



ASHP Pharmacy Forecast Workshop:

*PLANNING GUIDE for
Three Options for Using
Workshop Slides*

ashp

pharmacists advancing healthcare®

Workshop Planning – 3.0Hr Presentation

- Full Workshop Presentation: 125 slides
 - Discuss all survey themes and results from each domain
 - Present and discuss case studies
 - *Ideal for students and residents*

Workshop Planning – 1.5Hr Presentation

- Abridged Workshop Presentation: approx. 60 slides
 - Discuss selected survey themes and results from their respective domains
 - Select and discuss case studies
 - The presenter decides audience participation
 - *Ideal for a targeted employer/workplace workshop*

Workshop Planning – 1.0Hr Presentation

- Lecture (35-40 slides)
 - Discuss 2-3 survey themes and results from their respective domains
 - Focus on Forecast Workshop overview and summary
 - *Ideal for state affiliate presentations or other targeted meetings*

Workshop Planning – Presentation Cadence

- Theme overview
- ↓
- Survey question(s) (Capture audience ‘votes’)
- ↓
- Executive summary
- ↓
- Survey results (Forecast response)
- ↓
- Strategic recommendations
- ↓
- REPEAT



ASHP Pharmacy Forecast Workshop: *Trends that Will Shape Your Future*

Prepared by ASHP's Section of Pharmacy
Practice Leaders

Special Acknowledgements



- Forecast 2025 Advisory Committee
- Chapter authors
- Forecast Panelists (FPs) who responded to the survey

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Objectives

1. Introduce and provide background on the Pharmacy Forecast Report
2. Discuss survey questions and results from each domain of the report
3. Apply key trends to case study activities

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Foundation

PHARMACY
FORECAST™

2025

ASHP and ASHP
Foundation Pharmacy Forecast 2025: Strategic
Planning Guidance for Pharmacy Departments in
Hospitals and Health Systems

Pharmacy Forecast



Purpose

To provide insightful perspectives on factors that influence patient care, the health of populations, health systems, and the pharmacy profession; and provide recommendations to inform strategic planning that should prompt action by pharmacists and health-system leaders.

Pharmacy Forecast: Overview

- Predicts developments in general themes likely to challenge pharmacy leaders in hospitals and health-systems over the coming 5 years
- Presents actionable strategic recommendations to pharmacy practice leaders
- Reports survey results of trend watchers and leaders in health-system pharmacy and analyzes predicted trends

Pharmacy Forecast Methodology



Appointed
Forecast Panel
(FP) completes a
questionnaire

Survey asks
likelihood of
certain trends
occurring over
next five years

Experts recruited
to write a brief
chapter for each
domain

Each chapter
presents the
survey results,
authors
assessment of
predictions and
strategic
recommendations

Pharmacy Forecast: Representation

- 52% of Forecast Panelists (FPs) employed by hospitals with 500 or more beds
- 21% of FPs were from hospitals of less than 500 beds

Region	Response Rate from FPs
Midwestern	35%
Southern	30%
Western	18%
Eastern	17%

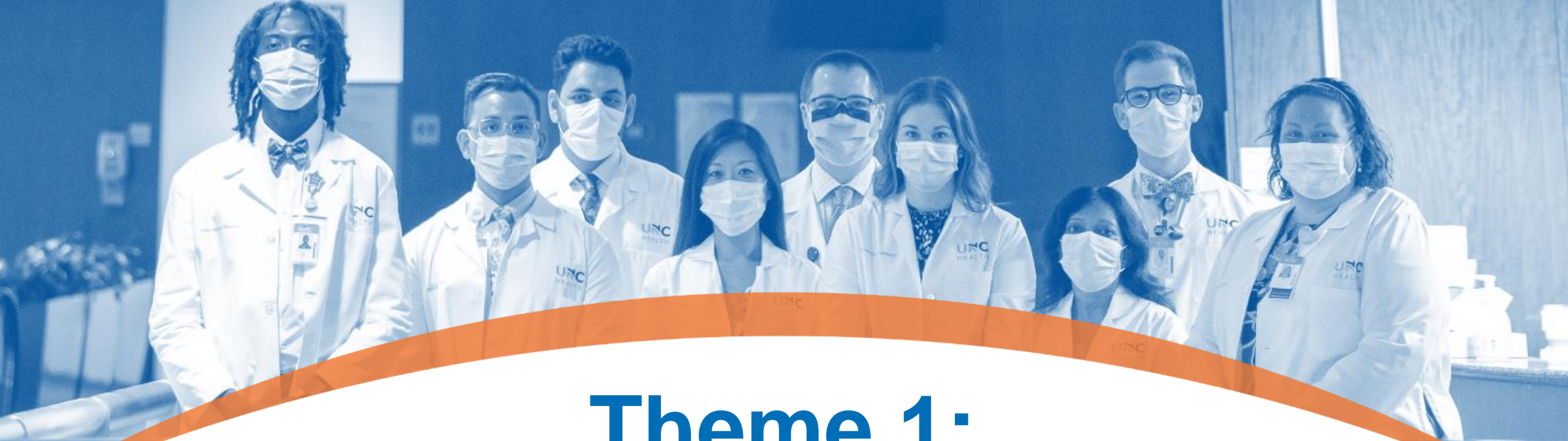
2025 Forecast Themes

1. Strategic Challenges in Health-System Pharmacy
2. Managing Ultra-High-Cost Drugs
3. Addressing the Gap in Primary Care
4. Whole Person Health in U.S. Healthcare
5. Navigating Generative AI: Opportunity and Risk
6. Stabilizing the Pharmacy Workforce

Student Professional Development

How is the forecast relevant for pharmacy students?

- Recognizing emerging trends in pharmacy
- Providing insights into expected challenges in pharmacy
- Promote thought-provoking discussion and research
- Serve as topics for journal clubs, topic discussions, presentations, and interview questions



Theme 1: Strategic Challenges in Health-System Pharmacy

Strategic Challenges Identified

- Service growth within Health-System Pharmacy has grown in the past five years with diversity of services including retail, mail order, specialty pharmacy, and ambulatory infusion services
- Competition and complexity of enterprises continues to grow threatening gains made
- Strategic challenges identified include:
 - Market pressures on health-systems with infusion services
 - Hospital and infusion care at home
 - Medicaid coverage of undocumented individuals

Theme 1: **Forecast** **Question 2**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

To compensate for losses associated with prescription benefit management reform, payers will increasingly force the reimbursement of outpatient infusions through the pharmacy benefit of an insurance policy resulting in a 50% decrease in health-system pharmacy revenue.

1. Very Likely
2. Somewhat Likely
3. Somewhat Unlikely
4. Very Unlikely

Theme 1: **Forecast** **Question 7**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

The passage of site-neutral policy reform, which would remove reimbursement differences between facilities and offices, will negatively affect the health care systems' revenue.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Market Pressures

- Prescription benefit management reform
 - Payers increasingly forcing reimbursement of outpatient infusions through the pharmacy benefit of an insurance policy
 - Most health-systems (59%) are not prepared for this change and is a significant financial vulnerability
- Prominent example of shifting reimbursement is with various “bagging” practices
 - White-bagging- specialty pharmacy ships the medication to the provider to prepare and administer the medication
 - Brown bagging- specialty pharmacy ships the medication to the patient, who is responsible for storing and delivering the medication to the provider
- Site neutral payment policies
 - Medicare Part B will pay healthcare provider the same rate regardless of where the medication is administered (hospital outpatient or in a physician office)

Forecast Response

2 To compensate for losses associated with prescription benefit management reform, payers will increasingly force the reimbursement of outpatient infusions through the pharmacy benefit of an insurance policy, resulting in a 50% decrease in health-system pharmacy revenue.



