NACDS NATIONAL ASSOCIATION OF CHAIN DRUG STORES

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January 23, 2020

Re: Priority Topics for the Community Preventive Services Task Force (CPSTF)
Request for Information, CDC–2019– 0112

Dear Dr. Redfield:

The National Association of Chain Drug Stores (NACDS) appreciates the opportunity to respond to the Department of Health and Human Services (HHS) Centers for Disease Control and Prevention's (CDC) Request for Information (RFI) on priority topics for the Community Preventive Services Task Force (CPSTF) to consider. We greatly appreciated the opportunity to collaborate and engage with the Task Force last year on their evaluation and subsequent recommendation of pharmacy-based adherence interventions for cardiovascular disease prevention. Our comments below build on the directive of the Task Force last year, and the 2015 priorities, to further investigate and deploy community pharmacies' ability to improve preventive care across the nation. Our recommendations identify novel approaches to broadly expand access to and uptake of evidence-based preventive care interventions that improve public health by leveraging the clinical expertise and sweeping reach of community pharmacies.

NACDS represents traditional drug stores, supermarkets and mass merchants with pharmacies. Chains operate over 40,000 pharmacies, and NACDS' over 80 chain member companies include regional chains, with a minimum of four stores, and national companies. Chains employ nearly 3 million individuals, including 157,000 pharmacists. They fill over 3 billion prescriptions yearly, and help patients use medicines correctly and safely, while offering innovative services that improve patient health and healthcare affordability. NACDS members also include more than 900 supplier partners and over 70 international members representing 21 countries. Please visit nacds.org.

As a committed partner in advancing population health, NACDS appreciates the CPSTF's thoughtful process for identifying important public health priorities to focus on in the next 5 years. Given the many challenges facing our healthcare system including physician shortages, an aging population, increasing medication use and prevalence of chronic disease, the entire healthcare continuum must be better leveraged to meet national objectives to improve quality of care and expand access to prevention. Community pharmacies and pharmacists, for example, offer a wide variety of clinical care interventions, including preventive care, with broad-reaching impacts across communities in the US. In fact, 75% of all adults reported having visited a pharmacy in the past year and a study of high-risk Medicaid beneficiaries found that they visited pharmacies 35 times per year, compared to seeing their primary care doctors 4 times per year, and specialists 9 times per year.[1] Importantly, recent evidence suggests that community pharmacies are especially well-positioned to provide preventive services, in part because of their accessibility,[2] and compelling and longstanding evidence demonstrates that pharmacist-provided care is a fundamental component to the vitality and

[1] Moose J, Branham A. (2014). Pharmacists as Influencers of Patient Adherence. *Pharmacy Times.* https://www.pharmacytimes.com/publications/directions-in-pharmacy/2014/august2014/pharmacists-as-influencers-of-patient-adherence-

[2] San-Juan-Rodriguez, A., Newman, T. V., Hernandez, I., Swart, E. C. S., Klein-Fedyshin, M., Shrank, W. H., & Parekh, N. (2018). Impact of community pharmacist-provided preventive services on clinical, utilization, and economic outcomes: An umbrella review. Preventive Medicine, 115, 145–155. https://doi.org/10.1016/j.ypmed.2018.08.029

sustainability of providing high-quality and accessible healthcare to Americans, with meaningful impacts on patient health and mitigation of downstream healthcare costs.[3,4,5,6,7,8,9,10,11,12,13]

Despite the fact that primary and preventive care services have generally been provided by primary care physicians, nurse practitioners, and physician assistants, community pharmacies have flourished and evolved into patient-centered healthcare destinations with pharmacist provision of clinical care such as immunizations, screenings, health and wellness care, treatment for minor illnesses, transitions of care programs, medication optimization and adherence, and chronic care management programs, among many others. Further, a growing number of pharmacy programs have been designed and implemented to provide patients convenient access to affordable, quality preventive care, including screening, brief intervention and referral to treatment for misuse and abuse of opioids, and HIV prevention like PrEP (Pre-Exposure Prophylaxis) and PEP (Post-Exposure Prophylaxis).

