andrea Cockrell
City of Plano

Session 3 Speakers:

Christine Hale, MD, MBA, Lockton Benefits

Dr. Christine Hale is Vice President, Clinical Consulting at Lockton Benefits. She serves as the medical director and lead strategist for the Clinical Consulting team. Christine is known as an innovator, collaborator and change agent, and is particularly passionate about utilizing data and creative solutions to reduce waste improve cost effectiveness in healthcare. Previously, Dr. Hale was a consultant at McKinsey & Company where she worked with hospitals and health systems both across the country and internationally in a variety of functional areas, including strategy, operations and organization. Christine is often sought out to facilitate in situations where building physician and administration alignment is key.

Ray Page, DO, PhD, The Center for Cancer and Blood Disorders

Dr. Ray Page is Immediate Past President at **The Center for Cancer and Blood Disorders** in Fort Worth and a practicing medical oncologist for 25 years. Dr. Page has been at the forefront of community oncology practice transformation, participating in a variety of payment reform models and development of pathway systems. He has been Principal Investigator of over 250 clinical trials and is well published on a variety of cancer related topics. His particular interest is healthcare policy and was acknowledged as the American Society of Clinical Oncology (ASCO) Advocate of the Year. Dr. Page's ASCO service includes prior Chair of the Clinical Practice Committee, Nominating Committee, Government Relations Committee, ASCO Delegate to the AMA House of Delegates, and State Affiliate Council past chair and current Texas representative. He was past President and current Treasurer of the Texas Society of Clinical Oncology. He also chaired the Joint ASH/ASCO Medicare Carrier Advisory Committee (CAC).

Session 3 Speakers (continued):

Andrea Cockrell, City of Plano

Andrea Cockrell is Administrative Services Manager for the **City of Plano**, serving the following areas of HR: health, wellness and retirement benefits, compensation, and training. Andrea previously served as the City's Controller from 2010-2013. Prior to joining the City, Andrea, a CPA, spent the first ten years of her career in public accounting and has a bachelor's and master's degree in Accounting from Texas A&M University. Andrea currently serves as President of the Texas Business Group on Health.

Joseph Badolato, DO, Guardant Health

Dr. Joe Badolato is Senior Medical Director, Market Access at **Guardant Health**. He is part of a team responsible for bringing to market Guardant's new blood-based early detection test for colorectal cancer. Dr. Badolato also is a board-certified family practice physician who spent most of his career treating patients in a clinical setting. He has a special interest in physician leadership, quality management, and improving the patient experience, actively working with payers, employers and health systems.

Early Detection to Mitigate the Impact of Delayed Cancer Care during COVID

Ray D. Page, DO PhD FACOI FASCO

Irving, TX

12/14/2022



The COVID Cancer Effect

Nov 17, 2021

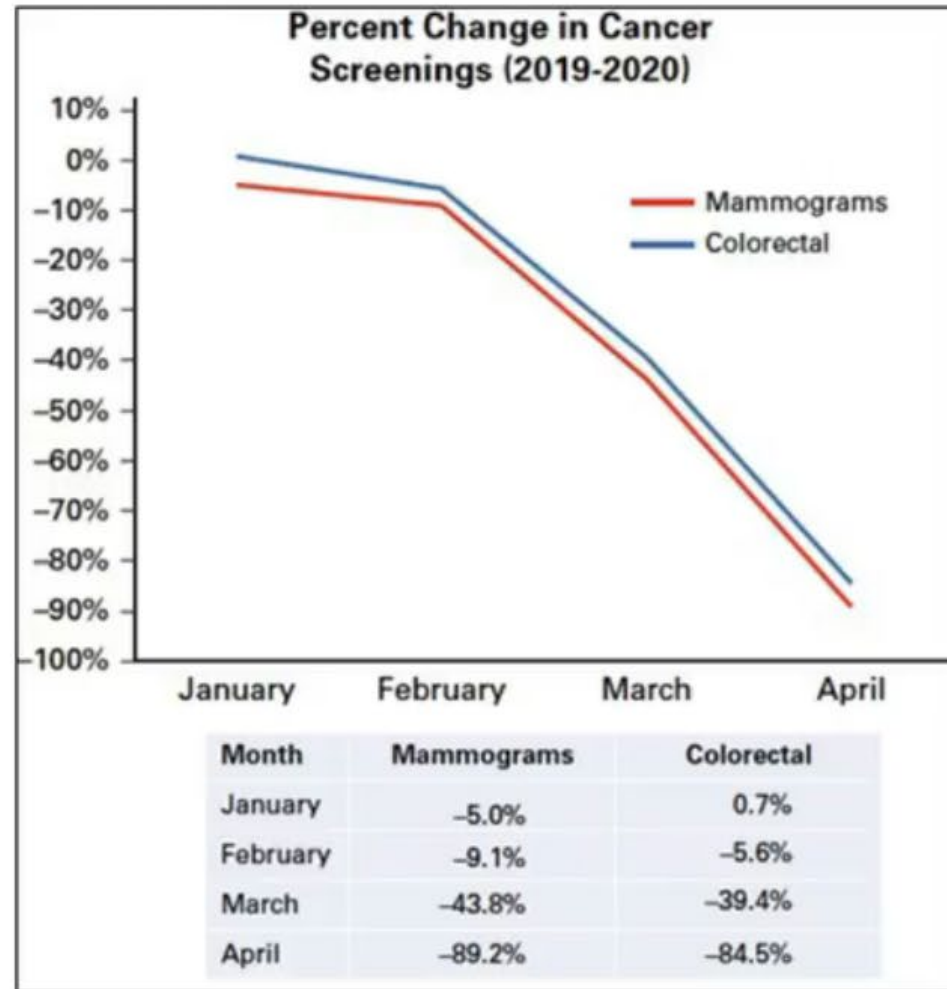
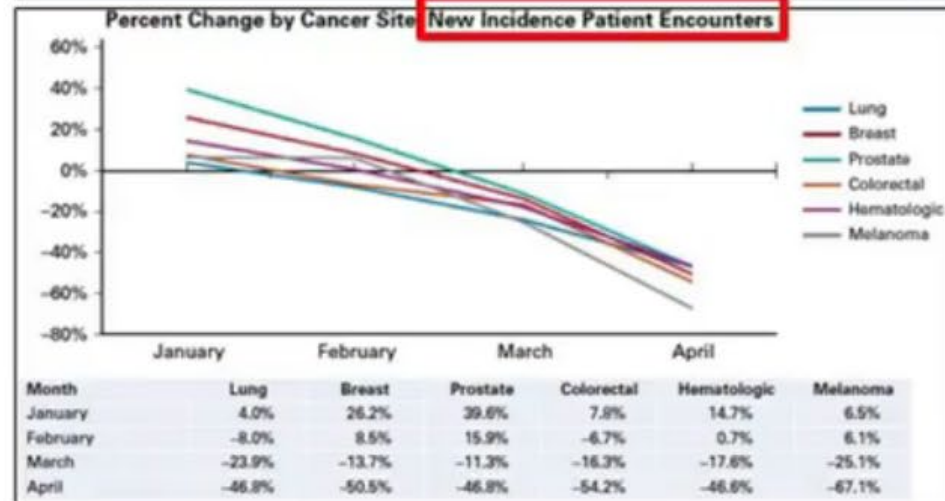
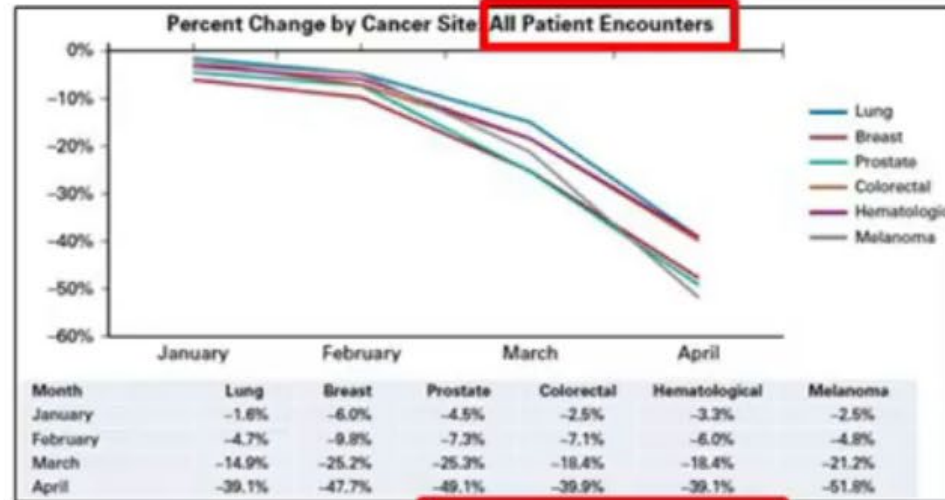
Scientific American
Source

