Expanding Clinical Pharmacy Access in Rural and Underserved Areas

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Objectives

- Define and describe advanced pharmacist practice (i.e., clinical pharmacy) in New Mexico
- Review the costs associated with chronic disease and chronic disease medication therapy
- Review benefits associated with clinical pharmacist practice
- Describe barriers to expansion of clinical pharmacist services
- Discuss trends in advanced pharmacy practice in the U.S.

Pharmacist Training

- **Doctor of Pharmacy Degree (PharmD)**
  - 3 years of pre-professional training
    - 79 credits hours of prerequisites
    - Core of Biology (5 courses) & Chemistry (4 courses)
  - 4-year professional degree program
    - Years 1 – 3: Didactic training
      - Pharmaceutics, pharmacokinetics, medicinal chemistry, pharmacology, clinical reasoning, and clinical therapeutics
      - Introductory Experiential training (360 hours)
    - Year 4: Advanced Clinical Experiential rotations – 1,440 hours

  - **Residency Training**
    - Pharmacy practice
    - Specialty residency

Advanced Pharmacist Practice in NM

- Advanced practice pharmacists are licensed pharmacists who have prescriptive authority
- New Mexico:
  - The Pharmacist Clinician
  - Pharmacists with independent prescriptive authority

The Pharmacist Clinician (PhC) model

- The PhC was developed in NM in response to primary care provider shortage in our rural regions
- 1993: Pharmacist Prescriptive Authority Act passed.
  - Provides the PhC with prescriptive authority under collaborative drug therapy management (CDTM) protocol
- 209 PhCs currently licensed
  - Many more pharmacists are eligible for licensure

Collaborative Drug Therapy Management (CDTM) Protocol

- An agreement between a supervising physician(s) and the PhC that allows the PhC to assume professional responsibility for:
  - Performing patient assessments
    - Collecting patient medical and medication histories
    - Performing physical assessment
  - Ordering and evaluating the results of laboratory tests
  - Administration of medications
  - Selecting, initiating, monitoring, continuing, and adjusting drug regimens

Pharmacist Clinician: Licensure Requirements

- Pharmacist Clinician
  1. NM Registered Pharmacist
  2. Successfully complete BOP-approved 60-hour physical assessment course
  3. Followed by completion of supervised direct patient care clerkship consisting of minimum 150 hours, and minimum of 300 patients
     - Supervised by physician, nurse practitioner, physicians' assistant, or pharmacist clinician

Pharmacist Clinician: Licensure Requirements

- For prescriptive authority, a CDTM protocol is submitted to the BOP PhC Credentialing Committee for review and approval.
  - Protocols outline the PhC scope of practice
  - Committee reviews protocols to ensure they are evidence-based and commensurate with PhC training and experience
- Once committee approves protocol, they are presented to the BOP for approval
- After BOP approval, approved protocols are submitted to Medical Board by the PhC

Pharmacist independent prescriptive authority

In 2001, NM Legislature approved Pharmacist independent prescriptive authority through protocols approved by:

- NM Medical Board, NM Board of Nursing & NM Board of Pharmacy

Current approved protocols:

- Immunizations & travel medications (childhood and adult)
- Hormonal contraception
- TB testing
- Tobacco cessation
- Naloxone
- HIV post-exposure prophylaxis (PEP)
- Test and treat (COVID-19, Streptococcal pharyngitis, Influenza, Urinary Tract Infection)

CDC's National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP)

CHRONIC DISEASES IN AMERICA

6 IN 10

Adults in the US have a **chronic disease**

4 IN 10

Adults in the US have **two or more**

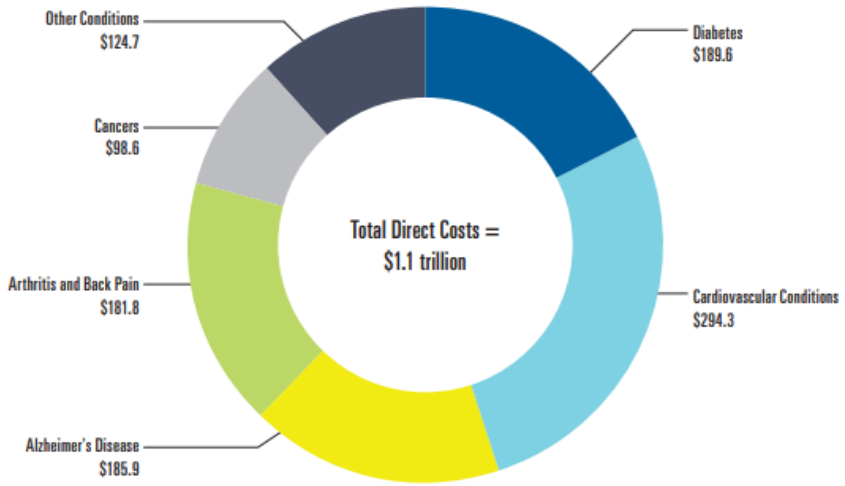
THE LEADING CAUSES OF DEATH AND DISABILITY
and Leading Drivers of the Nation's **$3.8 Trillion** in Annual Health Care Costs

Available at: https://www.cdc.gov/chronicdisease/resources/infographic/chronic-diseases.htm

Impact of Chronic Disease: Milken Institute 2018 report

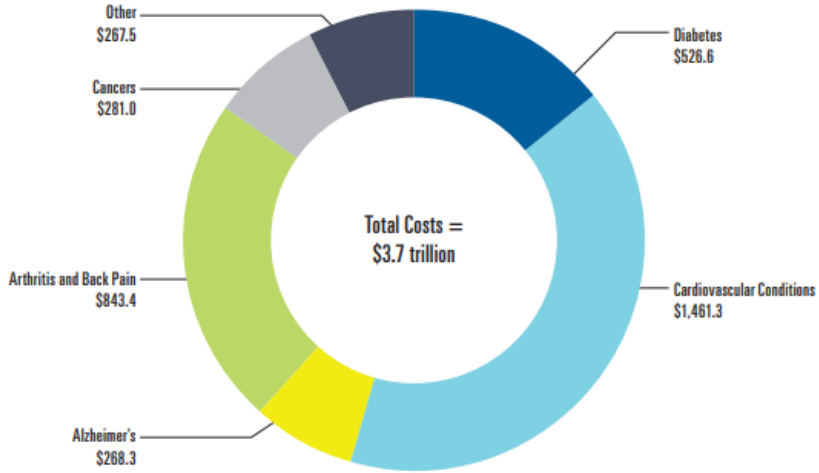
- Total direct healthcare costs for chronic disease was $1.1 trillion
- Total direct & indirect costs for chronic disease was $3.7 trillion (~ 20% of GDP)

Total Direct Costs of Chronic Diseases in the U.S., 2016 ($ billions)



Source: Milken Institute.

