



## INNOVATIONS IN PHARMACY TRAINING AND PRACTICE TO ADVANCE PATIENT CARE: A WORKSHOP

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### AGENDA MAY 29, 2025 (DAY 1)

**Purpose** To bring together different leading-voices salient to pharmacy education and practice to explore collaborative initiatives with specific, measurable goals to reach a more impactful, sustainable, and representative future state for pharmacy.

#### Opening Session

**9:00–9:15** **Welcome**

Jonathan Watanabe, Workshop Planning Committee Chair

**9:15–10:30** **Opening Panel**

**Moderator:** Jonathan Watanabe, Workshop Planning Committee Chair

**Setting the Stage:** Kathy Giacomini, University of California School of Pharmacy

**Workshop Sponsors**

- Paul Abramowitz, American Society of Health-System Pharmacists
- Lorri Walmsley, Pharmacy Affairs Walgreen Co
- Michael D. Hogue, American Pharmacists Association
- Michael S. Maddux, American College of Clinical Pharmacy
- Marilyn Speedie, Fmr University of Minnesota College of Pharmacy representing Mary Anne Koda-Kimble
- Lee C. Vermeulen, American Association of Colleges of Pharmacy

**10:30-11** **BREAK**

**11-12:15pm** **Session I: Building a Pharmacy Workforce that serves pharmacy desert areas and expands the pharmacy workforce**

**Objectives:** Explore strategies to address pharmacy deserts and improve health outcomes, and consider effective approaches and processes for recruiting and training pharmacy students with an aim of addressing pharmacy deserts and improving health outcomes

**Moderator:** \*Ranti Akiyode, Howard University College of Pharmacy

**Current State of Community Pharmacies**

Delesha Carpenter, UNC Eshelman School of Pharmacy

**Current State of the Pharmacy Workforce**

Sharon Youmans, University of California San Francisco

**Bridging Current States: Pharmacy Workforce and Pharmacy Deserts**

Lorri Walmsley, Pharmacy Affairs Walgreen Co

**Panel Discussion**

**Open Discussion**

**Facilitator:** \*Marie Chisholm-Burns, Oregon Health & Science University

**12:15-1:15pm LUNCH**

**1:15-2:15pm Session II: Workplace Environments that Foster Wellbeing of the Pharmacy Workforce**

**Objectives:** Discuss innovative strategies for creating safe, supportive, and interprofessional work environments that reduce clinician burnout and empower pharmacists within their chosen area (e.g., community, health system, academia, policy, managed care, industry, research).

**Setting the Stage/Moderator:** \*Suzanne Harris, UNC Eshelman School of Pharmacy

**Roundtable Discussion:**

- \*Nicole J. Brandt, University of Maryland School of Pharmacy, MedStar Health
- \*S. Claiborne "Clay" Johnston, Harbor Health
- \*Kashelle Lockman, Society of Pain and Palliative Care Pharmacists, University of Iowa

**Audience Participation:**

- **In-person Audience:** Work as a table (or in dyads/triads) to select your top 3 strategies in Slido that you believe will: Prioritize the well-being of the pharmacy workforce by creating policies and other system changes to mitigate burnout. Submit 1 response/team.
- **Virtual Audience:** Select your top 3 strategies in Slido that you believe will: Prioritize the well-being of the pharmacy workforce by creating policies and other system changes to mitigate burnout

**Open Discussion**

**2:15-3:30pm Session III-a: Exploring financially supported Roles for Pharmacists through model programs**

**Objectives:** Evaluate model programs where pharmacists are financially supported in expanded roles

**Panel Discussion 1:** What are model programs where pharmacists are (or could be) financially supported within expanded roles?