- Initially, in order to preserve PPE, state executive orders and hospital policies severely limited “elective” surgeries and procedures
- Further limitations with surges
- Study reports show detrimental impact on cancer patients
 - Just in breast/colon estimated 10,000 extra deaths
- Please get your employees back to cancer screening!!!

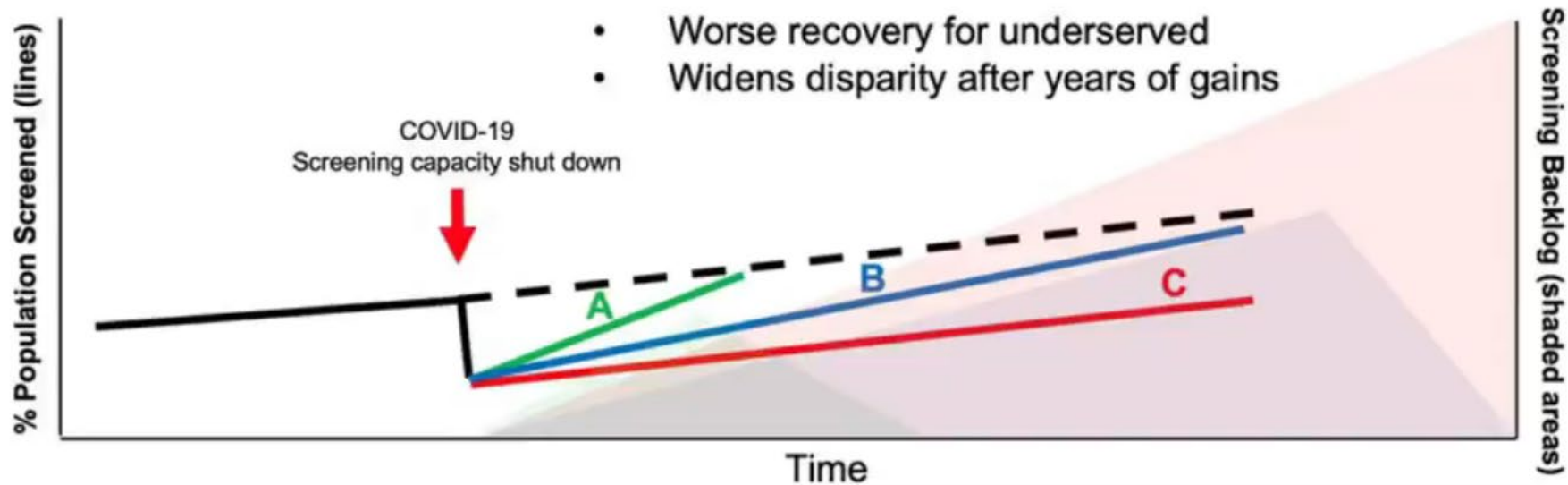
Impact in surgeries, cancer screening



COVID-19 Effect on Cancer Care

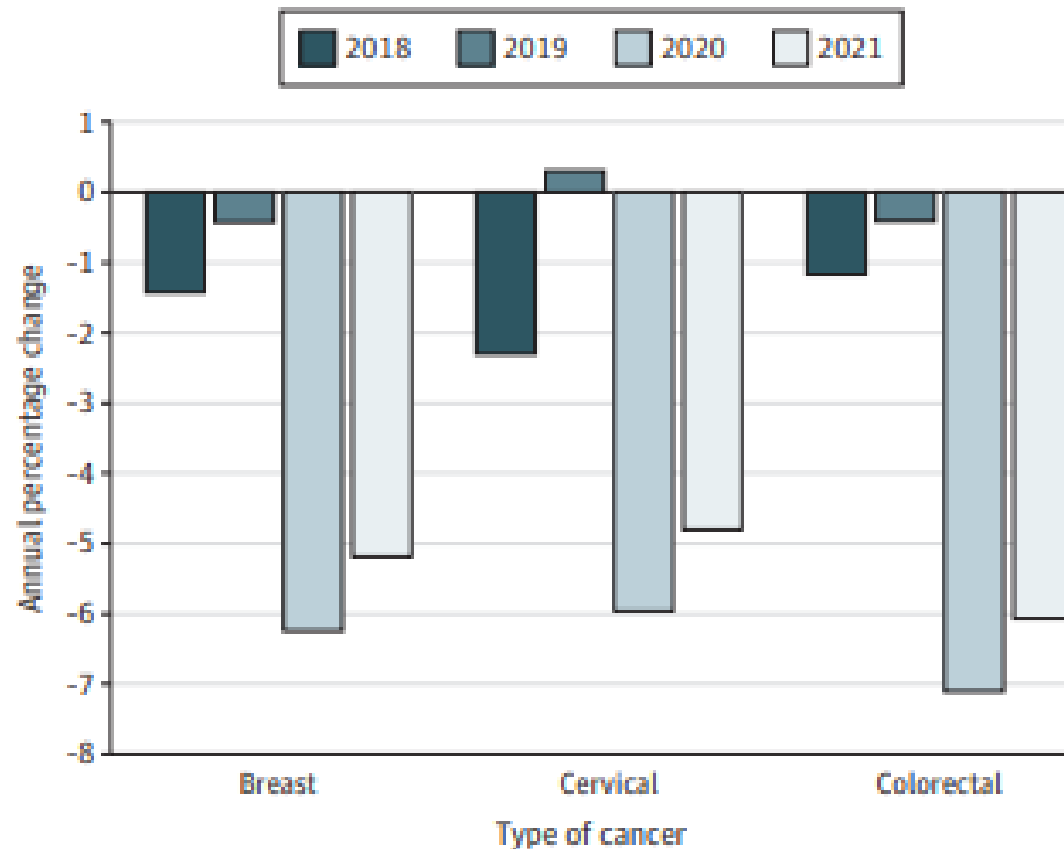


Cancer Screening in the COVID-19 Era



	Scenario	Factors affecting scenario	Relative # cancer deaths from baseline trajectory
A	rapid return to screening trajectory within 6-12 months	<ul style="list-style-type: none"> no further COVID-19 shutdowns of clinical capacity unrestricted screening capacity 	~1000 annually
B	delayed return to trajectory over 1-3 years	<ul style="list-style-type: none"> restricted/delayed screening capacity due to COVID-19 testing (preventing some screening services) and social distancing 	1000-5000 annually
C	prolonged return to trajectory over several years	<ul style="list-style-type: none"> prolonged screening capacity restraints due to large backlogs of delayed screening potential public and individual awareness for screening wanes exacerbation of fears for clinic settings due to ongoing pandemic 	≥5000-10,000 annually

Figure 2. Annual Percentage Change in Breast Cancer, Cervical Cancer, and Colorectal Cancer Prevalence Rates



Allison H. Oakes, PhD
Kelly Boyce, MS
Catherine Patton, BS
Sanjula Jain, PhD

Author Affiliations: Department of Research, Trilliant Health, Brentwood, Tennessee (Oakes, Boyce, Patton, Jain); Department of Internal Medicine, Johns Hopkins School of Medicine, Baltimore, Maryland (Jain).