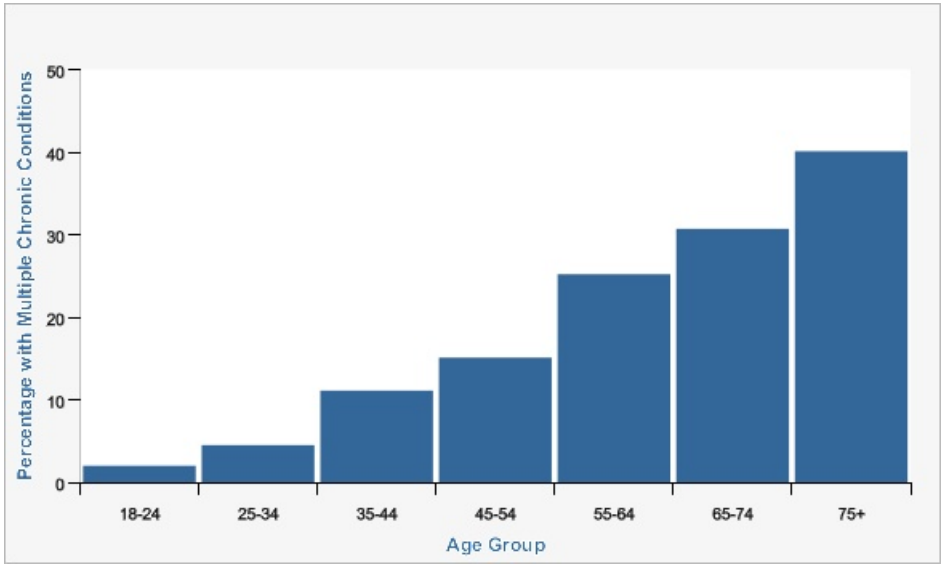
Total Costs of Chronic Diseases in the U.S., 2016

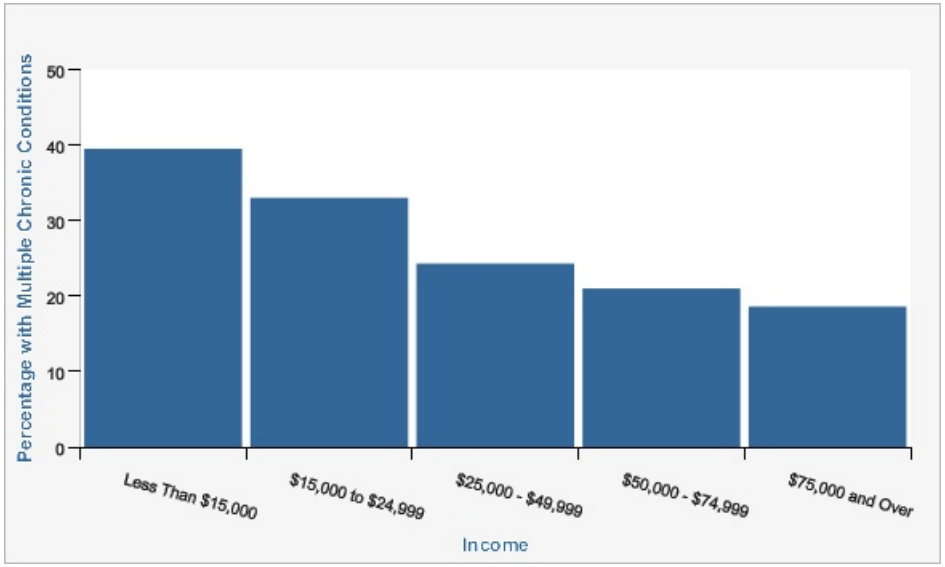


Source: Milken Institute.

Available at: https://milkeninstitute.org/report/costs-chronic-disease-us

Chronic disease in NM



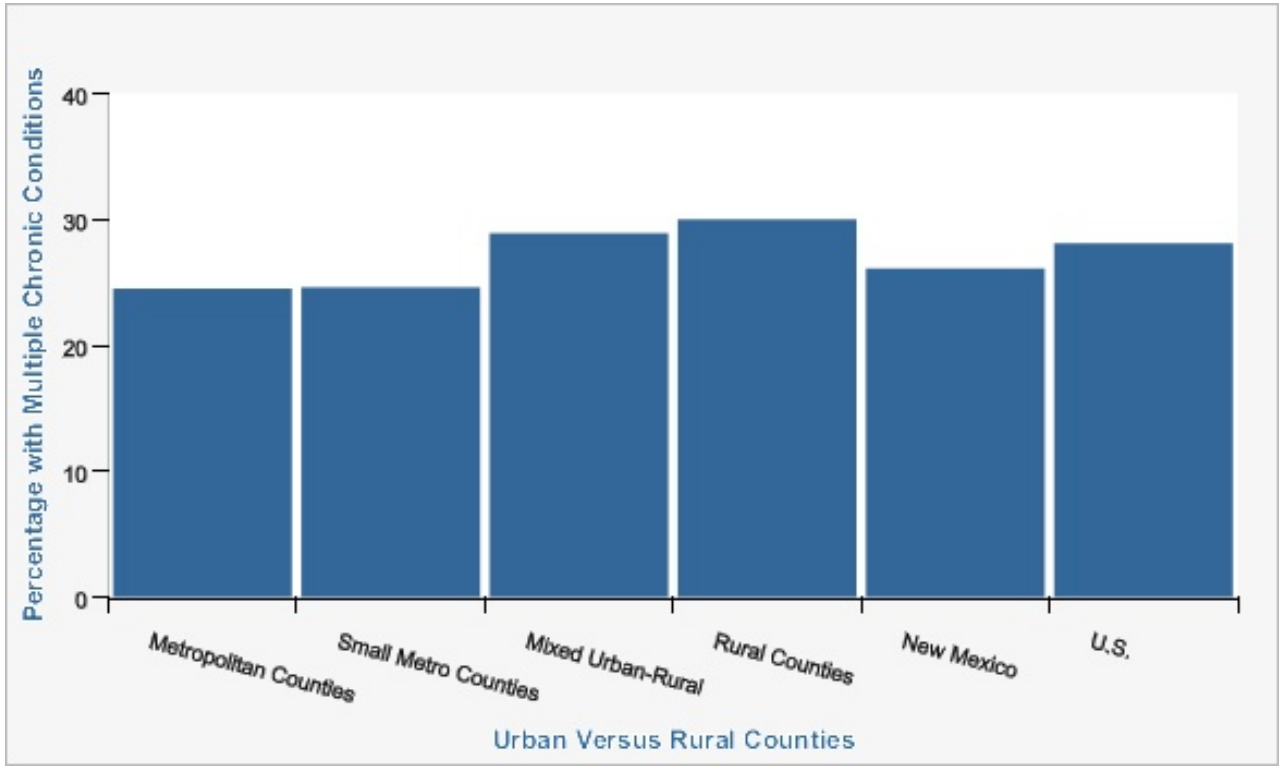


- As the population ages, the prevalence of chronic disease increases
- Low-income NMs are more likely to have multiple chronic diseases