**Moderator:** \*Marie Chisholm-Burns, Oregon Health & Science University

**Setting the Stage:** Mary Ann Kliethermes, American Society of Health-System Pharmacists

**Panelists:**

- Amanda Brummel, Fairview Pharmacy Service
- Adriene Zook, Geisinger
- Laura Hanson, Virginia Mason Franciscan Health
- Troy Trygstad, CPESN USA

**Open Discussion**

**3:30-3:45**     **SHORT BREAK**

**3:45-4:55pm**     **Session III-b Exploring Policies for Financially Supported Roles for Pharmacists**

**Panel Discussion 2:** What is needed from government, industry, and health-systems to advance sustainable financially supported roles for pharmacists?

**Moderator:** \*Kashelle Lockman, **Society of Pain and Palliative Care Pharmacists** University of Iowa

**Setting the Stage:** Randy P. McDonough, Towncrest Pharmacy Corp

**Panel Discussion**

- Tom Kraus, American Society of Health-System Pharmacists
- Mark Atalla, Fmr Centers for Medicare & Medicaid Services
- Phil Rodgers, University of Michigan

**Open Discussion**

**Facilitator:** Tom Bateman, Rutgers, The State University of New Jersey

**4:55-5pm**     **Day 1 Closing**

Jonathan Watanabe, Workshop Planning Committee Chair

**5:30-7pm:**     **Reception + Poster session “The Future of Pharmacy”**

**Moderated Poster Session** (6-6:30pm)

\*Ranti Akiyode, Howard University College of Pharmacy

\*Suzanne Harris, UNC Eshelman School of Pharmacy

\*Jennifer Bacci, University of Washington School of Pharmacy

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**AGENDA MAY 30, 2025 (DAY 2)**

**Purpose**     To bring together different leading-voices salient to pharmacy education and practice to explore collaborative initiatives with specific, measurable goals to reach a more impactful, sustainable, and representative future state for pharmacy.

**9-9:10am:**     **Opening**

Jonathan Watanabe, Workshop Planning Committee Chair

**9:10-9:45**     **Keynote Speaker**

Krystalyn Weaver, National Alliance of State Pharmacy Associations

## Open Discussion

**9:45-10:00** BREAK

### **10:00-12:00** Session IV: Next generation education & training programs for Future Pharmacists that are adaptable as the environments change

**Objectives:** Discuss how pharmacy (education to practice) has evolved and adapted to new learning and practice environments; and how future pharmacy graduates can be trained to lead and promote a forward-looking pharmacy workforce within constantly evolving education and practice environments.

**Moderator:** \*Leigh Ann Ross, Auburn University

#### **Panel Discussion:**

**Past:** Joseph T. DiPiro, Virginia Commonwealth University

**Present:** Melissa Somma McGivney, University of Pittsburgh

#### **Future:**

- Lemrey “Al” Carter, National Association of Boards of Pharmacy
- Marie Smith, University of Connecticut
- Samuel Johnson, The Craneware Group
- Rafael Alfonso-Cristancho, GlaxoSmithKline

## Open Discussion

### **Co-Facilitators**

\*Jennifer Bacci, University of Washington School of Pharmacy

\*Leigh Ann Ross, Auburn University

**12:00-1:00pm** LUNCH

### **1:00-1:20pm** Session V: Scaling and Sustaining Workforce Transformation for Pharmacists

\*Nicole J. Brandt, University of Maryland School of Pharmacy, MedStar Health

### **1:20pm** Pulling it all Together

**Objectives:** Consider elements of a roadmap that integrate transformative strategies for charting the future of pharmacy; and explore platforms for how individuals within educational programs, industry, business, technology companies, and policy can move the strategy forward.

**Facilitator:** \*Nicole J. Brandt, University of Maryland School of Pharmacy, MedStar Health

### **1:20-1:30pm** Breakout Group Instructions

- Virtual Participants: Take a 10min break and receive instructions when you return
- In-person Participants: Divide into 4 groups based on the first letter of your first name
  - **E-Street Conference Room (A-E)**
  - **Keck 101 (F-K)**
  - **Keck 103 (L-O)**
  - **Keck 105 (P-Z)**
  - Keck 100 Virtual

**1:30-2:30pm:** Breakout Groups

**2:30-2:50pm: BREAK**

**2:50-3:15pm Report Back**

**Facilitator:** \*Nicole J. Brandt, University of Maryland School of Pharmacy, MedStar Health

**Breakout Group Leads**

**3:15-3:45pm Open Microphone**

What did we miss and where do we go from here?