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Corresponding Author: Allison H. Oakes, PhD, Department of Research, Trilliant Health, Two Maryland Way, Brentwood, TN 37027 (allison.oakes@trillianthealth.com).

Author Contributions: Dr Oakes and Ms Boyce had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

Concept and design: Oakes, Patton, Jain.


Acquisition, analysis, or interpretation of data: Oakes, Boyce, Patton.

Drafting of the manuscript: Oakes, Patton, Jain.

Critical revision of the manuscript for important intellectual content: Boyce, Jain.

Statistical analysis: Oakes.

Newly diagnosed cancer and the COVID-19 pandemic: tumour stage migration and higher early mortality

Deniz Can Guven ¹, Taha Koray Sahin,² Hasan Cagri Yildirim,¹ Engin Cesmeci,² Fatima Gul Gulbahce Incesu,² Yagmur Tahillioglu,² Enes Ucgul,² Melek Seren Aksun,² Suleyman Cagin Gurbuz,² Oktay Halit Aktepe,¹ Zafer Arik,¹ Omer Dizdar,¹ Suayib Yalcin,¹ Sercan Aksoy,¹ Saadettin Kilickap,^{1,3} Neyran Kertmen¹

► Additional supplemental material is published online only. To view, please visit the journal online (<http://dx.doi.org/10.1136/bmjspcare-2021-003301>).

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Accepted 7 October 2021

ABSTRACT

Background We compared the new outpatient clinic referrals during the first 10 months of the COVID-19 pandemic with the year before.

Methods We compared baseline characteristics of the 2208 new referrals in 2020 (n=922) and 2019 (n=1286) with X² and Mann-Whitney U tests and calculated ORs with binary logistic regression. To evaluate the expected changes in the cancer survival secondary to stage migration, we used the 5-year survival data of Survival, Epidemiology and End Results (SEER) Program 2010–2016.

Results The percentage of patients with inoperable or metastatic disease was significantly increased during the pandemic (49.8% vs 39%, OR: 1.553, 95% CI: 1.309 to 1.843, p<0.001). We observed a significant decrease in the percentage of patients diagnosed via the screening methods (18.8% vs 28.7%, OR: 1.698, 95% CI: 1.240 to 2.325, p=0.001). The 90-day mortality after the cancer diagnosis was significantly higher during the pandemic (10.5% vs 6.6%, OR: 1.661, 95% CI: 1.225 to 2.252,

Key messages

What was already known?

- The COVID-19 pandemic could significantly disrupt the cancer care.
- Screening is among the most affected cancer care domain during the pandemic.

What are the new findings?

- We observed a cancer stage migration during the pandemic.
- The percentage of screen-detected cancers decreased while the early mortality increased during the pandemic.

What is their significance?

a. Clinical

- Efforts to reimplement cancer screening is vital to prevent cancer stage migration.



b. Research

- The long-term effects of cancer stage migration on 5-year cancer survival should be prospectively evaluated.

RESEARCH ARTICLE



Cost of cancer management by stage at diagnosis among Medicare beneficiaries

Sheila R. Reddy^a, Michael S. Broder^a , Eunice Chang^a, Caleb Paydar^a, Karen C. Chung^b  and Anuraag R. Kansal^b

^aPartnership for Health Analytic Research LLC, Beverly Hills, CA, USA; ^bGRAIL, LLC, Menlo Park, CA, USA

ABSTRACT

Objective: Estimate the annual cost of care in the 5 years following a cancer diagnosis for 17 invasive cancer types, by stage at diagnosis.

Methods: We used 2012–2016 data from the Surveillance, Epidemiology, and End Results (SEER) registry-Medicare claims database to examine cost of care among Medicare beneficiaries with a confirmed cancer diagnosis based on International Classification of Diseases for Oncology, Third Edition histology codes reported in SEER. Beneficiaries contributed to the annual cost calculations (Years 1–5) using their observed time after diagnosis. Beneficiaries were continuously enrolled in fee-for-service Medicare Parts A/B and Part D during follow-up. Total, inpatient, outpatient, and pharmacy cancer-related service costs were calculated.

Results: From 2012 to 2016, we identified 597,778 Medicare beneficiaries with incident cancer diagnosis within 5 years (Stage I, II, III, and IV: 32.6%, 33.4%, 15.9%, and 18.0%, respectively). In Year 1, mean (standard deviation) total costs for Stage I diagnoses varied from \$7640 (\$17,378) (prostate) to \$94,636 (\$117,636) (pancreas). Total costs increased by stage and reached \$58,783 (\$92,344) (prostate) to \$156,982 (\$175,009) (stomach) for Stage IV diagnoses in Year 1. Costs in Year 1 were significantly higher for Stage IV diagnoses than for earlier stages across all cancer types. In Years 2–5, total costs were lower than in Year 1 but continued to increase by stage.

Conclusions: Beneficiaries diagnosed at later stages of cancer have higher costs of care (up to 7 times as much) than those diagnosed at earlier stages. Earlier cancer diagnosis may lead to more efficient treatment and decreased management cost.

ARTICLE HISTORY

Received 20 October 2021

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KEYWORDS

Cancer; administrative claims; SEER; Medicare; cost of care; retrospective; cross-sectional