Pharmacy-based services are especially important to improve access to care for seniors and medically underserved populations as the time available to primary care physicians continues to be stretched thin. General practitioners have about 2 minutes per clinic visit to properly implement preventive care, leading to a care deficit of more than 5 hours per day for preventive care.[14] To buttress this point, approximately 1,773 hours of a physician's annual time, or 7.4 hours each working day would be needed to fully satisfy the United States Preventive Services Task Force (USPSTF) recommendations for these preventive services.[15] However, solutions exist, and in fact, research demonstrates that primary care physicians are more efficient when they delegate preventive care and chronic care management to others, including pharmacists.[16] Moreover, pharmacists are well positioned to fill workforce shortages as the number of pharmacists in the United States continues to grow, with an excess of around 50,000 pharmacists expected in 2030.[17] Patients already visit their community pharmacies more than other healthcare providers,[18] and multiple studies have shown that when patients visit pharmacists for chronic disease management, vaccinations, or minor ailments care, they

[3] Newman TV, Hernandez I, et al. Optimizing the Role of Community Pharmacists in Managing the Health of Populations: Barriers, Facilitators, and Policy Recommendations. J Manag Care Spec Pharm. 2019 Sep;25(9):995-1000. doi: 10.18553/jmcp.2019.25.9.995. https://www.ncbi.nlm.nih.gov/pubmed/31456493
[4] Armistead LT, Ferreri SP. Improving Value Through Community Pharmacy Partnerships. Population Health Management. 2018. https://www.liebertpub.com/doi/abs/10.1089/pop.2018.0040?journalCode=pop
[5] Van Boven JFM, et al; "Medication monitoring and optimization: a targeted pharmacist program for effective and cost-effective improvement of chronic therapy adherence;" Journal of Managed Care & Specialty Pharmacy; August 2014. https://www.jmcp.org/doi/10.18553/jmcp.2014.20.8.786
[6] Vegter S, et al; "Improving Adherence to Lipid-Lowering Therapy in a Community Pharmacy Intervention Program: A Cost-Effectiveness Analysis;" Journal of Managed Care & Specialty Pharmacy; July 2014. https://www.jmcp.org/doi/10.18553/jmcp.2014.20.7.722
[7] Spence MM, et al; "Evaluation of an Outpatient Pharmacy Clinical Services Program on Adherence and Clinical Outcomes Among Patients with Diabetes and/or Coronary Artery Disease;" Journal of Managed Care & Specialty Pharmacy; October 2014. https://www.jmcp.org/doi/10.18553/jmcp.2014.20.10.1036
[8] Dalton K, Byrne S. Role of the pharmacist in reducing healthcare costs: current insights. Integr Pharm Res Pract. 2017;6:37–46. Published 2017 Jan 25. doi:10.2147/IPRP.S108047. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5774321/
[9] Milosavlijevic A, et al. Community pharmacist-led interventions and their impact on patients' medication adherence and other health outcomes: a systematic review. International Journal of Pharmacy Practice. June 2018. https://onlinelibrary.wiley.com/doi/full/10.1111/ijpp.12462
[10] Total mean direct medical costs decreased by $1, 200 to $1, 872 per patient per year compared with baseline. Cranor CW, Bunting BA, et al; "The Asheville Project: Long- Term Clinical and Economic Outcomes of a Community Pharmacy Diabetes Care Program;" Journal of the American Pharmacists Association; 2003. https://www.sciencedirect.com/science/article/pii/S1086580215300073?via%3Dihub
[11] Lee JK, et al; "Effect of a Pharmacy Care Program on Medication Adherence and Persistence, Blood Pressure, and Low-Density Lipoprotein Cholesterol: A Randomized Controlled Trial;" Journal of the American Medical Association; 2006;296(21):2563-2571. https://jamanetwork.com/journals/jama/fullarticle/204402
[12] Fikri-Benbrahim N, et al; "Impact of a community pharmacists' hypertension-care service on medication adherence;" Social and Administrative Pharmacy; 2013. https://www.ncbi.nlm.nih.gov/pubmed/23391845
[13] Brennan TA, et al; "An Integrated Pharmacy-Based Program Improved Medication Prescription and Adherence Rates in Diabetes Patients;" Health Affairs; January 2012. https://www.healthaffairs.org/doi/abs/10.1377/hlthaff.2011.0931?url_ver=Z39.88-2003&rfr_id=ori%3Arid%3Acrossref.org&rfr_dat=cr_pub%3Dpubmed
[14] Caverly TJ et al. Much to do with nothing: microsimulation study on time management in primary care. 2018. BMJ. 2018;363. https://www.bmj.com/content/363/bmj.k4983
[15] Yarnall, Kimberly S H et al. "Primary care: is there enough time for prevention?" American journal of public health vol. 93,4 (2003): 635-41. doi:10.2105/ajph.93.4.635 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1447803/
[16] Altschuler J, Margolius D, Bodenheimer T, Grumbach K. Estimating a reasonable patient panel size for primary care physicians with team-based task delegation. Ann Fam Med. 2012 Sep-Oct;10(5):396-400. doi:10.1370/afm.1400. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3438206/
[17] HRSA. National Center for Health Workforce Analysis. Allied Health Workforce Projections, 2016-2030: Pharmacists. 2016. https://bhw.hrsa.gov/sites/default/files/bhw/nchwa/projections/pharmacists-2016-2030.pdf
[18] Hemberg N, Huggins D, et al. Innovative Community Pharmacy Practice Models in North Carolina. North Carolina Medical Journal. June 2017. http://www.ncmedicaljournal.com/content/78/3/198.full