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Forecast Response

7 The passage of site-neutral policy reform, which would remove reimbursement differences between facilities and offices, will negatively affect the health care systems' revenue.



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Theme 1: **Forecast** **Question 5**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

At least 25% of acute care patients who are treated as inpatients will receive equivalent acute care services at home.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Hospital and Acute Care at Home

- Transitioning some acute care services to the home setting offer potential cost-savings opportunities and is more convenient for patients
- Potential for the health system to further extend their integrated services and retain market share
- Challenges:
 - Appropriateness of the home environment
 - Safety of providing complex therapies outside the hospital setting
 - Ability for round-the-clock care
 - Regulatory barriers

Forecast Response

5 At least 25% of acute care patients who are treated as inpatients will receive equivalent acute care services at home.



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Theme 1: **Forecast** **Question 3**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

25% of states will expand Medicaid coverage to include undocumented individuals.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Expanded Medicaid Coverage

- Medicaid coverage expansion based off immigration status is mixed at the state level
- The Deferred Action for Childhood Arrivals (DACA) recipients are no longer excluded from the definition of “lawfully residing”
 - Could increase coverage eligibility for approximately 100,000 immigrants
- Expanded coverage could lead to less stress and reliance on emergency medicine and acute care and provide more preventative health care being obtained by this population
 - Reimbursement to health systems may still fall short of their cost to provide care – adding financial strain

Forecast Response

3

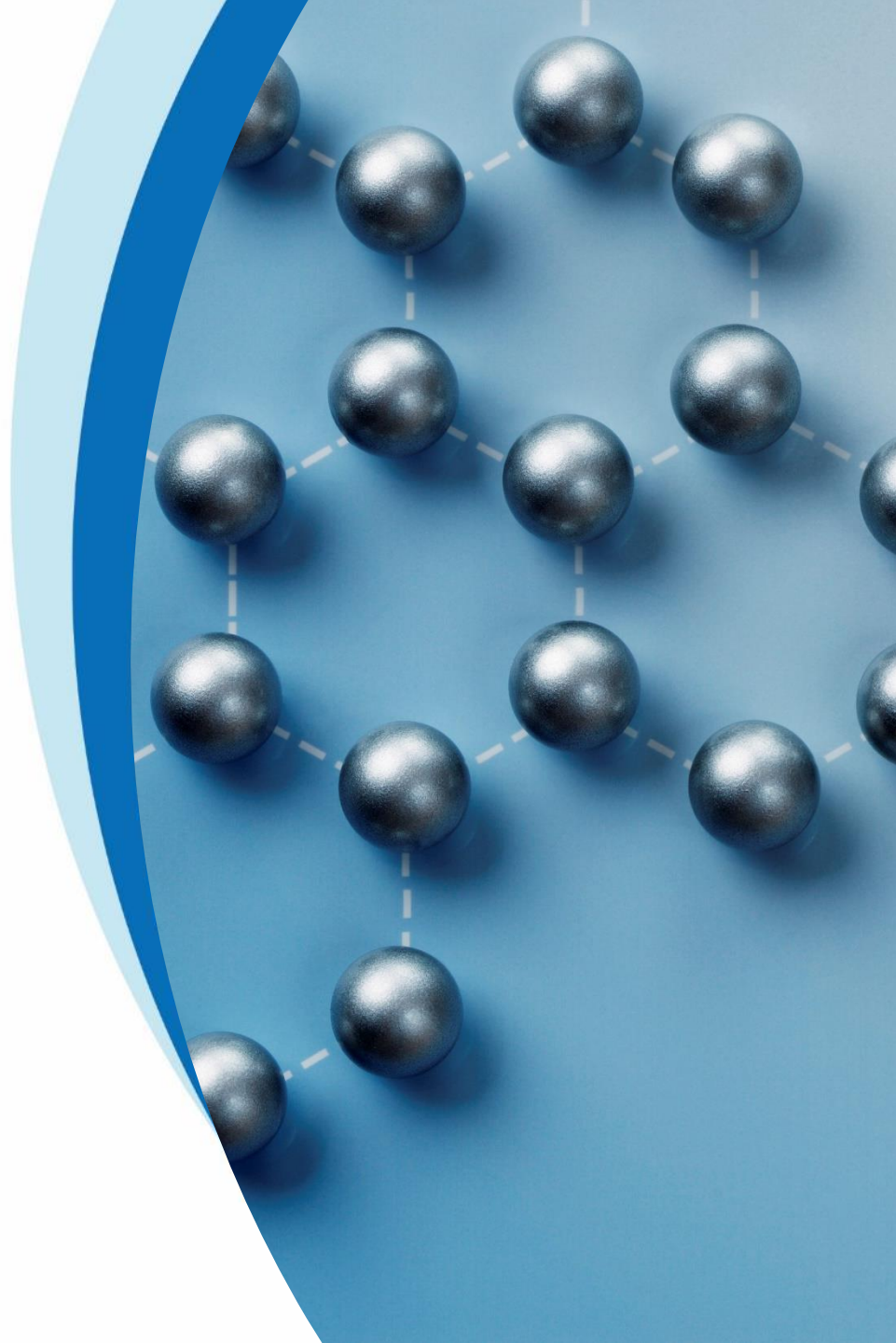
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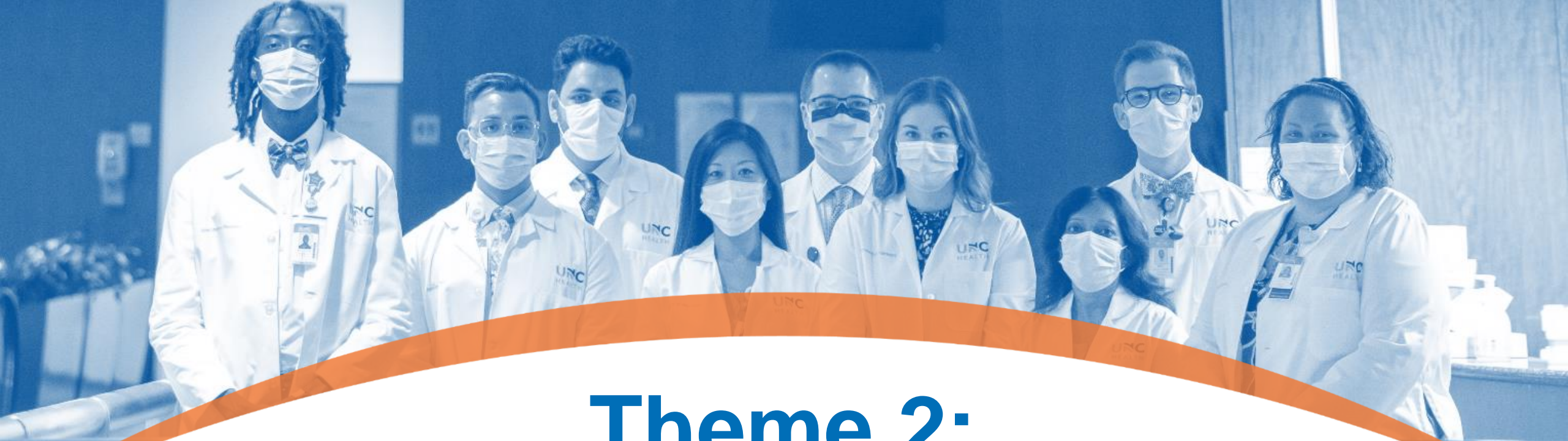


● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Strategic Recommendations for Practice Leaders

1. Health-system leaders should work with policy makers to restrict “bagging” practices by emphasizing the risks to patient safety, negative financial effects to patients, and the administrative burden this practice places on health systems.
2. Pharmacy leaders should collaborate with health-system finance experts to model the budget impact and measure financial risk associated with the site neutral payment policies.
3. Health-system leaders should work to ensure that policy makers understand the advanced standards of care required to ensure safety and quality when administering medications in health-system-based facilities, which justifies differential payment.
4. Pharmacy leaders should identify treatments suitable for safe and effective administration in the home and collaborate with finance experts to model the financial opportunity and determine the resources required to ensure the success of these home-based treatments.
5. Pharmacy and health-system leaders should coordinate with physicians, community clinics, and affiliated pharmacies on strategies for disease prevention and disease management programs that include and support the education of Medicaid patients on available services as part of their transitions of care.