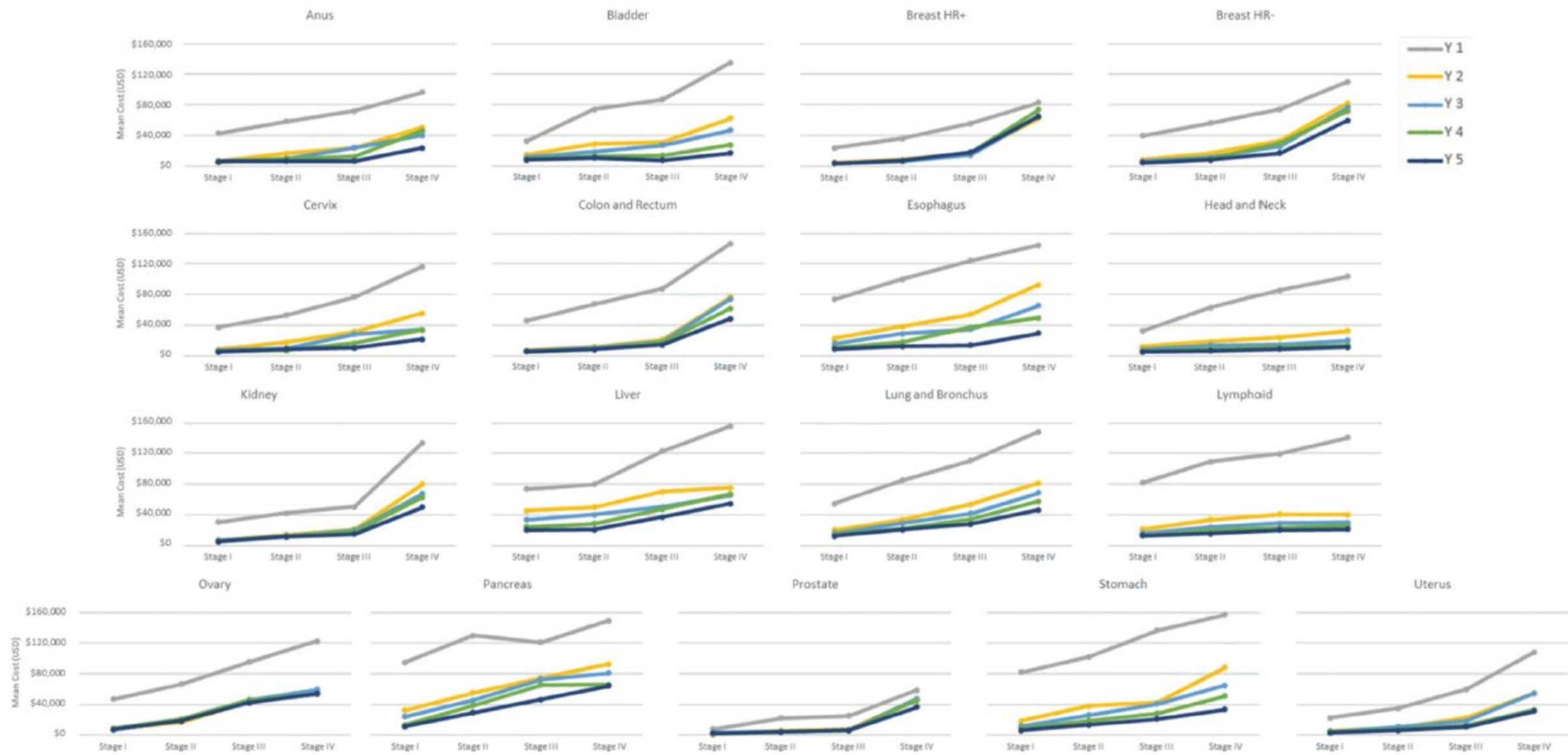


Figure 2. Total cancer-related healthcare costs by cancer type, stage at diagnosis, and time period.

PATIENT CARE

Impact of COVID-19 on Cancer Care: How the Pandemic Is Delaying Cancer Diagnosis and Treatment for American Seniors

Debra Patt, MD PhD MBA¹; Lucio Gordan, MD²; Michael Diaz, MD²; Ted Okon, MBA³; Lance Grady, BS⁴; Merrill Harmison, BS⁴; Nathan Markward, PhD⁴; Milena Sullivan, MIPP⁴; Jing Peng, MS⁴; and Anan Zhou, MPH⁴

PURPOSE While the immediate care and access disruptions associated with the COVID-19 pandemic have received growing attention in certain areas, the full range of gaps in cancer screenings and treatment is not yet well understood or well documented throughout the country comprehensively.

METHODS This study used a large medical claims clearinghouse database representing 5%-7% of the Medicare fee-for-service population to characterize changes in the utilization of cancer care services and gain insight into the impact of COVID-19 on the US cancer population, including identification of new patients, gaps in access to care, and disruption of treatment journeys.

RESULTS In March-July 2020, in comparison with the baseline period of March-July 2019, there is a substantial decrease in cancer screenings, visits, therapy, and surgeries, with variation by cancer type and site of service. At the peak of the pandemic in April, screenings for breast, colon, prostate, and lung cancers were lower by 85%, 75%, 74%, and 56%, respectively. Significant utilization reductions were observed in April for hospital out-patient evaluation and management (E&M) visits (-74%), new patient E&M visits (-70%), and established patient E&M visits (-60%). A decrease in billing frequency was observed for the top physician-administered oncology products, dropping in both April (-26%) and July (-31%). Mastectomies were reduced consistently in April through July, with colectomies similarly reduced in April and May and prostatectomies dipping in April and July.

CONCLUSION The current impact of the COVID-19 pandemic on cancer care in the United States has resulted in decreases and delays in identifying new cancers and delivery of treatment. These problems, if unmitigated, will increase cancer morbidity and mortality for years to come.

Tools and Strategies for Solutions

CARE DELIVERY

Telehealth in Oncology: ASCO Standards and Practice Recommendations



Robin T. Zon, MD¹; Erin B. Kennedy, MHS²; Kerin Adelson, MD³; Sibel Blau, MD⁴; Natalie Dickson, MD⁵; David Gill, MD⁶; Nicole Laferrriere, MD⁷; Ana Maria Lopez, MD, MPH⁸; Therese M. Mulvey, MD⁹; Debra Patt, MD¹⁰; Todd A. Pickard, MMSc¹¹; Terry Purdom¹²; Trevor J. Royce, MD, MS, MPH^{13,14}; Ashley L. Sumrall, MD¹⁵; and Ray D. Page, DO, PhD¹⁶

abstract

PURPOSE To provide standards and practice recommendations specific to telehealth in oncology.

METHODS A systematic review of the literature on telehealth in oncology was performed, including the use of technologies and telecommunications systems, and other electronic methods of care delivery and sharing of information with patients. The evidence base was combined with the opinion of the ASCO Telehealth Expert Panel to develop telehealth standards and guidance. Public comments were solicited and considered in preparation of the final manuscript.

RESULTS The Expert Panel determined that general guidance on implementing telehealth across general and specialty settings has been published previously and these resources are endorsed. A systematic search for studies on topics specific to oncology resulted in the inclusion of two clinical practice guidelines, 12 systematic reviews, and six primary studies.

STANDARDS AND GUIDANCE Standards and guidance are provided for which patients in oncology can be seen via telehealth, establishment of the doctor-physician relationship, role of allied health professionals, role of advanced practice providers, multidisciplinary cancer conferences, and teletrials in oncology. Additional information is available at www.asco.org/standards.

JCO Oncol Pract 00. © 2021 by American Society of Clinical Oncology

PAGE ET AL

The Patient-Centered Medical Home in Oncology: From Concept to Reality

Ray D. Page, DO, PhD, Lee N. Newcomer, MD, John D. Sprandio, MD, and Barbara L. McAneny, MD

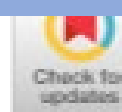
OVERVIEW

In recent years, the cost of providing quality cancer care has been subject to an epic escalation causing concerns on the verge of a health care crisis. Innovative patient-management models in oncology based on patient-centered medical home (PCMH) principles, coupled with alternative payments to traditional fee for service (FFS), such as bundled and episodes payment are now showing evidence of effectiveness. These efforts have the potential to bend the cost curve while also improving quality of care and patient satisfaction. However, going forward with FFS alternatives, there are several performance-based payment options with an array of financial risks and rewards. Most novel payment options convey a greater financial risk and accountability on the provider. Therefore, the oncology medical home (OMH) can be a way to mitigate some financial risks by sharing savings with the payer through better global care of the patient, proactively preventing complications, emergency department (ED) visits, and hospitalizations. However, much of the medical home infrastructure that is required to reduced total costs of cancer care comes as an added expense to the provider. As best-of-practice quality standards are being elucidated and refined, we are now at a juncture where payers, providers, policymakers, and other stakeholders should work in concert to expand and implement the OMH framework into the variety of oncology practice environments to better equip them to assimilate into the new payment reform configurations of the future.