Source:NM Environmental Public Health Tracking. Available at: https://nmtracking.org/dataportal/indicator/complete_profile/MultChronCond.html

Chronic disease in NM

- Impact greatest in rural NM



Source:NM Environmental Public Health Tracking. Available at: https://nmtracking.org/dataportal/indicator/complete_profile/MultChronCond.html

Medication-related Problems (MRPs)

- 40% of adults over 65 years of age take 5 or more prescription medications[1]
- As medication use increases so does the risk of MRPs
- Adverse drug events result in 700,000 ED visits & 100,000 hospitalizations annually[2]
- Estimated annual cost of nonoptimal medication therapy was $528 billion in 2016[3]
  - Approximately equivalent to 16% of total U.S. healthcare expenditures

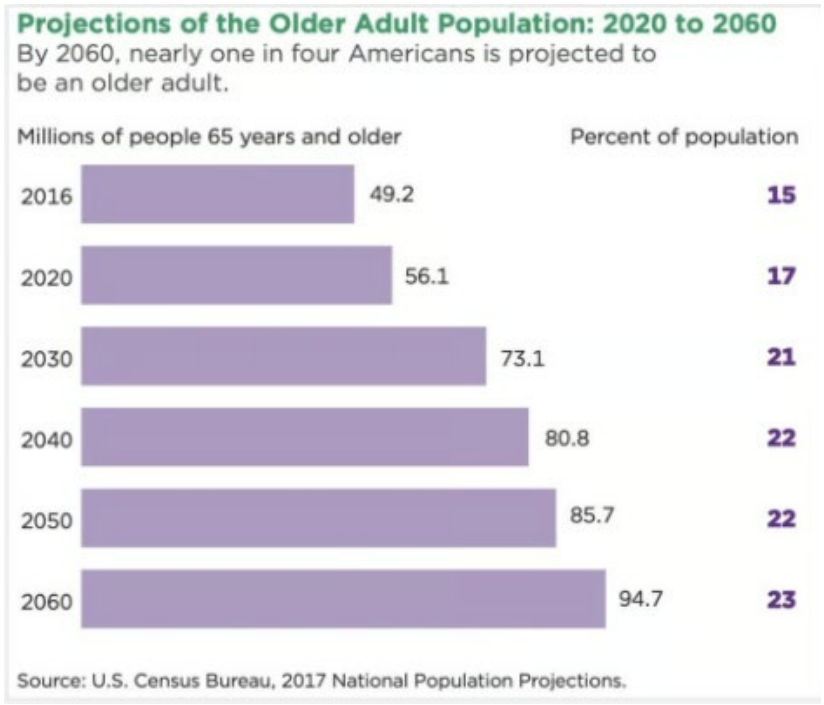
1. National Center for Health Statistics. Health, United States, 2019: Table 39. Hyattsville, MD. 2019. Available from: https://www.cdc.gov/nchs/hus/data-finder.htm. 2. Medication Errors and Adverse Drug Events. PSNet [internet]. Rockville (MD): Agency for Healthcare Research and Quality, US Department of Health and Human Services. 2019. 3. Watanabe JH, McInnis T, Hirsch JD. Cost of Prescription Drug-Related Morbidity and Mortality. Ann Pharmacother. 2018 Sep;52(9):829-837.

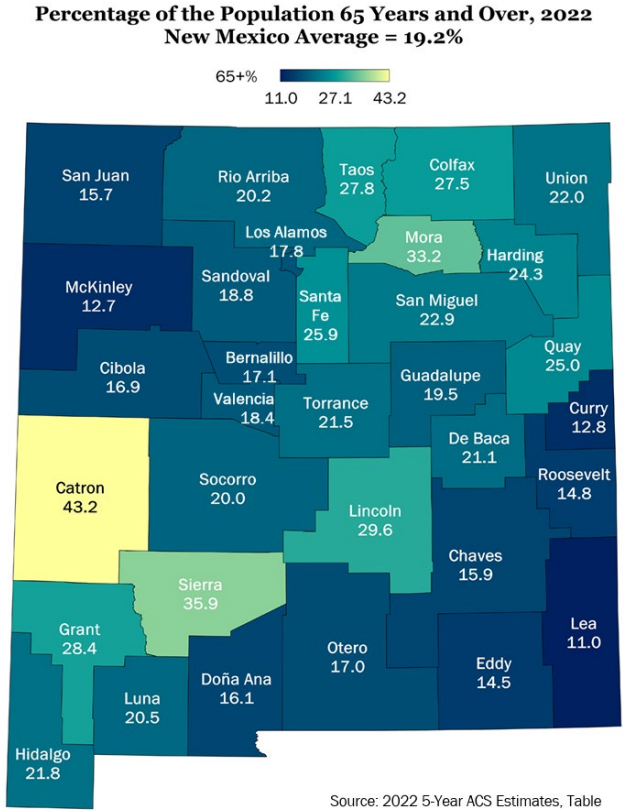
Medication Adherence

- Adherence to medications for chronic disease is ~50%[1]
- Nonadherence is estimated to cost $100 -300 billion annually[2]
  - Results in 125,000 avoidable deaths
  - Account for 25% of hospitalizations
- Adherence to lipid-lowering therapy associated with improved outcomes for patients with cardiovascular (CV) disease[3]
  - Risk of death reduced by 44%
  - Risk of major CV events reduced by 23%

1. DiMatteo MR, et al. Patient adherence and medical treatment outcomes: a meta-analysis. *Med Care*. 2002;40(9):794-811. 2. Osterberg L, Blaschke T. Adherence to medication. N Engl J Med. 2005 Aug 4;353(5):487–97. 3. Jones LK, et al. J Am Heart Assoc. 2025;14:e037530. https://doi.org/10.1161/JAHA.124.037530

The Silver Tsunami is Coming





- Who can improve the management of chronic disease and prevent MRPs?