Theme 2: Managing Ultra-High-Cost Drugs

Ultra-High-Cost Drugs (UHCDs)

- UHCDs such as gene and cell therapies typically target orphan and rare diseases and can cost millions of dollars per patient for a one-time treatment
- The Food and Drug Administration has approved 21 gene and cell therapy products for indications ranging from rare diseases to chronic illnesses including:
 - Cancer
 - Blood disorders
 - Leukodystrophies
 - Muscular dystrophies
 - Retinal disease

Paying for UHCDs

- 0.8% of total pharmaceutical spending in the US is spent on gene and cell therapy.
 - Approximately half of the spending on gene therapies is expected to take place outside of Medicare (i.e., through Medicaid and commercial insurance) due to treatments targeting younger patients
 - Use of these therapies in the Medicaid program may lead to increased taxes or cuts in benefits
 - Commercial payers may restrict access or increase premiums

Theme 2: **Forecast** **Question 5**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

75% of ultra-high-cost drugs will be reimbursed under outcome-based payment arrangements.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Theme 2: **Forecast** **Question 3**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

Medicare will be expanded to include patients approved to receive gene therapies (like end-stage renal disease expansion to cover dialysis services)

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

The Attraction of Alternate Payment Models

- While the clinical benefit of treatment may last a lifetime, the high expense occurs at a single point in time
- Single beneficiaries needing treatment could bankrupt a small insurance plan
- Due to limited clinical trial data, there is uncertainty about the expected clinical benefit from treatment
- Alternate payment models include:
 - Additional per-member fees to ensure access to UHCD treatment
 - Private insurers contribute funds to pay for gene and cell therapies
 - Additional benefits to Medicare plans that would make gene and cell therapies accessible to all patients nationwide

Forecast Response

5

75% of ultra-high-cost drugs will be reimbursed under outcome-based payment arrangements.



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Forecast Response

3

Medicare will be expanded to include patients approved to receive gene therapies (like end-stage renal disease expansion to cover dialysis services).



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Theme 2: **Forecast** **Question 4**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

Health systems will partner with manufacturers to be designated as limited distribution providers for gene and cell therapies.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Access Logistics

- Not all centers will have the capabilities to provide UHCDs
 - Lack of proper equipment
 - Expertise
 - Supporting service lines
- Manufacturers may elect to work with a limited number of sites
- Low patient census of these treatments per year make it unlikely to generate a return on investments

Forecast Response

4

Health systems will partner with manufacturers to be designated as limited distribution providers for gene and cell therapies.



Theme 2: **Forecast** **Question 7**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

In health systems, cell and gene therapies will be managed by pharmacy. (e.g., patient screening for therapy appropriateness, manage pre-medications, and provide outpatient clinic follow-up and monitoring).

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

New Skills Required

- Manufacturers may stipulate pharmacist involvement as a part of risk evaluation and mitigation strategy (REMS) requirements.
- Pharmacy departments must have staff with skills to prepare complex therapies and manage their safe handling, and the infrastructure necessary.

Forecast Response

7

In health systems, cell and gene therapies will be managed by pharmacy (e.g., patient screening for therapy appropriateness, manage pre-medications, and provide outpatient clinic follow-up and monitoring).



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Theme 2: **Forecast** **Question 6**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

At least 75% of health systems will have a well-defined process for applying ethical principles for allocating access to ultra-high-cost drugs.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Ethical Allocation

- Health systems cannot afford to subsidize access to UHCD
- Health systems have little control over payor decisions about which patients receive treatment
- Outcomes based payment models may provide greater access to more patients

Forecast Response

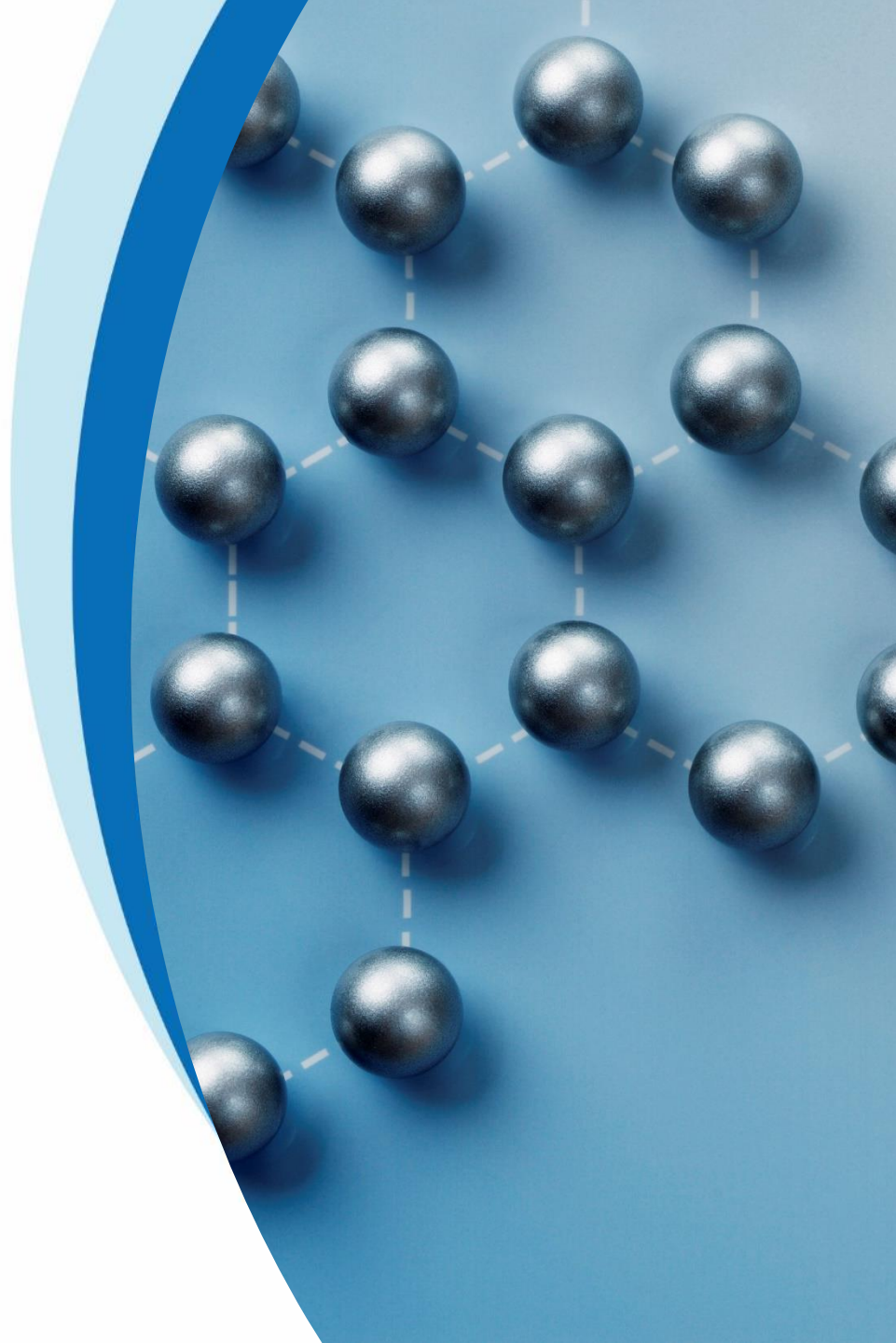
6 At least 75% of health systems will have a well-defined process for applying ethical principles for allocating access to ultra-high-cost drugs.