- Much of the value gained from the OMH infrastructures comes through the use of scripted symptom management/triage pathways to reduce ER visits and hospitalizations
- An OMH infrastructure gives the **best opportunity for sustaining contracted value-based payments with risk sharing/shared savings**, which are the oncology APM models going forward.

Oncology Medical Home: ASCO and COA Standards

Kim Woelfter¹; Erin B. Kennedy, MHSc²; Kerin Adelson, MD³; Ronda Bowman, MHA⁴; Rachel Brodie, BA⁵; Natalie Dickson, MD⁶; Rose Gerber, BA⁶; Karen K. Fields, MD⁷; Carol Murtaugh⁸; Blase Polite, MD⁹; Marcus Paschall, JD, MBA⁹; Matthew Skelton, MD¹⁰; Dennis Zoet, MSA¹¹; and John V. Cox, DO, MBA¹²



abstract

PURPOSE To provide Standards on the basis of evidence and expert consensus for a pilot of the Oncology Medical Home (OMH) certification program. The OMH model is a system of care delivery that features coordinated, efficient, accessible, and evidence-based care and includes a process for measurement of outcomes to facilitate continuous quality improvement. The OMH pilot is intended to inform further refinement of Standards for OMH model implementation.

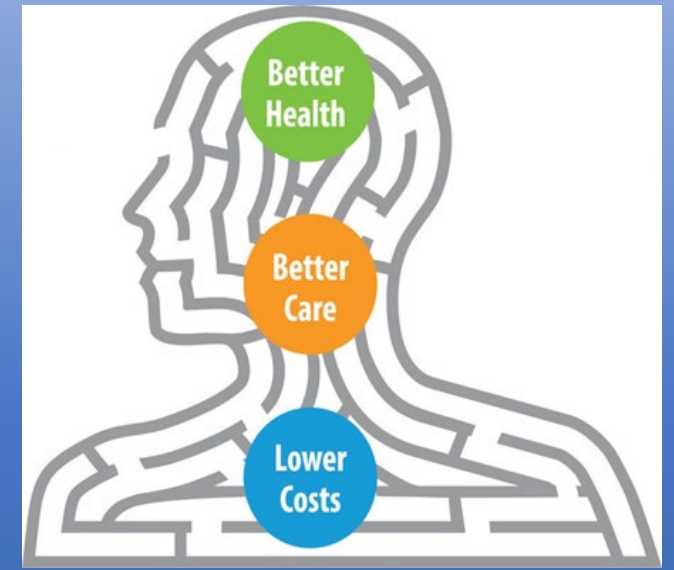
METHODS An Expert Panel was formed, and a systematic review of the literature on the topics of OMH, clinical pathways, and survivorship care plans was performed using PubMed and Google Scholar. Using this evidence base and an informal consensus process, the Expert Panel developed a set of OMH Standards. Public comments were solicited and considered in preparation of the final manuscript.

RESULTS Three comparative peer-reviewed studies of OMH met the inclusion criteria. In addition, the results from 16 studies of clinical pathways and one systematic review of survivorship care plans informed the evidence review. Limitations of the evidence base included the small number of studies of OMH and lack of longer-term outcomes data. More data were available to inform the specific Standards for pathways and survivorship care; however, outcomes were mixed for the latter intervention. The Expert Panel concluded that in the future, practices should be encouraged to publish the results of OMH interventions in peer-reviewed journals to improve the evidence base.

STANDARDS Standards are provided for OMH in the areas of patient engagement, availability and access to care, evidence-based medicine, equitable and comprehensive team-based care, quality improvement, goals of care, palliative and end-of-life care discussions, and chemotherapy safety. Additional information, including a Standards implementation manual, is available at www.asco.org/standards.

Oncology Clinical Pathways: Charting the Landscape of Pathway Providers

*Bobby Daly, Robin T. Zon, Ray D. Page, Stephen B. Edge, Gary H. Lyman, Sybil R. Green,
Dana S. Wollins, and Linda D. Bosserman*



- Pathway decision triggers clinical trials enrollment
- Pathway validation through disease committees (efficacy, toxicity, cost)
- Appropriate drug utilization – right patient, right drug, right time
- Can replace prior authorization process
- Pathway adherence drives more cost-effective, value-based care

Reducing Cancer Costs Through Symptom Management and Triage Pathways

Ronald Barkley, MS, JD; Mah-Jabeen Soobader, PhD; Jun Wang, MD, PhD; Sibel Blau, MD; and Ray D. Page, DO, PhD

- Our use of scripted triage pathways during COVID-19
- Case management enhancements

ER = emergency room.

Barkley R, et al. *J Oncol Pract.* 2019;15(2):e91-e97.



This study analyzed 10,417 triage incidents at the Center for Cancer and Blood Disorders and Northwest Medical Specialties.



\$3.85 million
savings generated



426 avoided
ER events



6.8% reduction
in unnecessary ER visits

Artificial Intelligence and Risk Stratification in Oncology

- 2 private oncology practices working with AI company
- 7 vectors
- 4,000 data elements
 - Data from EHR
 - Data reported by patient
 - Data from hospitals
 - Data from pharmacies
 - Data from public
 - Data from payers
 - Data from social determinants of health
 - Data from many other sources

Composition of the Oncology Specialty Vectors

ONCOLOGY VECTORS DEEP DIVE

Vector	Description
30 Day Mortality	Patients at risk of mortality within 30 days of prediction
30 Day Pain Management	Patients at risk of having severe/moderate pain within 30 days
6 Month Depression	Patients at risk of having a depression diagnosis within 6 months
6 Month Deterioration	Patients at risk of deterioration of ADL levels (at least 2 levels) within 6 months
30 Day Avoidable Admission	Patients at risk of an avoidable IP admission within 30 days
30 Day ED Visit	Patients at risk of an ED visit within 30 days
Readmission	Patients at multiple admissions within 3 months

Patient Portal View: Patient Centric View

Patient Risk Dashboard - All Vectors

[Practice Dashboard](#)
[Measure Summary](#)
[Member Registry](#)
[Quality Matrix](#)
[Socioeconomic Matrix](#)
[Print](#)

[Monthly Risk Report](#)
[Printable](#)
[Patient Centric View](#)

Use the @Risk Vectors slider to filter the patients with atleast so many conditions at risk

@ Risk Vectors

3

Risk Level

(All)

Payer Type

(All)

Payer

(All)

High Risk

Medium Risk

Search by Patient Name (hit enter):

Patients: 260

NEW ! Cancer Type

(All)

Location

(All)

Provider

(All)

Unmarried?

(All)

Living Alone?