Pharmacists Improve Patient Outcomes

- The addition of a pharmacist for complex medication/disease-state management has demonstrated an improvement in clinical, economic, and humanistic outcomes for:
  - Asthma
  - Depression
  - Diabetes
  - Heart Failure
  - HIV
  - Hypertension
  - Hyperlipidemia
  - Pain management
  - Smoking cessation

Nkansah N, et al. doi:10.1002/14651858.CD000336.pub2,
Janbakhsh M, et al doi:10.1080/15360288.2022.2084208,
Elnahal SM, et al. doi:10.1001/jama.2016.18764

Pharmacists improve clinical outcomes

- Systematic review and Meta-analysis of Pharmacist-delivered Medication Therapy Management services
- A total of 81 studies with 60,753 participants were included

Outcomes	Effect (95% CI)
Readmission to hospital	0.78 (0.73 – 0.83)
ED Visit	0.88 (0.81 – 0.96)
Mortality	0.91 (0.83 – 1.01)
Adverse Drug Events	0.68 (0.56 – 0.84)
Serious Adverse Drug Events	0.51 (0.33 – 0.79)
Drug Related Problems (DRPs)	-1.37 (-2.24 – -0.5)

Front. Pharmacol. 14:1143444. doi: 10.3389/fphar.2023.1143444

Pharmacists decrease cost of care

- The average ROI for the addition of a pharmacist to the care of the patient with chronic disease is $4 for each $1 spent.[1]
- How?
  - Decrease prescribing errors
  - Decrease medication-related problems
  - Ensure optimal medications prescribed
  - Deprescribing medications
  - Improve patient education and adherence
  - Improved care coordination

Giberson S, Yoder S, Lee MP. *Improving Patient and Health System Outcomes through Advanced Pharmacy Practice*. *A Report to the U.S. Surgeon General*. Office of the Chief Pharmacist. U.S. Public Health Service. Dec 2011.

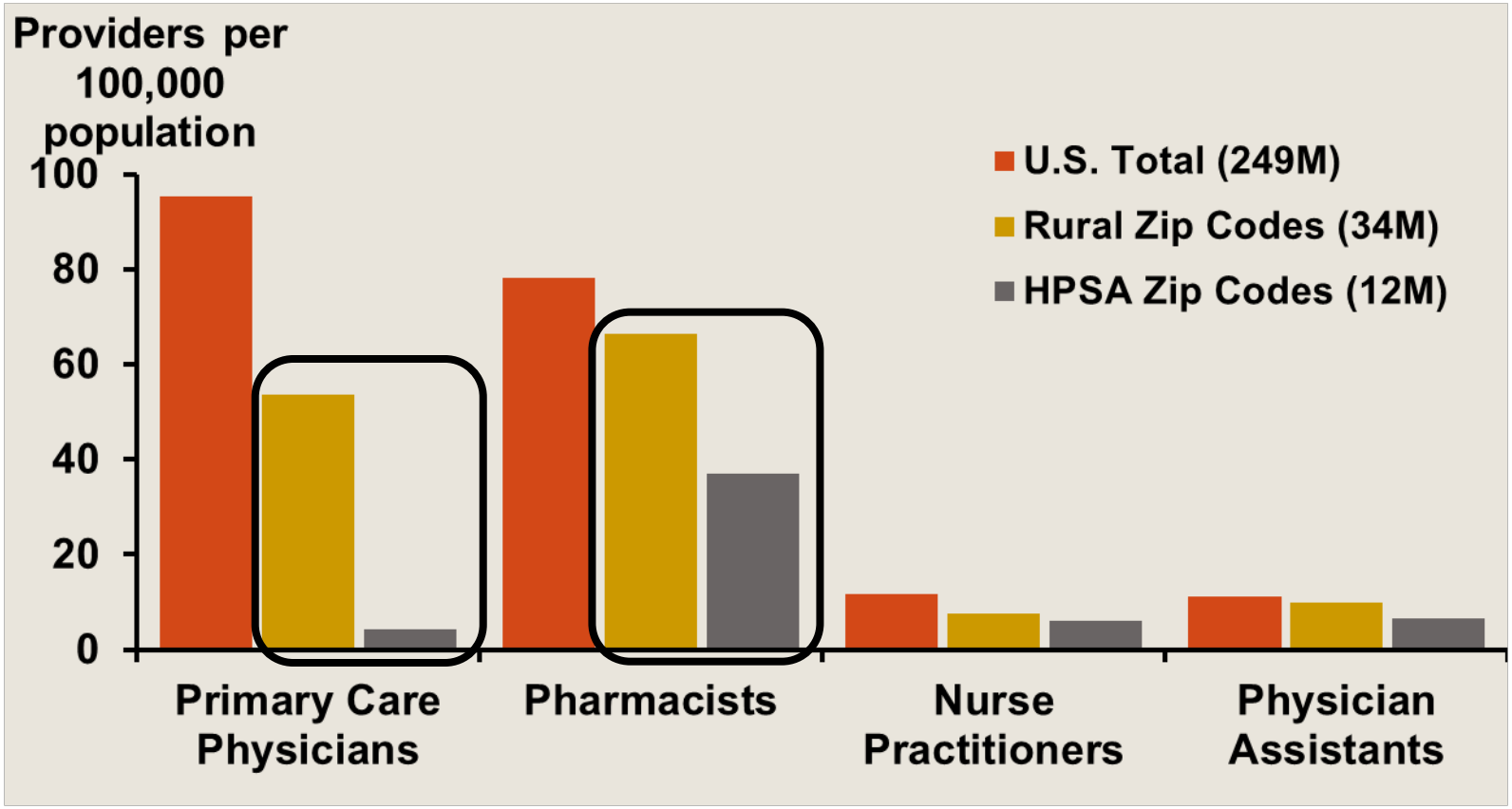
Primary Care Gaps: The Current Reality

Widespread Primary Care Shortages[1-3]

- Over **92 million Americans** live in federally designated **Primary Care Health Professional Shortage Areas (HPSAs)**[1]
- **15,600 additional primary care clinicians** needed to eliminate these shortages nationally[1]
- **43 million rural residents** live in areas with primary care shortages, and rural supply is projected to meet only **68% of demand by 2037,** vs 73% nationally[2]
- **38% of rural adults** used the emergency room for care that could have been provided at a primary care practice[2]

1. Primary Care Health Professional Shortage Areas (HPSAs). KFF. December 31, 2025. Available at: https://www.kff.org/other-health/state-indicator/primary-care-health-professional-shortage-areas-hpsas
2. Issue Briefs. Commonwealth Fund. November 2025. Available at: https://www.commonwealthfund.org/publications/issue-briefs/2025/nov/state-rural-primary-care-united-states
3. National Rural Health Association Policy Brief. March 2025. Available at: https://www.ruralhealth.us/nationalruralhealth/media/documents/advocacy/nrha-policy-brief-workforce-retention-factors-final-3-7-25.pdf

Pharmacists Increase Access to Care



HPSA: Health Provider Shortage Area

Knapp KK, et. Al. JAPhA 1999; 39:127-35.

Pharmacists Increase Access to Care

- One full-time FTE clinical pharmacist saves 640 primary care physician hours per year on medication management and results in simplified workflows for primary care physicians
- Opening approximately 1,920 primary care physician visit appointments per year, thereby improving patient access to care
  - Data from an FQHC and a health system-affiliated primary care group in Connecticut

Smith M, et.al. Building the primary care workforce with pharmacist clinical services. Health Affairs Forefront. November 13, 2024. https://www.healthaffairs.org/content/forefront/building-primary-care-workforce-pharmacist-clinical-services. Accessed 9-28-26.