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Strategic Recommendations for Practice Leaders

1. Health systems should determine if they have the financial resources, established service lines, and clinical expertise to provide any UHCDs.
2. Pharmacy leaders should establish relationships with their state Medicaid program to determine if their state plans to participate in the Cell and Gene Therapy Access Model and how their state plans to provide UHCDs.
3. Health systems should partner with manufacturers to become a preferred site of UHCD administration, particularly if clinical trials were conducted at their healthcare setting. Health systems with investigational drug programs should also proactively negotiate with manufacturers to ensure ongoing access for their site if the product becomes commercially available.
4. Health-system pharmacists must ensure they have a seat at the table to work with organizational revenue cycle and contracting teams to determine the potential full cost of an episode of care for UHCDs.
5. Pharmacy leaders should be prepared to work with C-suite administrators to prepare for inevitable financial variances that may occur due to significant purchases (e.g., those exceeding \$2 million) and lagging reimbursements.
6. Pharmacy leaders across health systems should develop training programs to equip health-system pharmacists and technicians with the knowledge and skills to manage and administer UHCDs efficiently and safely.





Theme 3: Addressing the Gap in Primary Care

Consensus Report from National Academies of Sciences, Engineering, and Medicine (NASEM)

- Released in 2021
- 5 consensus objectives for the implementation plan to achieve high-quality primary care in the US
 - Pay for primary care teams to care for people, not physicians to deliver services
 - Ensure that high quality primary care is available to every individual and family in every community
 - Train primary care teams where people live and work
 - Design information technology that serves the patient, family, and interprofessional care team
 - Ensure that high-quality primary care is implemented in the United States

Team-Based Inter-Professional Care

- Theme threaded throughout the NASEM consensus report
- Foundational to achieving the quintuple aims and of high-functioning Primary Care:
 - Enhancing patient experience
 - Improving population health
 - Reducing costs
 - Improving the healthcare team experience
 - Advancing health equity

Patient Access to Primary Care

- There is an expanding shortage of primary care physicians
 - Estimated to reach 35,000 to 45,000 in the US by 2025
 - 75 million people in the US living in primary care Workforce Shortage areas
- Increasing access to providers is linked to reduced hospital admissions, outpatient visits, emergency department visits, and surgeries per capita
- The primary care gap translates to an increased need for specialist care as well

Theme 3: Forecast Question 1

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

The Federal Government will declare the “primary care access crisis” a public health emergency (e.g., as with the opioid crisis), which allows for allocation of resources to support a national response.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Theme 3: **Forecast** **Question 2**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

The Federal Government will initiate an assessment of all licensed health care professionals' scopes of practice and provide guidance to states to address the shortage of primary care physicians in the United States.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Theme 3: **Forecast** **Question 3**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

The Federal Government will provide financial incentives to health systems who offer chronic care for weight management.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Federal Efforts to Address the Shortage

- More than 100 million Americans have access barriers to primary care, and the number of people at risk of losing access due to provider shortage nearly doubled between 2014 and 2023
- There is a projected shortage of 68,020 full time primary care physicians by 2036, disproportionately impacting those in nonmetropolitan regions
- The severity of the gap is heightened by parallel aging population and increases in the prevalence of chronic diseases (e.g. obesity)
- Department of Health and Human Services (HHS) released statement in 2023:
 - Endorsed improvements to primary care payment, primary care workforce, primary care access, behavioral health, health information technology, and research and practice improvement support
 - No comprehensive action plan stated
 - Did not describe future action regarding review of scopes of practice to alleviate the shortage

Forecast Response

1

The Federal Government will declare the “primary care access crisis” a public health emergency (e.g., as with the opioid crisis), which allows for allocation of resources to support a national response.



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Forecast Response

2 The Federal Government will initiate an assessment of all licensed health care professionals' scopes of practice and provide guidance to states to address the shortage of primary care physicians in the United States.



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Forecast Response

3

The Federal Government will provide financial incentives to health systems who offer chronic care for weight management.



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Theme 3: **Forecast** **Question 4**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

50% of the US primary care visits will be with a non-physician primary care provider.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Theme 3: **Forecast** **Question 5**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

Access to care metrics, such as wait time for an appointment with a primary care provider, will be introduced as a value-based incentive (or penalty) in new provider payment models under public programs.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Theme 3: **Forecast** **Question 6**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

Pharmacists and pharmacy technicians will be integrated into 50% of health-system-based primary care practices to improve the efficiency and job satisfaction of primary care providers.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Pharmacists Bolster Value-Based Care and Access

- Team based care to enhance access and improve health outcomes aligns with value-based rather than traditional fee-for-service payment models
- In a large, integrated federal healthcare system, pharmacists serving on integrated primary care teams increased access and quality of care through comprehensive medication management services.
 - The advanced role of the primary care pharmacists improved access, lowered cost, and reduced the burden on the primary care provider
 - Reduced primary care provider revisit rates by allowing the opportunity to see additional patients on the primary care panel schedule
 - Improved access to available primary care provider same-day appointments by offloading patient visits for complex medication management
 - Reduced new patient wait times for patients seeking primary care within individual Patient Aligned Care Team (PACT) panels
- Barriers to implementation
 - Lack of recognition or attribution of cost savings, cost avoidance or revenue to offset costs
 - More limited resources
 - Slow uptake of these roles outside of integrated healthcare systems or in rural settings

Forecast Response

4

50% of US primary care visits will be with a non-physician primary care provider.



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Forecast Response

5

Access to care metrics, such as wait time for an appointment with a primary care provider, will be introduced as a value-based incentive (or penalty) in new provider payment models under public programs.



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Forecast Response

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Theme 3: **Forecast** **Question 7**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

50% of health systems will develop centralized, remote pharmacists' clinical services to provide support to primary care physicians.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Expansion of Centralized Remote Pharmacist Provider Services to Improve Care

- Centralized provider services have been long established by large healthcare systems delivering chronic disease management
- Technology advancements expanded dramatically during the COVID-19 pandemic through temporary waivers and flexibilities tied to the public health emergency, with real-world analysis showing improved continuity of care and improved outcomes for patients receiving telehealth
- Opportunities for pharmacists to be involved with remote services
 - Home blood pressure telemonitoring and home-based care coordination
 - Telephonic follow-up on unplanned hospitalizations resulted in smaller % of post discharge ED visits and hospitalizations