(All)

Patient Centric View (Select a Patient for Risk Factors and Recommendations)

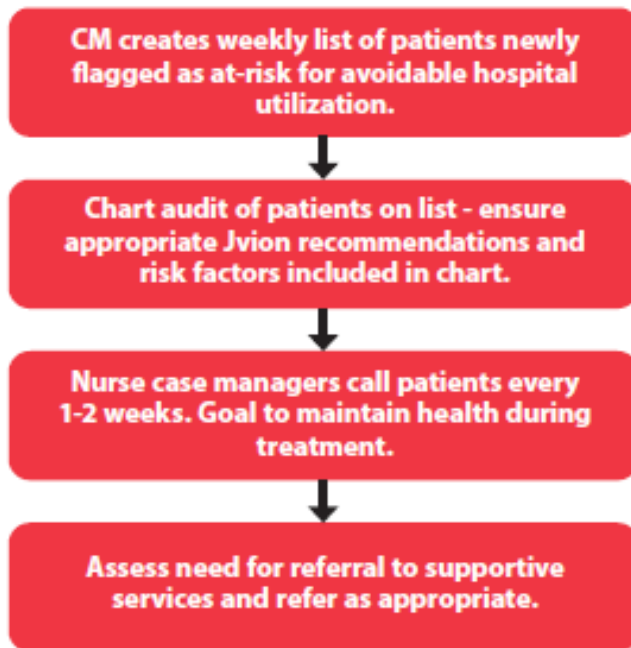
MRN	Date of Birth	PracticeBasedOnUserName	Patient Name	6 month Deteriorati..	6month Depression	30day Avoidable In..	30day ER Visit	30day Mortality	30day Pain	Readmission
					High Risk		Medium Risk		High Risk	
					High Risk		High Risk		High Risk	
					High Risk		High Risk		High Risk	
				Medium Risk		Medium Risk				Medium Risk
					High Risk		Medium Risk		High Risk	High Risk
					High Risk		High Risk	High Risk	High Risk	High Risk
					High Risk			Medium Risk	High Risk	Medium Risk
				Medium Risk		High Risk				High Risk
					High Risk			High Risk	High Risk	Medium Risk
						Medium Risk			High Risk	High Risk
					High Risk		High Risk	High Risk	High Risk	Medium Risk
							High Risk		Medium Risk	Medium Risk
					High Risk		High Risk	High Risk	High Risk	High Risk
					Medium Risk		Medium Risk		High Risk	High Risk
					High Risk		High Risk		High Risk	

Reducing Avoidable Emergency Visits and Hospitalizations with Patient Risk-based Prescriptive Analytics: A Quality Improvement Project at an Oncology Care Model (OCM) Practice

Ajeet Gajra, MD; Yolaine Jeune-Smith, PhD; Alexandrina Balanean, MPH; Kelly A Miller, DNP, MPH; Danielle Bergman, RN; John Showalter, MD; Ray Page, DO, PhD

J. Clinical Oncology – Oncology Practice, In press

Figure 1. CCBD AA/AED Workflow



RESULTS

- Since implementing the Jvion CORE:
 - The baseline OCM unplanned admission rate improved from 19.5 to 17.1 per 100 UPPQ (12.3% reduction) (**Figure 2**).
 - Jvion implementation started seeing unplanned admission rate improvement as soon as 1-month post-deployment.
 - This 12.3% reduction resulted in savings of \$2.2M in avoidable hospital admissions cost per year (when extrapolated based on average costs per hospitalization).
 - The decline continued with unplanned admissions at 16.6 in the quarter pre-pandemic (Jan-Mar 2020) and 16.1 per UPPQ in the quarter during the pandemic (Jan-Mar 2021).
 - The baseline OCM monthly ED visits improved from 14.2 to 11.5 per 100 UQQP (19.0% reduction) (**Figure 3**).
 - This 19.0% reduction resulted in savings up to \$600K in avoidable emergency department costs per year.

Figure 2. Quarterly Avoidable Admissions Pre- and Post-CORE Deployment

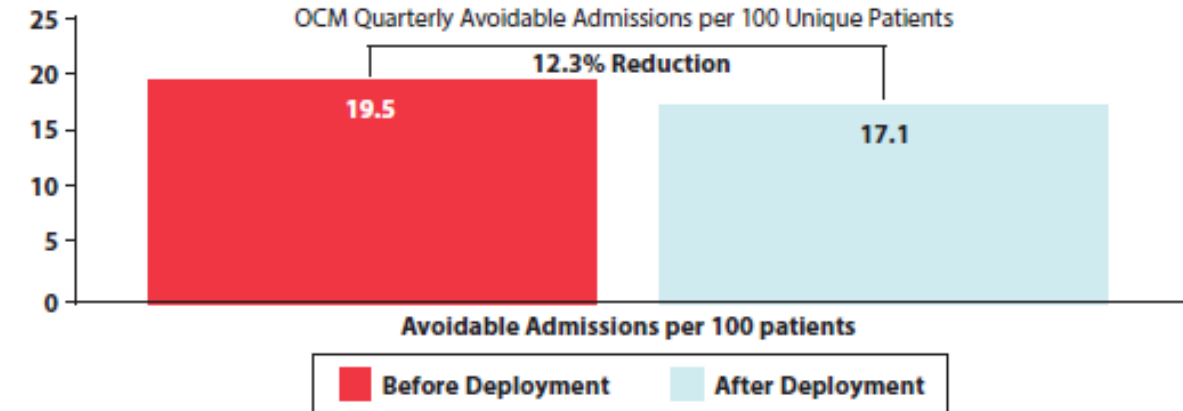
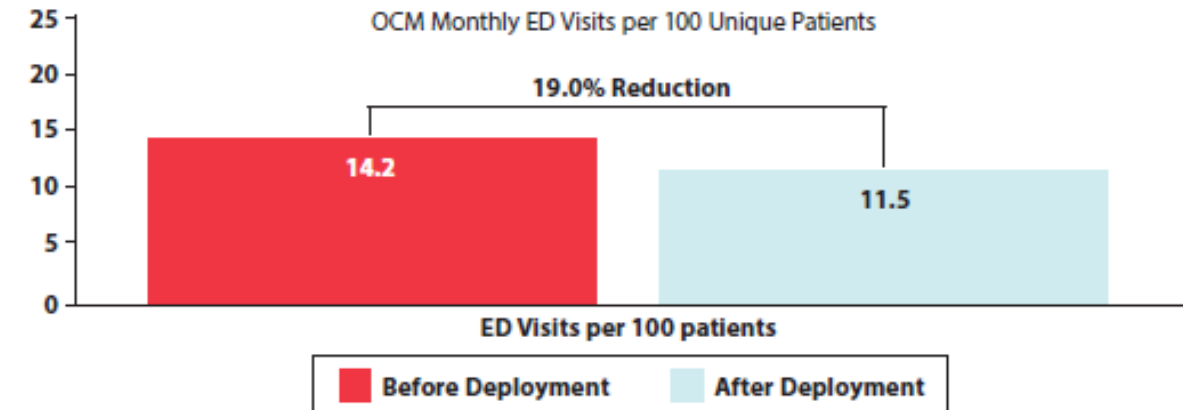


Figure 3. Monthly ED Visits Pre- and Post-CORE Deployment



Summary

- Educate employees on healthy lifestyle to reduce cancer risk
 - *Weight loss, exercise, healthy diet, stress reduction*
- Get your employees fully back online this next year with cancer screening
- When an employee is diagnosed with cancer get them immediately to a cancer center that can show a documented (published) track record of providing comprehensive value-based cancer care



City of Plano Case Study Goals

March-July 2022

1. Cancer screening data collection & analysis
2. Assessment of cancer benefits design & communications
3. Adjustments to cancer benefits design & communications strategies



Plano Cancer Screening Observations

- Plano's Pre-COVID cancer screenings were far below recommended goals for eligible adults:

	<u>2019</u>	<u>2020</u>	<u>2021</u>
Mammogram goal: 81%	29%	25%	26%
Colonoscopy goal: 70.5%	13%	10%	11.5%
Cervical PAP goal: 93%	35%	32%	31%

- All cancer screenings declined during pandemic, slightly rebounded in 2021—but still below goals.