Pharmacists & The Triple Aim

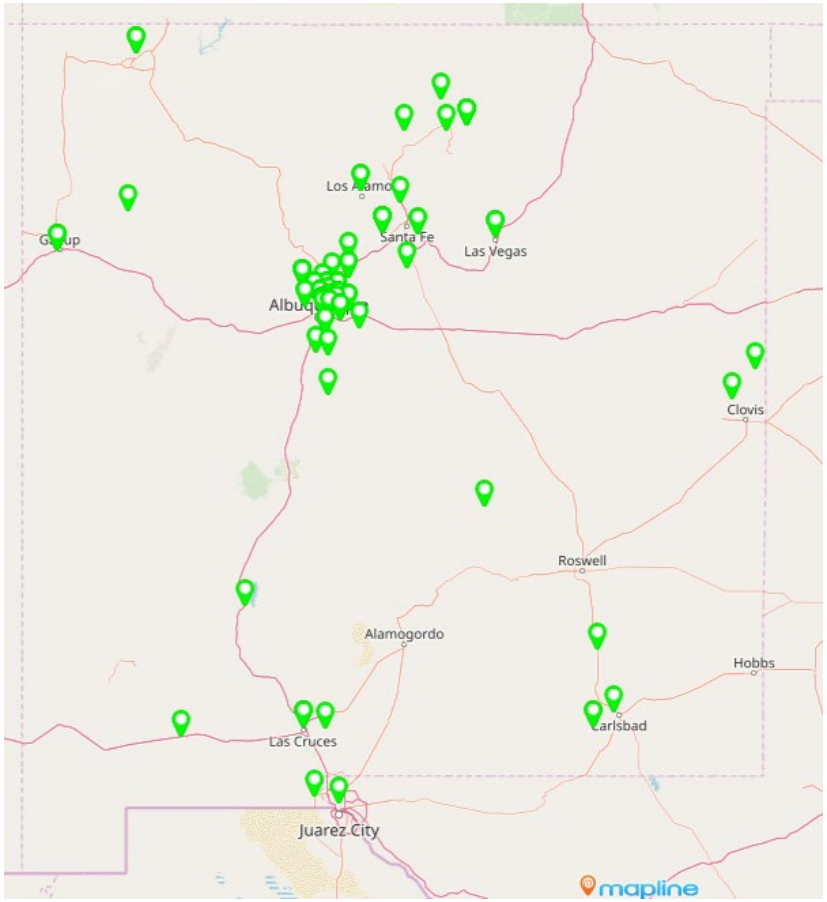
Pharmacists have been demonstrated to help achieve the triple aim of healthcare through:

- Increasing access to care
- Improving the outcomes of care and thus decreasing the cost of care
- Improving patient satisfaction with care

Giberson S et al. A Report to the U.S. Surgeon General. U.S. Public Health Service. 2011

Pharmacists Increase Access to Care

- Approximately 90% of the U.S. population live within 5 miles of a community pharmacy
- Greater utilization of advanced pharmacist practice can improve access to care
- The majority of PhC's in NM practice in Albuquerque metro



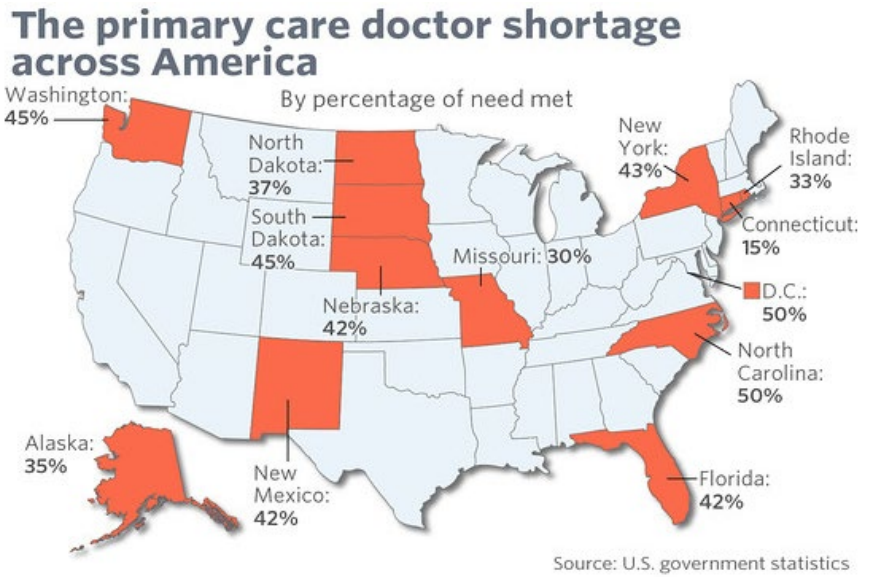
NM Pharmacist Clinician locations (2018)

Barriers to expansion of advanced practice pharmacists to rural NM

- Lack of consistent reimbursement for clinical services.
  - NM HB 42 (Pharmaceutical Services Payer Parity) signed into law in 2020
    - Mandates payment for Independent Prescriptive Authority and Pharmacist Clinician clinical services by commercial and NM Medicaid insurance with parity to physicians
  - Pharmacists not recognized as providers by Medicare Part B
- Credentialing with health plans remains a struggle
- Access to patient medical records (EHR)

Barriers to expansion of advanced practice pharmacists to rural NM

- Requirement for supervising physician
  - The shortage of primary care physicians creates difficulty for pharmacists to find a supervising physician (particularly in rural areas)
  - If the supervising physician leaves the state or retires, the PhC practice stops
  - Requirement for supervising physician creates difficulty with PhC billing and reimbursement

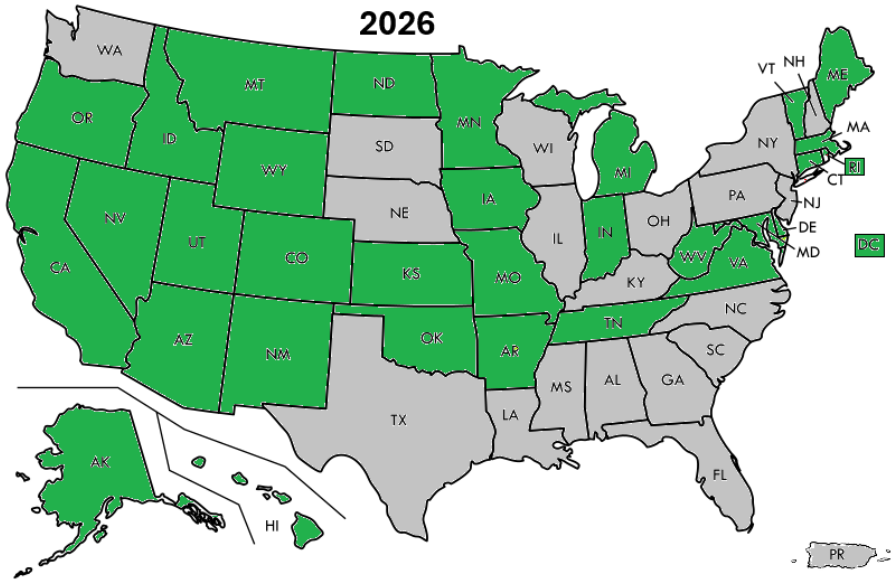


Advanced pharmacist practice outside NM

- Every state allows for some form of collaborative drug therapy management (CDTM)
- Only 4 states have additional licensure requirements for advanced pharmacist practice
  - New Mexico – Pharmacist Clinician (PhC)
  - North Carolina and Montana – Clinical Pharmacist Practitioner (CPP)
  - California – Advanced Pharmacist Practitioner (APP)