**Moderator:** Jonathan Watanabe, Workshop Planning Committee Chair

**3:45-4pm Final Closing Remarks**

Jonathan Watanabe, Workshop Planning Committee Chair

**4pmET ADJOURN**

\*Member of the Workshop Planning Committee

## Resources

### Statement of Task:<sup>[2]</sup>

A planning committee of the National Academies of Sciences, Engineering, and Medicine will organize a public workshop that will examine recent trends in the field of pharmacy and consider strategies for enhancing the pharmacy workforce and training to advance patient care and outcomes. The workshop will feature invited presentations and panel discussions on topics that may include:

- Ways to build a pharmacy workforce that **eliminates pharmacy deserts** and leads to positive health outcomes in rural, suburban, and urban areas through initiatives such as:
  - pathway programs into pharmacy schools
  - paid internship programs for pharmacy trainees
  - education-employment partnership programs
  - processes for admitting and retaining successful pharmacy students
- Strategies to create collaborative care environments that reduce **clinician burnout** and enable pharmacists to train and work in a safe and supportive environment
- **Model programs** in which pharmacists have expanded roles in health care delivery, such as:
  - management and treatment of substance use disorders
  - provision of reproductive health services
  - medication management for cancer, cardiovascular disease, and other chronic diseases
  - precision pharmacotherapy
  - interprofessional palliative care teams
- **Next generation training programs** that could prepare pharmacists for expanded roles beyond direct patient care, such as:
  - research and development in the biopharmaceutical industry
  - drug distribution and manufacturing
  - policy and regulation
  - health economics and health services research
  - public health

The planning committee will organize the workshop, develop the agenda, select and invite speakers and discussants, and moderate or identify moderators for the discussions. A proceedings of the presentations and discussions at the workshop will be prepared by a designated rapporteur in accordance with institutional guidelines.

## References

Bacci, J. L., Oster, N. V., & Skillman, S. M. 2024. Insights into Decreasing Applicants to Schools and Colleges of Pharmacy in the United States. Center for Health Workforce Studies. <https://familymedicine.uw.edu/chws/wp-content/uploads/sites/5/2024/08/UWCHWS-FR-Pharm-Applicants-2024.pdf>

*This study sought to explore recent declines in pharmacy school applications by describing factors that influence undergraduate students' decision to study pharmacy at selected research universities in the United States (US) with schools and colleges of pharmacy.*

Chisholm-Burns, M. A., Kim Lee, J., Spivey, C. A., Slack, M., Herrier, R. N., Hall-Lipsy, E., Graff Zivin, J., Abraham, I., Palmer, J., Martin, J. R., Kramer, S. S., & Wunz, T. (2010). US pharmacists' effect as team members on patient care: systematic review and meta-analyses. *Medical care*, 48(10), 923–933. <https://doi.org/10.1097/MLR.0b013e3181e57962>

*Comprehensive systematic review with focused meta-analyses to examine the effects of pharmacist-provided direct patient care on therapeutic, safety, and humanistic outcomes. Pharmacist-provided direct patient care has favorable effects across various patient outcomes, health care settings, and disease states. Incorporating pharmacists as health care team members in direct patient care is a viable solution to help improve US health care.*

Corrigan, M. M., Steinkopf, M., Gandhi, N., Maine, L. L., Moore, T., Ragucci, K., Ross, L., Vermeulen, L., & Zellmer, W. A. (2022). Working Together: Summary and Recommendations of the 2022 Bridging Pharmacy Education and Practice Summit. *American Journal of Pharmaceutical Education*, 86(8), ajpe9349. <https://doi.org/10.5688/ajpe9349>

*This is a summary of the June 2-3, 2022 Bridging Pharmacy Education and Practice (BPEP) Summit that was designed to achieve consensus and provide action-oriented recommendations to address what pharmacy workforce optimization would look like and the changes that are needed to achieve this.*