**Healthy People 2020 Goals*



Plano Cancer Claims Observations

	<u># Cancer Claims</u>	<u>Cancer Claims Cost</u>
2019:	5,295	\$2.24M
2020:	4,720 (11%) ↓	\$2.01M (11%) ↓
2021:	5,220 (11%) ↑	\$2.99M (50%) ↑

Cancer claims declined during COVID, but post-pandemic claims costs rose 50%.

Looking Ahead:

Adjustments to Engagement & Plan Design Strategies

- Check claims data for cancer screening rates
- Remove cost-share barriers by covering follow-up diagnostic screenings
- Expand communications & promotions for screenings
- Offer incentives (lower premium) for screenings
- Encourage Primary Care Providers to recommend screenings
- Improve access via mobile mammograms & At-Home tests



How You Can Use Early Detection to Mitigate the Impact of Delayed Cancer Care During COVID: Colorectal Cancer as a Model

Joe Badolato, DO, CPE, CHCQM

Guardant Health

Transforming the continuum of cancer care

Screening

Early Detection



Recurrence Monitoring

Residual Disease



Therapy Selection

Advanced Stage



 shield™

GUARDANT REVEAL™

GUARDANT 360®

Effects of COVID-19 on CRC Screening

All of these effects have the potential to impact preventive screenings and cancer outcomes.
Utilization of a variety of CRC screening modalities has the potential to somewhat mitigate these impacts.⁴

3.8M

total estimated
CRC screening
deficit for the US
population from
January to July
2020¹



CRC screening of
patients declined
nearly

85%

in April of 2020
when compared
to April 2019.³



The COVID-19 pandemic
impacts include:

- reduced access to care
- delayed routine care
- later-stage diagnosis
- delayed or modified treatment²



1.Chen RC, Haynes K, Barron J, et al. Association of cancer screening deficit in the United States with the COVID-19 pandemic. *JAMA Oncol.* 2021;7(6):878–884.

2. American Cancer Society. Colorectal cancer facts & figures 2020-2022. Atlanta: American Cancer Society; 2020.

3. London JW, Fazio-Eynullayeva E, Palchuck MB, et al. Effects of the COVID-19 pandemic on cancer-related patient encounters. *JCO Clin Cancer Informatics.* 2020;4:657-665.

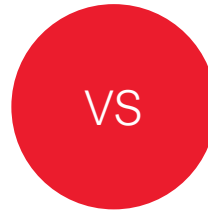
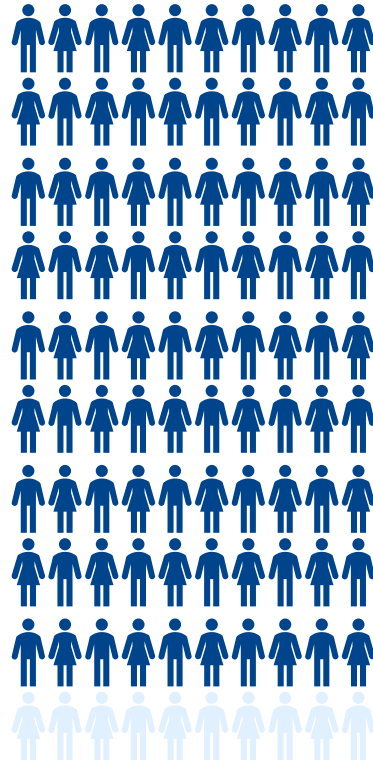
4. NCCRT. Reigniting colorectal cancer screening as communities face and respond to the COVID-19 pandemic. June 30, 2020. Accessed November 9, 2020. <https://nccrt.org/resource/a-playbook-for-reigniting-colorectal-cancer-screening-as-communities-respond-to-the-covid-19-pandemic/>

Importance of Colorectal Cancer Screening

Colorectal Cancer (CRC) Early Screening vs Late Diagnosis

90%

of people
diagnosed with
CRC in
early stages
by screening
survive



14%

of people
diagnosed with
CRC in
late stages
survive




Barriers To Screening and Compliance

Colorectal Cancer Screening Options Today

Multiple test options are available to patients

“The best screening test is one that gets done.”

-USPSTF

Screening Options		Test Type	Frequency	Barriers
Fecal Immunochemical Test (FIT) Various Manufacturers		Stool (Done At Home)	Every Year	<ul style="list-style-type: none"> • Poor sensitivity and precancer lesion detection • Patient compliance needed
Cologuard Exact Sciences		Stool (Done At Home)	Every 3 Years	<ul style="list-style-type: none"> • Can be challenging for older patients • Patient compliance needed
Colonoscopy Gastroenterologist	 Gold Standard	Procedure (Outpatient)	Every 10 Years	<ul style="list-style-type: none"> • Unpleasant • Time consuming • Doctor dependent

Patient-Reported Barriers to Colorectal Cancer Screening

Factors reported by patients in multiple studies

FEAR

"Fear of the procedure"

UNNECESSARY

"Not necessary as I am healthy"

"I am at very low risk of colorectal cancer"

DOCTOR DIDN'T ORDER IT

"Physician never recommended the test"

COSTS

Had financial constraints



LOGISTICS

"Did not have transportation"

LACK OF TIME

"It takes too much time"

"Too busy to go"

AWARENESS

"Never heard of the test"

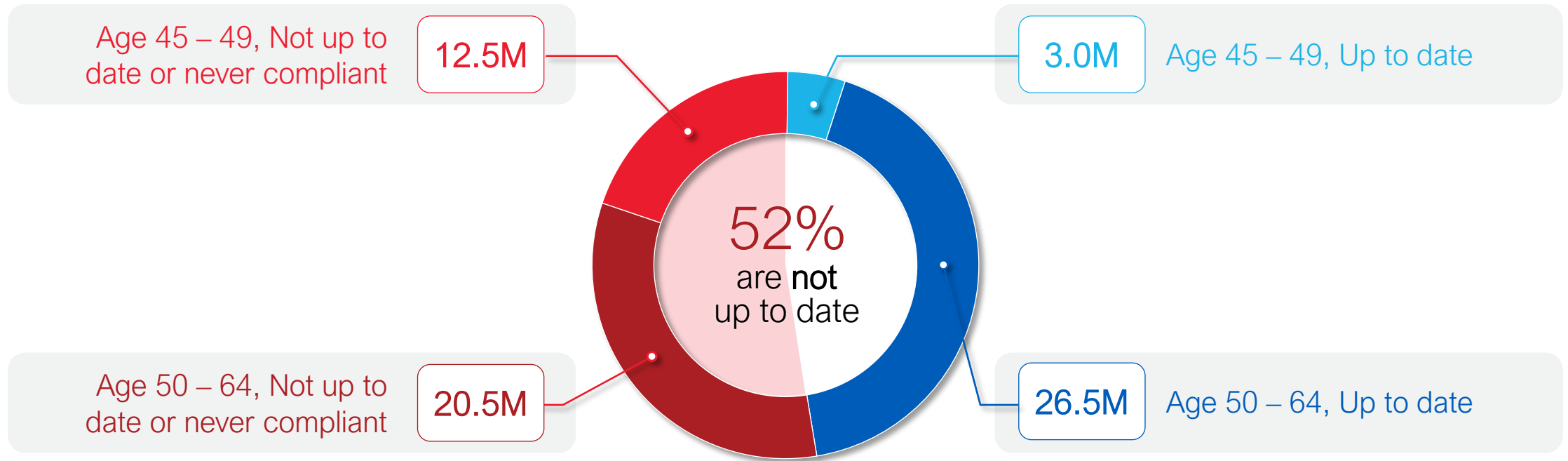
"Did not understand what colorectal cancer is"