Forecast Response

7

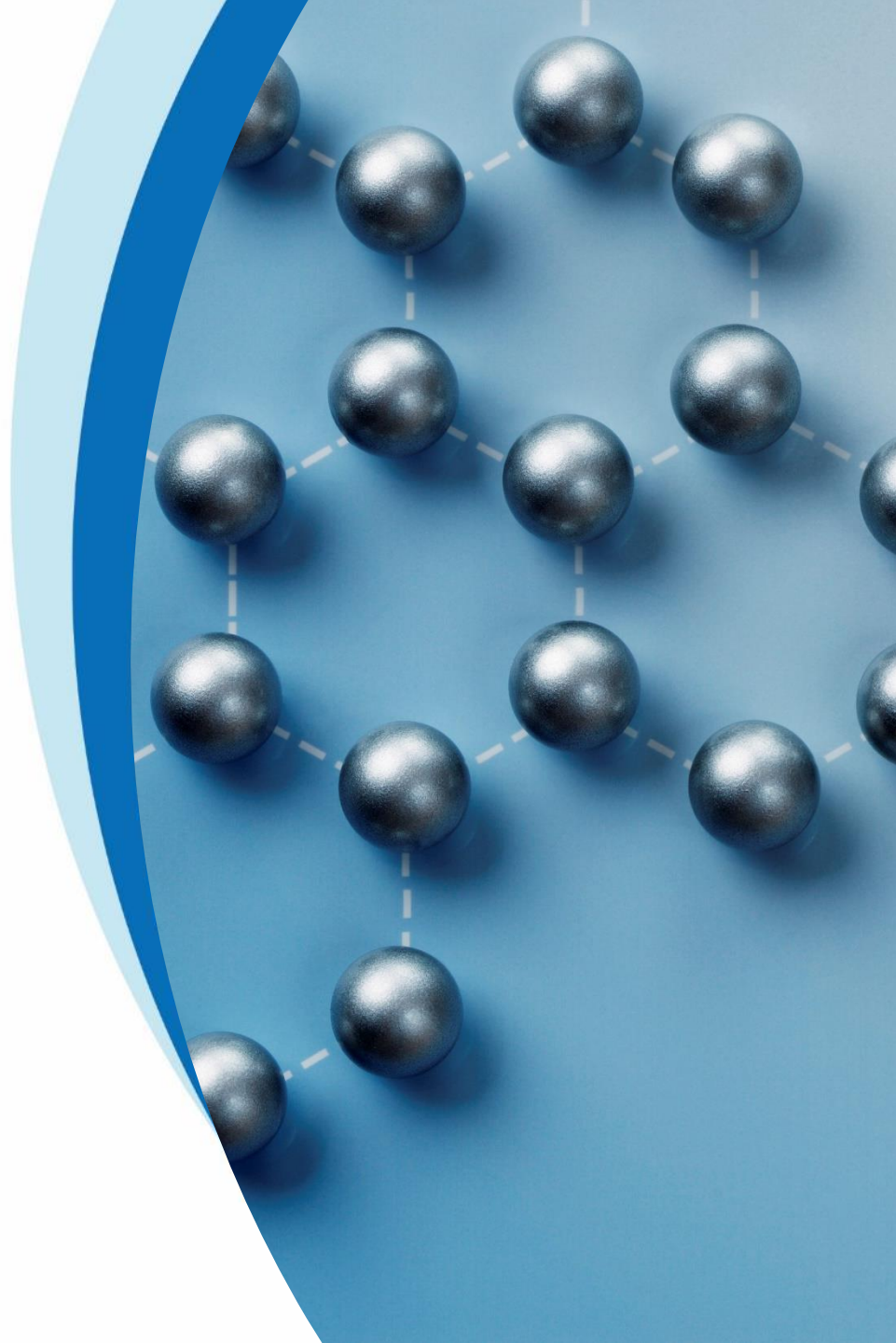
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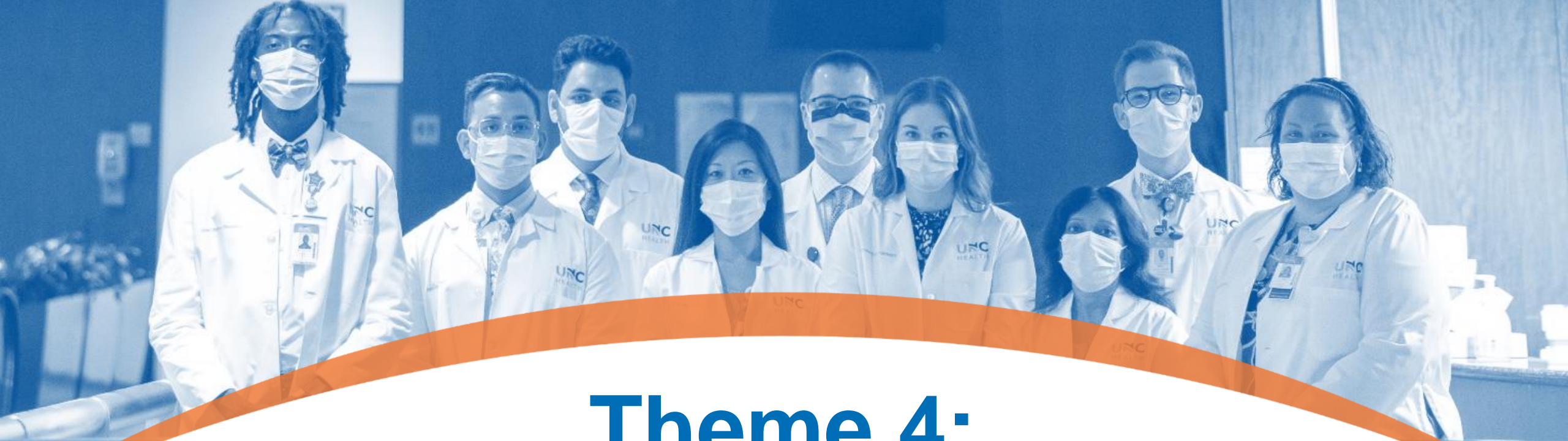


● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Strategic Recommendations for Practice Leaders

1. Pursue policies that will reduce variations present in pharmacist scope of practice and amplify uniformity in team-based care, with focus on efforts that address equity among at-risk populations.
2. Implement policies that include increased deployment of collaborative practice agreements to maximize the clinical benefit, health-system efficiency, and healthcare professionals' well-being achieved when pharmacists are fully integrated into primary care.
3. Advocate for improved payment systems, metrics, and quality indicators that facilitate reimbursement in line with the actual value imparted by the pharmacist services on primary care teams.
4. Convene stakeholders and develop policies to facilitate expanding, optimizing, and measuring centralized, remote pharmacist service programs to improve patient outcomes, population health, and reduce the primary care gap.
5. Develop monitoring platforms for pharmacists and pharmacy technicians in primary care settings that include mechanisms for annual reporting of performance metrics and indicators to quantify the level of integration.
6. Collaborate with federal agencies to address the primary care gap via pharmacist integration into team-based care models.





Theme 4: Whole Person Health in U.S. Healthcare

Whole Person Health

- Traditional healthcare systems have focused on treating and curing diseases rather than promoting overall health
- Whole person health places emphasis on the following factors for the individual:
 - Biological
 - Behavioral
 - Societal
 - Environmental
- Aligns with the individual's life mission, aspirations, and purpose
- Shifts from reactive care to one that prioritizes disease prevention, health, environment, and well being

Theme 4: **Forecast** **Question 1**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

Payors will establish meaningful measures of health systems' effectiveness in integrating whole person health into care delivery.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Whole Person Health Integration into Healthcare Delivery

- Measures of effectiveness for whole person health should be integrated into healthcare delivery
- Fee-for-service incentivize treatment of illness and have limited accountability for spending and quality
- Centers for Medicare and Medicaid Services launched a new voluntary primary care model, “Making Care Primary”, that provides:
 - Prospective payment models that aim to improve value of care
 - Practice transformation
 - Care coordination

Forecast Response

1 Payors will establish meaningful measures of health systems' effectiveness in integrating whole person health into care delivery.



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Theme 4: **Forecast** **Question 3**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

Care plans within the electronic health record will routinely integrate whole person health goals specific to each patient and thus, accessible to all care providers.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Electronic Health Record Integration of Whole Person Health

- Electronic Health Record will integrate whole person health goals for each specific patient
- Ensure all care providers have access to the same patient information
- Interoperability will be vital and span from medical settings to community and social care settings

Forecast Response

3 Care plans within the electronic health record will routinely integrate whole person health goals specific to each patient and thus, accessible to all care providers.



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Theme 4: **Forecast** **Question 4**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

Pharmacists will collaborate with other health care workers to ensure that addressing whole person health is incorporated into medication management plans.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Theme 4: **Forecast** **Question 6**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

Health-system pharmacies will incorporate whole person health into the medication use process.