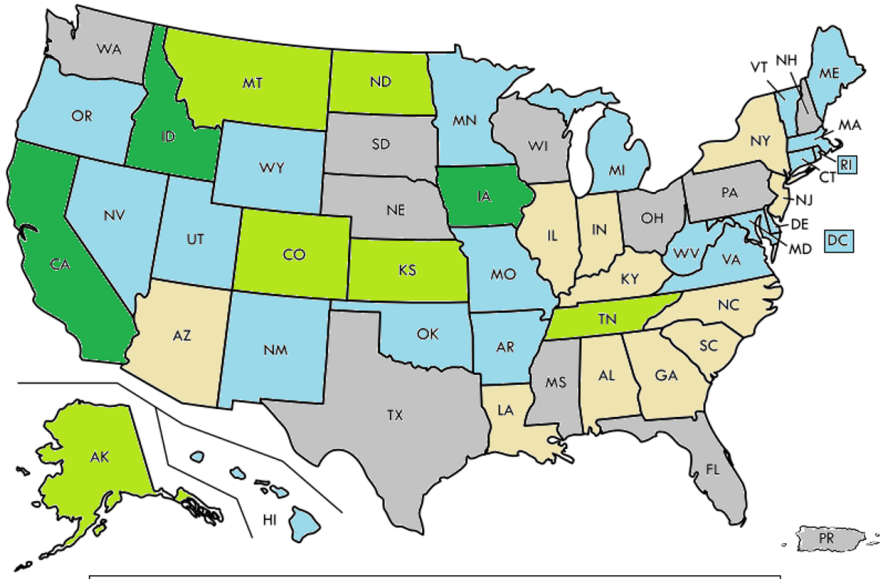
Advanced pharmacist practice outside NM

Pharmacist Independent Prescribing Authority 2026



Pharmacists permitted to independently prescribe at least one drug or device (not including vaccines)
Dependent prescribing only

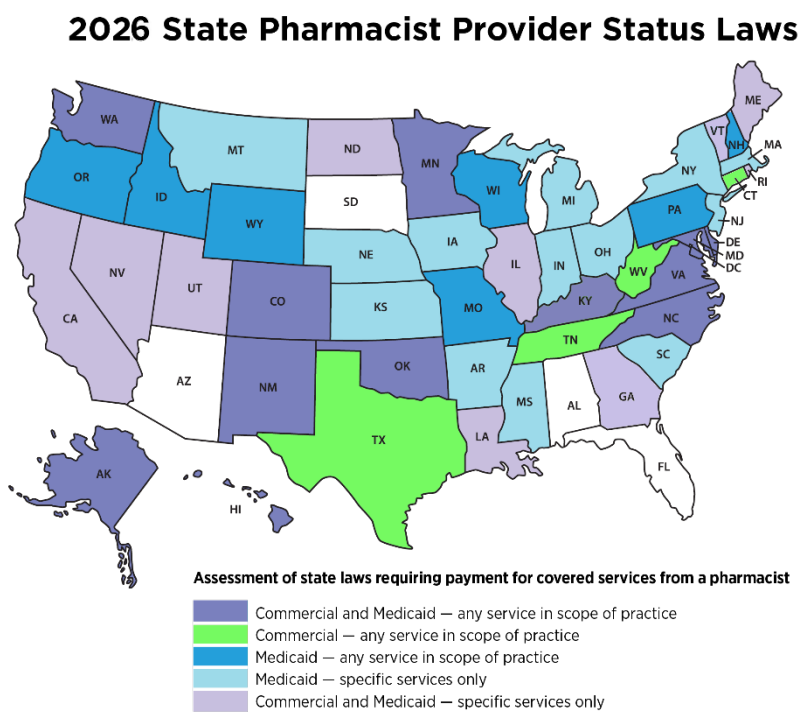
Pharmacist Prescribing Authority 2026

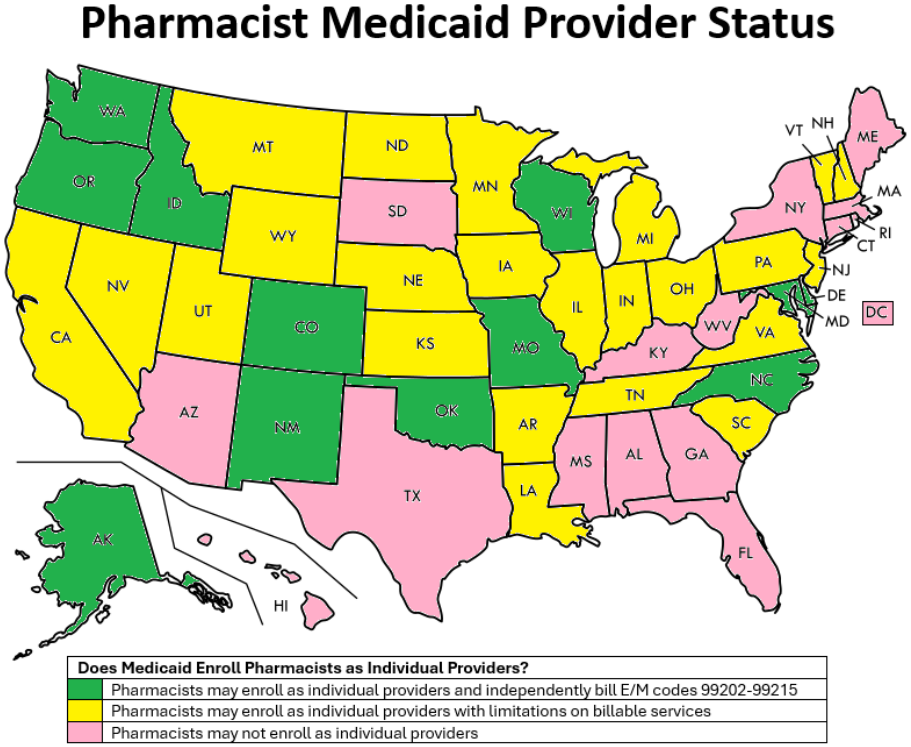


Pharmacist Prescribing Authority
Unrestricted independent prescribing authority
Categorical independent prescribing authority
Narrow independent prescribing authority for specified conditions
Statewide standing orders for specified conditions

Advanced pharmacist practice outside NM

- Provider status





Trends in Pharmacy practice -Standard of Care

A measure of the duty practitioners owe patients to make medical decisions in accordance with any other prudent practitioner's treatment on the same condition to a similar patient

Treatment that is accepted by medical experts as a proper treatment for a certain type of disease and that is widely used by health care professionals.