"Didn't know it had to be done"

Only about **50%** of individuals referred for colonoscopy complete the procedure^{2,3}

Compliance is More Challenging in the Working Age Population

33M (52%) average-risk patients aged 45-64 are not up to date



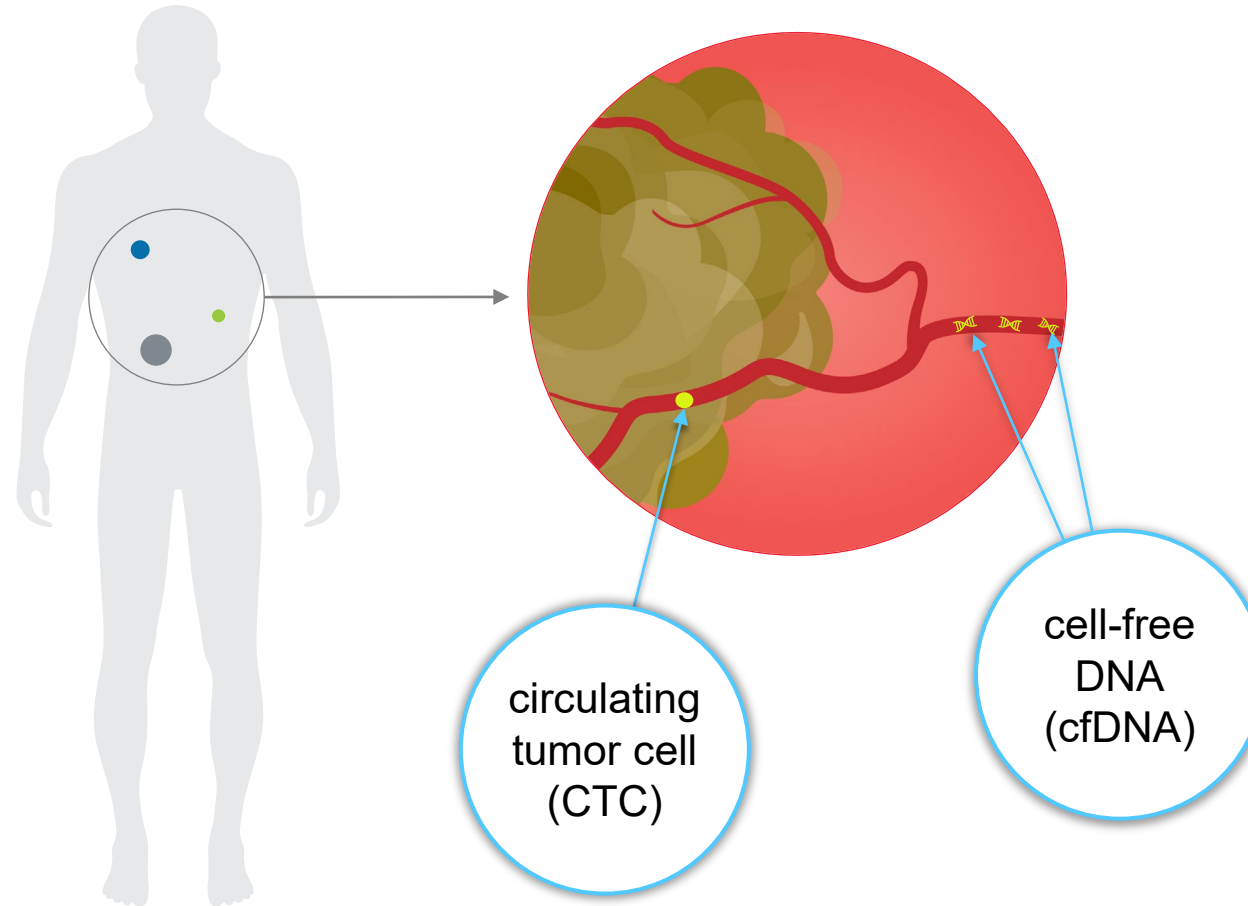
US Population Eligible for Noninvasive Screening, Age 45 – 64



A New “Arrow in the Quiver” for the Early Detection of Colorectal Cancer

Liquid Biopsy Enabled by Tumor-Derived DNA

Simple blood draw captures tumor-derived DNA



Shield™ Detects CRC with High Accuracy



86 – 94%
Sensitivity¹²
(CRC Stages I-III)

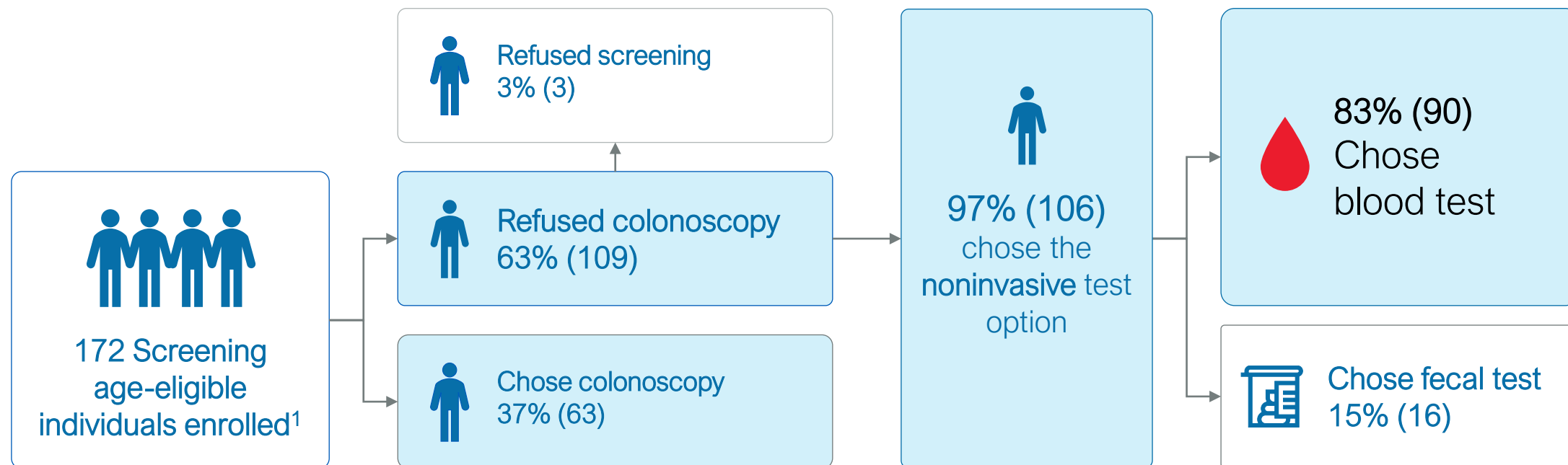
Sensitivity: the proportion of people who test positive and have the disease.

92%
Specificity¹²

Specificity: the proportion of people who test negative and do not have the disease.

Advanced adenomas were detected with 20% sensitivity^{18*}

Noninvasive, Blood-Based Testing is a More Acceptable Option for Patients Who Refuse Colonoscopy¹



Individuals who refuse colonoscopy are more willing to have a blood test than take a stool sample at home^{2,3}

Testing Options for Employers



Worksite Health Center

On-site Screening Program

Remote/Virtual Screening with Mobile Phlebotomy

Takeaway Points



THANK YOU!



QUESTIONS??

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