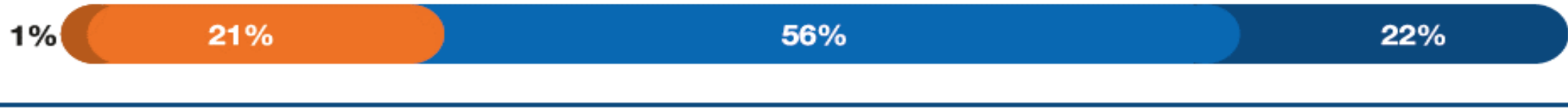
- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Incorporating Whole Person Health into Medication Management

- Pharmacists will integrate whole person health into medication management and medication-use process in a collaborative approach with other health-care professions
- An increasing number of primary care practices have clinicians working as part of interprofessional teams, including behavioral health specialists, community health workers, health coaches, and pharmacists.
- Medication regimen will be aligned with patient's goals, preferences and health plan
- Pharmacy can provide screening for social determinants of health and coaching to improve medication adherence

Forecast Response

4 Pharmacists will collaborate with other health care workers to ensure that addressing whole person health is incorporated into medication management plans.



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Forecast Response

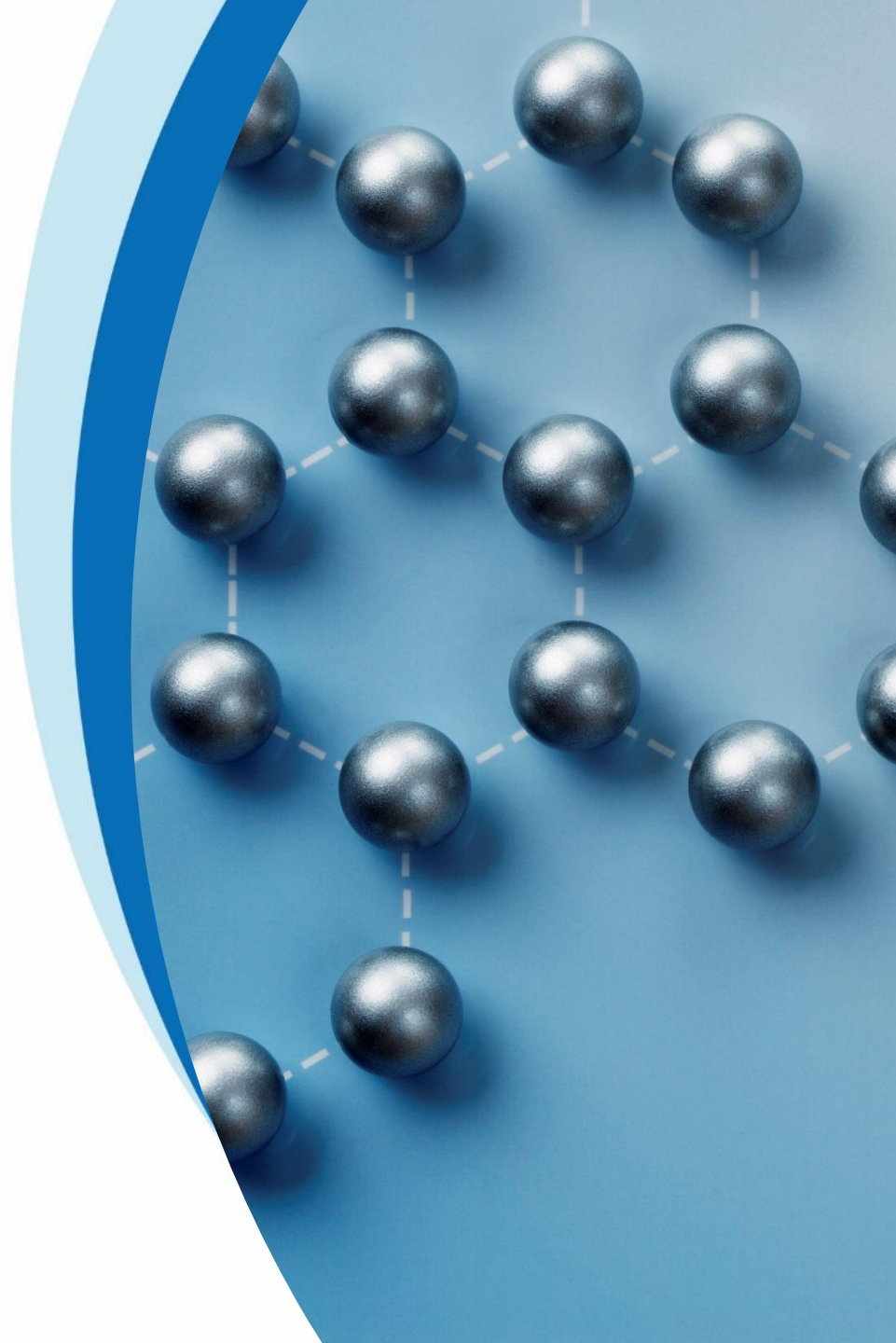
6 Health-system pharmacies will incorporate whole person health into the medication use process (e.g., comprehensive medication management, policies, workflows, and the drug formulary).

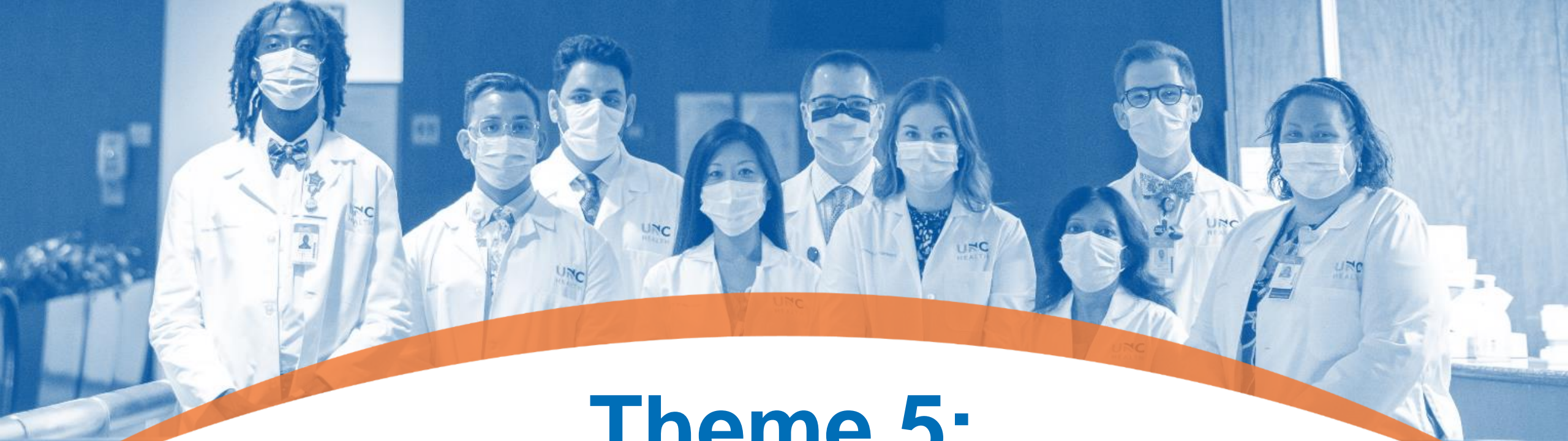


● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Strategic Recommendations for Practice Leaders

1. Health-system leaders and pharmacists within healthcare systems should develop methods to measure the impact of integrating whole person health on health outcomes and patient experiences.
2. Health system leaders must advocate for payment models (of both public and private payers) to address whole person health. These models should include the entire interprofessional team, recognize the pharmacists' role, and support the full scope of whole person healthcare services.
3. Health-system leaders should strengthen their informatics infrastructure and improve interoperability needed to partner with community programs, social care, and public health systems.
4. Schools of pharmacy should build whole person health concepts, including patient experience, into their curricula and training and determine the best methods to ensure that learners meet competencies.
5. Pharmacists and health-system pharmacies should develop tools to optimize inclusion of whole person health into the daily practice of medication management and the medication-use process, including identifying best practices for pharmacists and pharmacy technicians, workflow redesign, and specific whole person health policies relevant to medication access.