DiPiro, J. T., Hoffman, J. M., Tichy, E., Shea, S., Sanborn, M., Hung, A., Fox, E. R., Watanabe, J. H., Torrise, V., Abourjaily, P., Cunningham, F. E., Schweitzer, P., Nelson, S. D., Stump, L. S., Castro, H., Nesbit, T. W., & Scott, C. M. (2024). ASHP and ASHP Foundation Pharmacy Forecast 2025: Strategic Planning Guidance for Pharmacy Departments in Hospitals and Health Systems. *American journal of health-system pharmacy : AJHP : official journal of the American Society of Health-System Pharmacists*, zxae280. Advance online publication. <https://doi.org/10.1093/ajhp/zxae280>

*The 2025 ASHP Pharmacy Forecast report is written to identify and contextualize emerging trends that will influence healthcare, health systems, and the pharmacy profession. It provides recommendations to inform strategic planning that should prompt action by pharmacists and health-system leaders.*

Luli, A. J., Bounthavong, M., & Watanabe, J. H. (2020). Pharmacists on the front-line of solving a public health crisis: Increasing access to medications for opioid use disorder. *Journal of the American Pharmacists Association : JAPhA*, 60(2), 297–303. <https://doi.org/10.1016/j.japh.2019.10.014>

*Opioid use disorder (OUD) and its associated mortality continue to be a public health crisis in the United States. Opportunities exist for pharmacists to work collaboratively to expand services related to medications for OUD. Utilizing pharmacists would increase patient accessibility to medications for OUD.*

Shane, R.R. Translating health care imperatives and evidence into practice: The “Institute of Pharmacy” report, *American Journal of Health-System Pharmacy*, Volume 69, Issue 16, 15 August 2012, Pages 1373–1383, <https://doi.org/10.2146/ajhp120292>

*Review of multiple relevant trends and stakeholder perspectives for prioritization. Help improve US health care.*

Smith, M., Bates, D. W., Bodenheimer, T., & Cleary, P. D. (2010). Why pharmacists belong in the medical home. *Health affairs (Project Hope)*, 29(5), 906–913. <https://doi.org/10.1377/hlthaff.2010.0209>

*Pharmacists can affect the delivery of primary care by addressing the challenges of medication therapy management. Most office visits involve medications for chronic conditions and require assessment of medication effectiveness, the cost of therapies, and patients' adherence with medication regimens. Pharmacists are often underused in conducting these activities. They perform comprehensive therapy reviews of prescribed and self-care medications, resolve medication-related problems, optimize complex regimens, design adherence programs, and recommend cost-effective therapies. Pharmacists should play key roles as team members in medical homes, and their potential to serve effectively in this role should be evaluated as part of medical home demonstration projects.*

Smith, M., Bodenheimer, T., & Robb, K. (2024). Health Affairs Forefront. Building The Primary Care Workforce With Pharmacist Clinical Services. *Health Affairs*. <https://www.healthaffairs.org/content/forefront/building-primary-care-workforce-pharmacist-clinical-services>

*Adding pharmacists to primary care practices increases the primary care workforce because pharmacists can provide many high-quality clinical services—freeing up physicians to see more patients, which improves patient access and mitigates the physician shortage.*

Watanabe J. H. (2019). Examining the Pharmacist Labor Supply in the United States: Increasing Medication Use, Aging Society, and Evolution of Pharmacy Practice. *Pharmacy (Basel, Switzerland)*, 7(3), 137. <https://doi.org/10.3390/pharmacy7030137>



While the ratio of medications to pharmacist dropped overall from 2008 to 2016, it has begun to rise again from 2016 to 2017. What will be necessary to meet the demand for medications is an increase in supply of clinical pharmacists with advanced-practice training, equal to the task of working with patients and a care team, to optimize the medication regimen attuned to whole-person care. This includes review of the natural products, complementary, and alternative medications that patients are increasingly consuming.