The degree of care a prudent and reasonable licensee or registrant with similar education, training, and experience will exercise under similar circumstances.

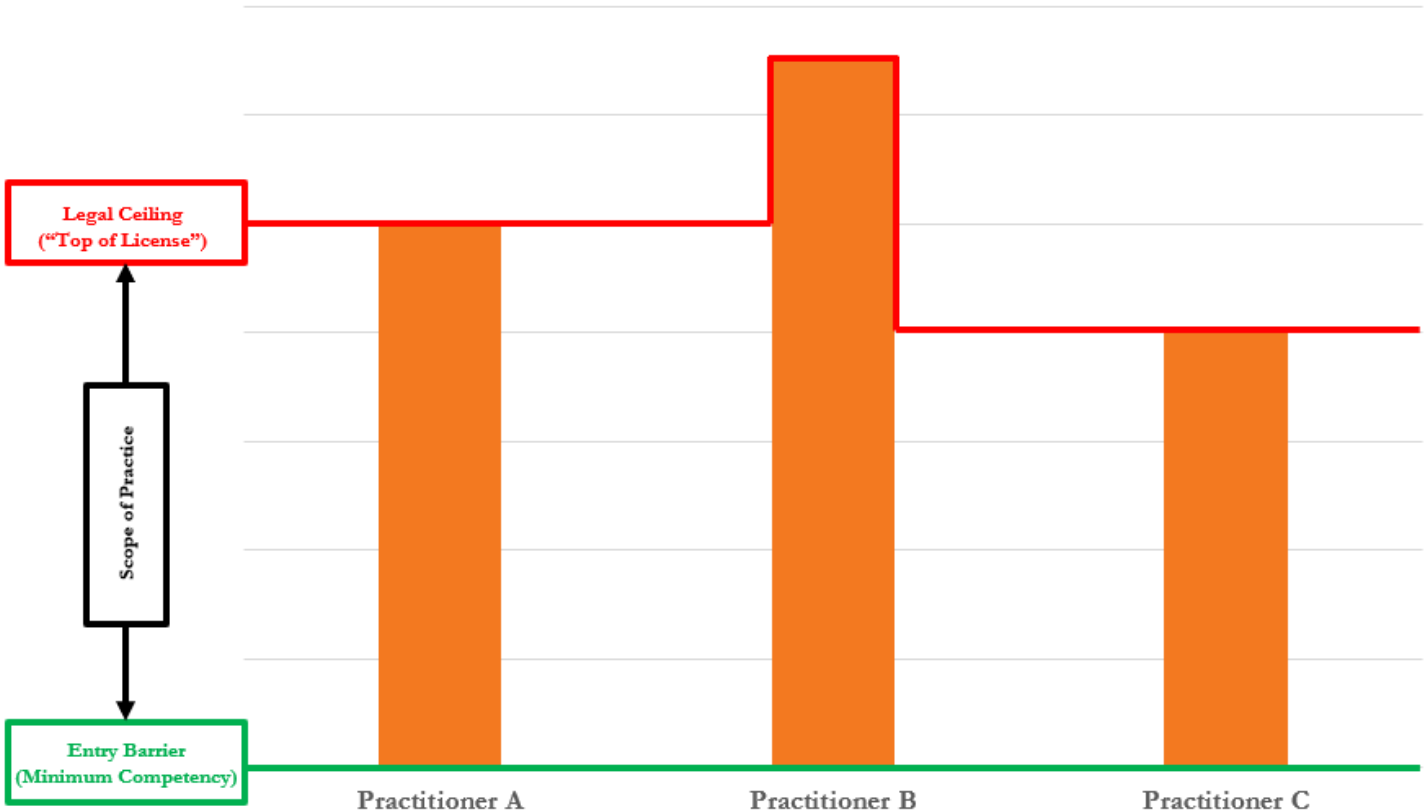
Standard of Care

- The Standard of Care Model has 3 parts:
  1. **Regulatory**: How pharmacists are held accountable. The Board reviews a pharmacist's conduct against what a reasonable pharmacist with similar education, training, and experience would do.
  2. **Interpretation**: Pharmacists can provide care that isn't prohibited by law, fits their individual training and experience, and meets the standard of care, without needing a new law for every service. "From asking permission to exercising judgment."
  3. **Full practice authority**: The practice of pharmacy is clearly defined to include prescriptive authority, prescribing, ordering and interpreting tests, and administering medications. "Practice authority that matches clinical capability."

Modified from: Standard of Care Regulatory Model. National Alliance of State Pharmacy Associations. Available at: Standard of Care Regulatory Model – NASPA. Accessed 9/28/26.