Theme 5: Navigating Generative AI: Opportunity and Risk

Generative Artificial Intelligence (AI) Overview

- Generative AI uses machine learning algorithms and historical patterns of use to create digital content
- Already proven useful in healthcare by facilitating documentation in electronic health record (EHR) by physicians and advanced practice providers
- Potential uses in healthcare:
 - Imaging interpretation and disease diagnosis
 - Personalizing treatment plans/patient education
 - Identifying gaps in care

Theme 5: **Forecast** **Question 1**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

Generative AI will be used to enhance the delivery of patient care to diverse populations, including non-English speaking populations.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Theme 5: **Forecast** **Question 2**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

Generative AI will be utilized as a triage tool for health systems to facilitate patient referral to health care professionals.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Theme 5: **Forecast** **Question 3**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

50% of prior authorization administrative requirements will be completed by generative artificial intelligence technology.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Forecast Response

1 Generative artificial intelligence will be used to enhance the delivery of patient care to diverse populations, including non-English speaking populations.



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Forecast Response

2

Generative artificial intelligence will be utilized as a triage tool for health systems to facilitate patient referral to health care professionals.



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Forecast Response

3

50% of prior authorization administrative requirements will be completed by generative artificial intelligence technology.



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Mitigating Challenges and Risks

Challenge	Counteraction
Data privacy and security	Deploy data architecture and robust cybersecurity technologies
Bias	Train AI tools on large, diverse datasets that avoid historical bias
Equity and fairness	Monitor resource allocation for AI projects across different health systems Recognize and act on talent acquisition hurdles
Transparency	Utilize Explainable AI (XAI), which shows <i>how</i> AI tools reach their conclusions/outputs
Legal, regulatory and ethical considerations	Implement robust data governance Maximize transparency in AI models Engage with regulatory bodies Prioritize data security/patient privacy

Theme 5: **Forecast** **Question 4**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

50% of health-systems will employ prompt engineers (like electronic health record rule writers) to improve the functionality and outcomes of generative AI.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Theme 5: **Forecast** **Question 5**

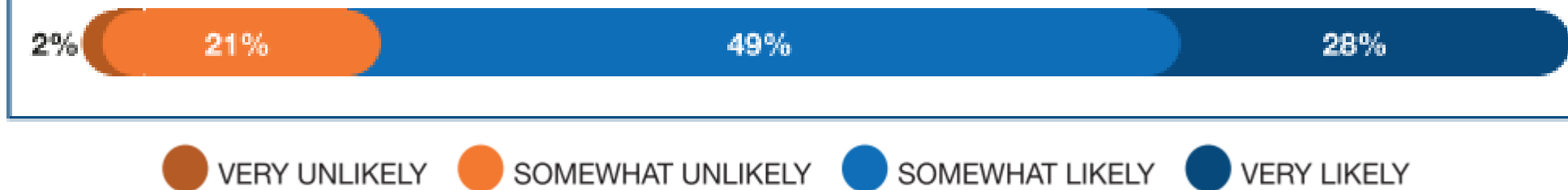
How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

50% of health-systems will permit generative AI communication (i.e., Chatbots) to respond to patients' health-related questions.

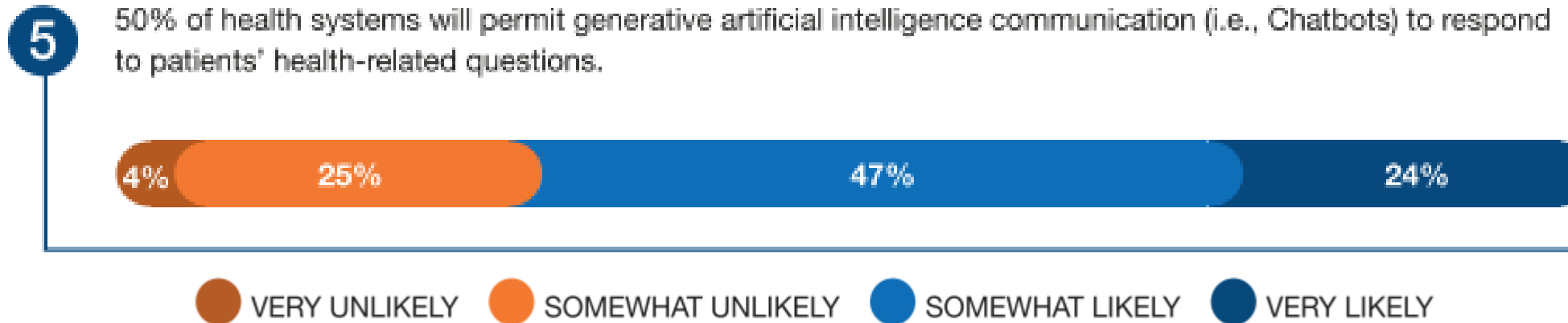
- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Forecast Response

4 50% of health-systems will employ prompt engineers (like electronic health record rules writers) to improve the functionality and outcomes of generative artificial intelligence.



Forecast Response



AI and the Pharmacy Workforce

- AI tools bring up the concern for job security and the human component of patient care
- AI may provide solutions to declining enrollment trends in health care and pharmacy workforce
 - Low pharmacy school enrollment
 - Increase in open residency positions
 - Workforce shortages affecting technician roles

AI and the Pharmacy Workforce

- Generative AI holds promise for augmenting, rather than replacing, the current workforce
- AI may transform job roles, but won't fully replace human expertise and decision-making
- Will AI expand the scope of practice for a pharmacist? A technician?
- AI proficiency will likely become an essential skill – the pharmacy workforce must be ready to learn and adapt

Theme 5: **Forecast** **Question 6**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

50% of health-systems will adopt technology in the EHR to allow pharmacist documentation to be completed by generative AI.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Forecast Response

6

50% of health systems will adopt technology in the electronic health record to allow pharmacist documentation to be completed by generative artificial intelligence.



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Theme 5: **Forecast** **Question 7**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

25% of health systems will utilize a Chatbot to obtain medication histories.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Forecast Response

7

25% of health systems will utilize a Chatbot to obtain medication histories.



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

The Role of Generative AI in Pharmacy Practice

- Generative AI may usher in efficiency, personalized care, and innovative breakthroughs
 - Documenting care notes
 - Enrolling patients in medication assistance programs
 - Managing the drug supply chain
- However, it presents issues of ethics, legality, and social challenge
- Through collaboration, continuous learning, and ethical AI, patient care can be revolutionized while preserving the human touch in pharmacy practice

Strategic Recommendations for Practice Leaders

1. Health-system leaders must empower pharmacists to drive an enterprise-wide generative AI agenda that elevates the roles of the pharmacy workforce to achieve enhanced safety, quality, and access to care for all patients. This includes establishing institutional governance to evaluate and manage AI risks, investments, ethical use, continuous monitoring, and progress while encouraging innovation.
2. Pharmacy leaders must embrace the mandate to lead in the development of the enterprise AI agenda and should prioritize 2 or 3 strategic opportunity areas to serve as enterprise North Stars for documenting and demonstrating the value of “pharmacy + AI” and launch pilot evaluations to support adoption and evaluate return on investment.
3. Pharmacy leaders must work to establish common workflows and EHR documentation to facilitate the adoption of AI.
4. Schools of pharmacy and professional societies must incorporate AI principles and practices into the competencies and curricula and ongoing education and training of the pharmacy workforce, covering topics such as the responsible use of AI, fundamentals of AI, data literacy, bias awareness, and ethical considerations.
5. Healthcare organizations must foster a culture where AI is seen as an augmentation to human decision-making rather than a replacement, encouraging interdisciplinary collaboration so that clinicians and AI work together to enhance patient care.





Theme 6: Stabilizing the Pharmacy Workforce

Another Pharmacist Shortage: Concerns and Possible Solutions

- According to the American Association of Colleges of Pharmacy, there has been a greater than 30% decline in pharmacy school enrollment over past decade
- Over the past 5 years, there has been a 500% increase in unfilled pharmacy residency positions
- The US Bureau of Labor Statistics estimates that pharmacist jobs will grow at an average of 3% over the next decade
- Continued innovation will require highly trained pharmacists to manage new therapies, including cell and gene-based therapies

Theme 6: **Forecast** **Question 1**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

A decline in pharmacy school enrollments will result in 20% of PGY1 residency program positions being unfilled.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Theme 6: **Forecast** **Question 2**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

Pharmacy student enrollment will increase by 25% compared to 2024.

- A.** Very Likely
- B.** Somewhat Likely
- C.** Somewhat Unlikely
- D.** Very Unlikely

The Impact of Declining Pharmacy School Enrollment on a Prepared Workforce

- Pharmacy school enrollment continues declining, resulting in fewer students pursuing residency training
 - Panelists generally do not believe that there will be a significant increase in pharmacy student enrollment by 2029
- 68% of respondents believe that the profession is highly unprepared for the scenario in which 20% of residency positions go unfilled
- Nontraditional residency programs or more robust competency-based training programs could mitigate the knowledge and skill gap while providing growth and retention incentives for the existing workforce

Forecast Response

1

A decline in pharmacy school enrollments will result in 20% of PGY1 residency program positions being unfilled.



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Forecast Response

2

Pharmacy student enrollment will increase by 25% compared to 2024.



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Theme 6: **Forecast** **Question 3**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

Due to a shortage of pharmacists, state boards of pharmacy will expand the scope of practice for pharmacy technicians.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Theme 6: **Forecast** **Question 4**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

Pharmacy technicians will be authorized to independently perform certain patient care activities without supervision by a pharmacist (e.g., manage protocol-based care, administer immunizations).

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

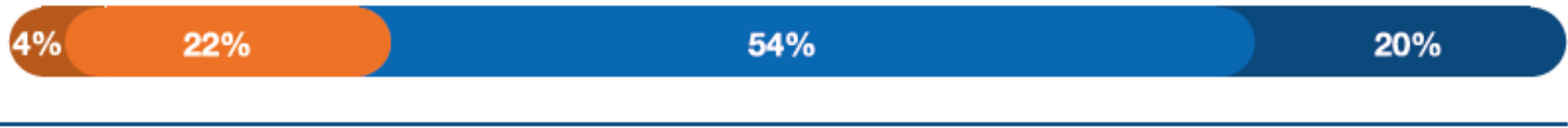
Expanding Pharmacy Technician Roles due to a Pharmacist Shortage

- The expansion of the pharmacist's scope of practice while the pharmacist pipeline shrinks presents challenges for providing advanced services
- Boards of pharmacy can mitigate the pharmacist shortage by expanding the pharmacy technician scope of practice
- Defining patient care activities that can be independently performed by pharmacy technicians would allow pharmacists to focus their time on higher level patient care activities

Forecast Response

3

Due to a shortage of pharmacists, state boards of pharmacy will expand the scope of practice for pharmacy technicians.



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Forecast Response

4 Pharmacy technicians will be authorized to independently perform certain patient care activities without direct supervision by a pharmacist (e.g., manage protocol-based care, administer immunizations).



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Theme 6: **Forecast** **Question 5**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

50% of states will modify their pharmacy practice acts to reduce barriers to licensure (e.g., simplify the application process) for foreign pharmacy graduates.

- A.** Very Likely
- B.** Somewhat Likely
- C.** Somewhat Unlikely
- D.** Very Unlikely

Barriers to Entry

- Over half of the panelists believe that boards of pharmacy will reduce barriers to licensure by simplifying the application process for foreign pharmacy graduates
- Reducing the barriers to licensure provides more pharmacists into the pipeline and helps reduce the burden of fewer pharmacy students

Forecast Response

5 50% of states will modify their pharmacy practice acts to reduce barriers to licensure (e.g., simplify the application process) for foreign pharmacy graduates.



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Theme 6: **Forecast** **Question 6**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

75% of health systems will implement virtual platforms to extend the reach of the pharmacy workforce (e.g., providing clinical services to home-based or rural patients).

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Expanding Geographical Boundaries

- Health systems continue expanding their reach through expansion and association, sometimes crossing state lines
- Simplifying reciprocity between states will become more important as this expansion continues and pharmacists are expected to practice care in multiple states
- The reciprocity process for physicians who practice in multiple states has become much simpler than for pharmacists due to the Interstate Medical Licensure Compact
 - Similar compacts should be adopted for other health professions

Forecast Response

6 75% of health systems will implement virtual platforms to extend the reach of the pharmacy workforce (e.g., providing clinical services to home-based or rural patients).



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Theme 6: **Forecast** **Question 7**

How likely is it that the following will occur, by the year 2029, in the geographic region where you work?

75% of health systems will require pharmacists who manage cell and gene therapies to receive advanced training.

- A. Very Likely
- B. Somewhat Likely
- C. Somewhat Unlikely
- D. Very Unlikely

Advanced Training for Advanced Therapies

- There are more than 20 innovative new agents classified as cell and gene therapies in the Food and Drug Administration pipeline that are anticipated to be reviewed and approved by the end of 2024
 - 10 of these agents are expected to cost greater than \$1 million per treatment course
- Management of these therapies extends beyond clinical knowledge and should include both the product preparation phase and patient care phase
- Only 13% of panelists indicated they were very prepared to manage cell and gene therapies

Forecast Response

7

75% of health systems will require pharmacists who manage cell and gene therapies to receive advanced training.



● VERY UNLIKELY ● SOMEWHAT UNLIKELY ● SOMEWHAT LIKELY ● VERY LIKELY

Strategic Recommendations for Practice Leaders

1. Health-system pharmacists and ASHP should introduce approaches to increase awareness of health-system pharmacy practice among current student pharmacists and potential enrollees to colleges and schools of pharmacy.
2. Pharmacy leaders should consider incorporating into their strategic plans a 20% decrease in PGY1 residency graduates in the next 5 years. Plans should contemplate the potential impact on practice models, advanced roles, and the delivery of patient care.
3. Health-system pharmacy leaders and pharmacy organizations should advocate for the adoption and expansion of interstate licensure compacts for pharmacists to support greater patient access to pharmacy services.
4. Health-system pharmacy leaders and pharmacy organizations should support transformation of the current patchwork regulatory practice framework of individual states to incorporate the ideals of a standard of care model.
5. Health systems must prepare the current and future workforce and adapt existing care models to ensure that the clinical, operational, financial and longitudinal care needs of patients are met when they receive innovative and complex cell and gene-based therapies.



Case Study Transition

- 30 minutes to work on assigned case and answer questions in a small group (4-8 people)
- 5 minutes per group to present the scenario and answer the questions from the case
- Each group should select:
 - A person to lead or facilitate discuss among the group
 - A person to record discussions/decisions made
 - A timekeeper to keep the group on task
 - One or two presenters

Large Group Wrap-Up

Conclusion

- The pharmacy forecast improves the effectiveness of leaders in hospital and health-system pharmacy practice
- The forecast allows for students or other pharmacy professionals to better understand the emerging trends and predicted challenges
- Pharmacists are positioned to improve access to care on multiple fronts associated with population health, technology and data, and virtual services

Group Q&A