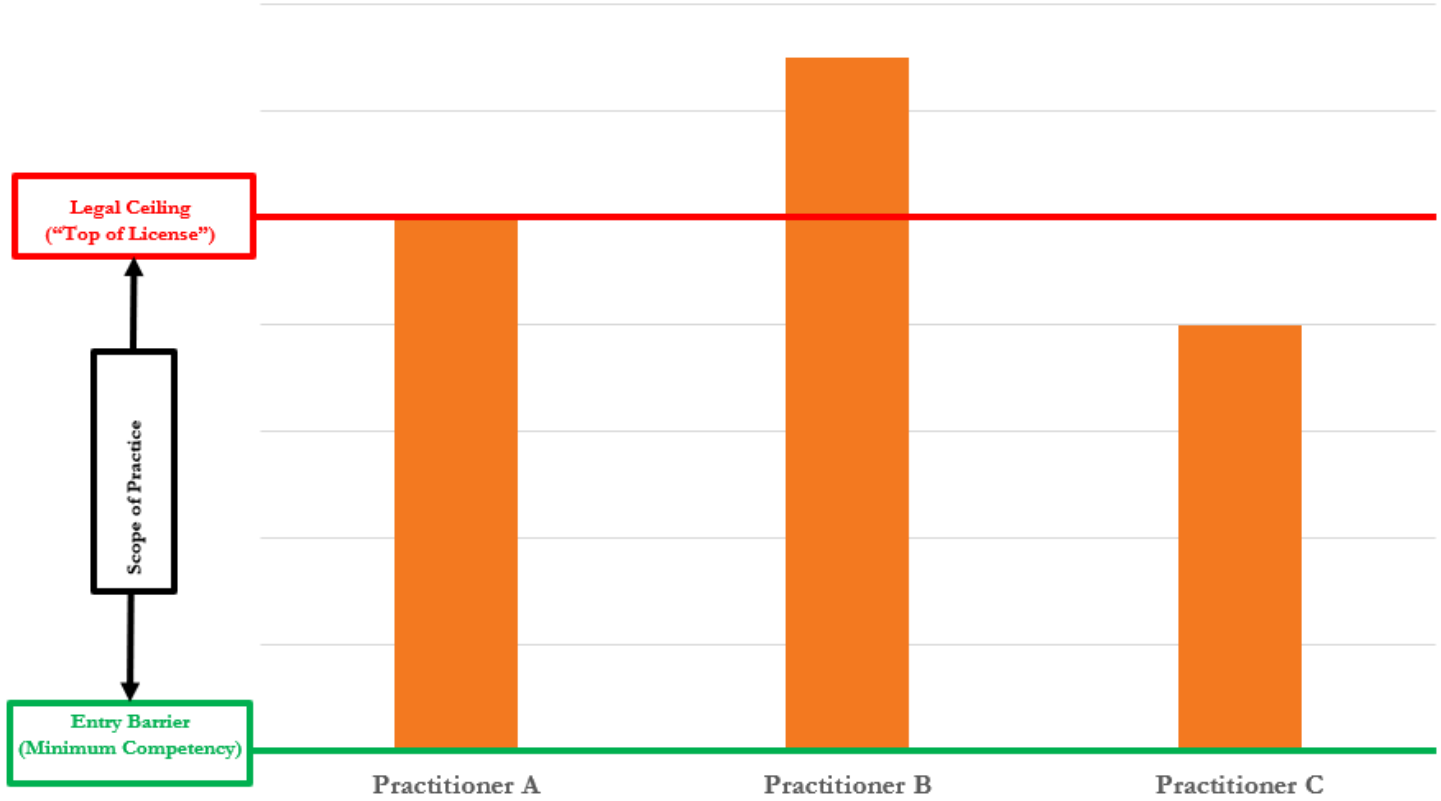
Standard of Care

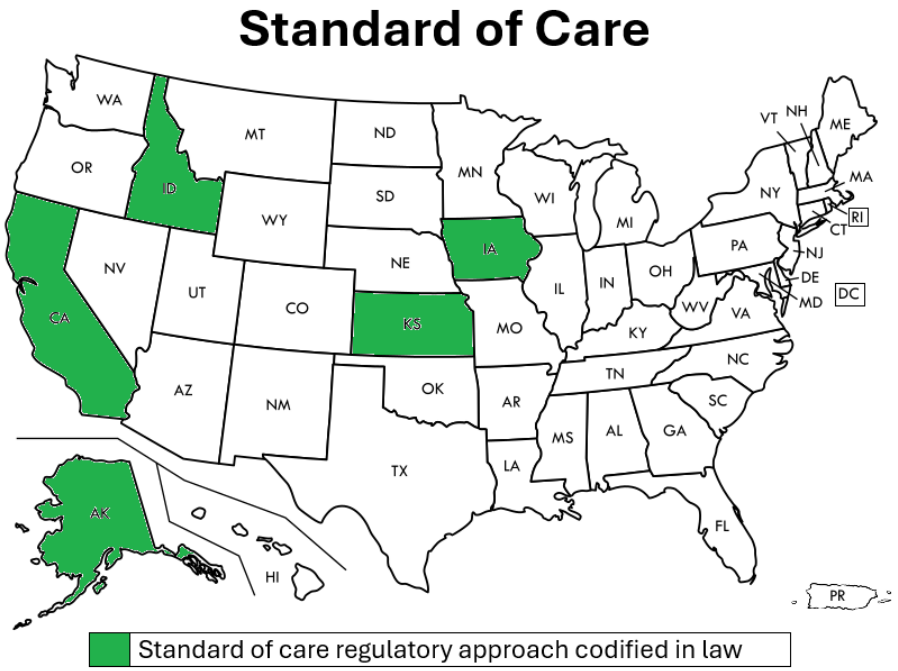
Same three practitioners under a standard of care framework



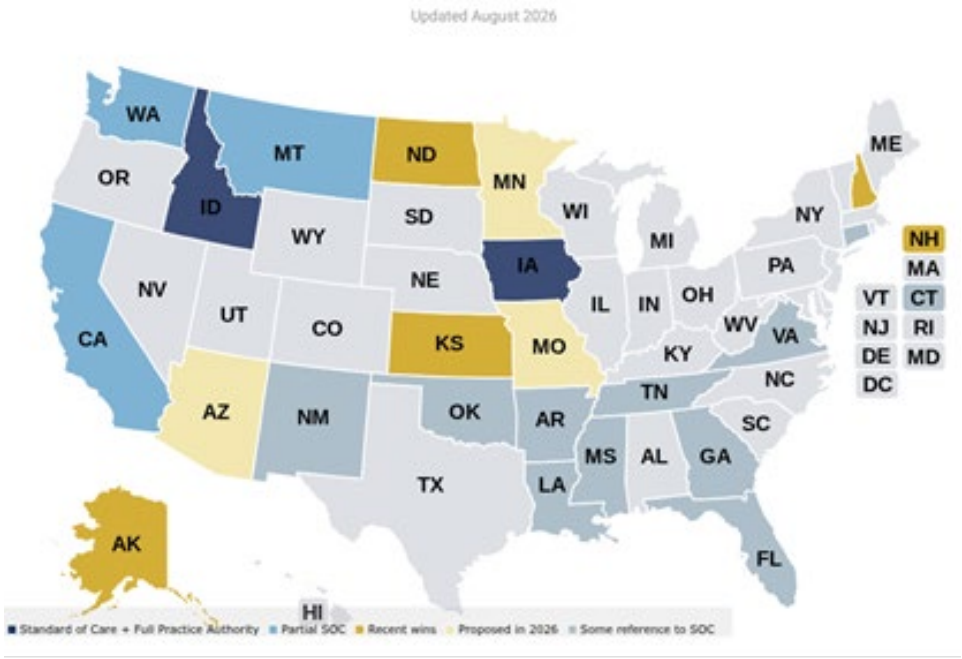
Standard of Care

Three practitioners with different education, training, and experience…





Source: ASHP as of June 2026



National Alliance of State Pharmacy Associations (NASPA). *Pharmacist Standard of Care: State Map.* Updated August 2026. Available at: https://naspa.us/resource/soc/. Accessed September 28, 2026.

- NM BOP Regulations 16.19.4 defines Standard of Care. An act or omission of Standard of Care is included in the definition of Unprofessional or Dishonorable Conduct.

Conclusion

- Increased utilization of advanced practice pharmacists (i.e., clinical pharmacists) increases access to care, improves health outcomes, and decreases cost
- Barriers exist to greater utilization
  - Credentialing, billing, and reimbursement
  - Access to the patient medical record
  - Requirement for the pharmacist clinician to have a supervising physician

Thank you for your time!

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