often do so outside of normal clinic hours, and many of these patients do not have a primary care provider.[19,20,21] This positions pharmacists well to complement and fortify the care delivered by other healthcare professions to reduce unmet preventive care needs.

Lastly, because pharmacies are well integrated into the communities they serve, pharmacists are able to deliver essential clinical interventions to advance preventive care, with an understanding of the regional, social, and economic challenges uniquely faced by that population. Community pharmacies provide clinical healthcare services sometimes as the only healthcare provider within walking or driving distance in rural and medically underserved areas, offering solutions to address unmet needs related to healthcare quality, prevention, health inequality and social determinants of health.

In sum, pharmacy-based interventions can meaningfully improve access to and uptake of a variety of evidence-based, preventive care interventions. Additionally, federal programs such as the Public Health Service and the Veterans Health Administration have proven that greater inclusion of pharmacists in direct patient care leads to improved delivery of preventive services and patient outcomes.[22,23] With this context in mind, we recommend the following priority topics for CPSTF review. The promising research to date on the effectiveness of pharmacy-based care, coupled with the vast opportunity to leverage the existing infrastructure of community pharmacies across the nation, offer unparalleled potential to reach more patients, culminating in greater impacts on preventive health nationwide.

RFI Question 1: What <u>public health topics</u> should be prioritized for CPSTF systematic reviews assessing the effectiveness and economic merits of public health programs, services, and other interventions?

To meaningfully expand access to evidence-grounded and effective preventive care services, and building on CPSTF's 2015 topic areas, NACDS recommends the CPSTF consider the following priority areas for evaluating community-based, including pharmacy-based, preventive interventions over the next 5 years:

<u>Recommended Priority Topic 1: Preventive Screenings</u>

- **The CPSTF should include a focus on preventive screenings as a priority topic to identify pharmacy-based interventions that prevent or delay the onset or progression of chronic and infectious diseases.**
- *Specific Areas of Interest: blood pressure screening (USPSTF, CMS Quality Programs), diabetes screening (USPSTF, CMS Quality Programs), hepatitis C screening for adults (USPSTF), HIV screening (USPSTF, CMS Quality Programs), HIV pre-exposure prophylaxis (PrEP) for the prevention of HIV infection (USPSTF), osteoporosis screening (USPSTF, CMS Quality Programs), tuberculosis screening (USPSTF), increasing the proportion of persons who receive appropriate evidence-based clinical preventive services (HP 2020), increasing the proportion of older adults who are up to date on a core set of clinical preventive services (HP 2020).*

<u>Recommended Priority Topic 2: Chronic Disease Management</u>

- **The CPSTF should continue to make chronic disease management a priority in its reviews, with a focus on assessing the effectiveness of interventions such as pharmacy-based care to improve the health of those with chronic conditions.**
- *Specific Areas of Interest: controlling high blood pressure (CMS Quality Programs), controlling diabetes (HP 2020, CMS Quality Programs), optimal asthma control (CMS Quality Programs), reducing kidney failure due to diabetes*

[19] Klepser ME, Adams AJ, Klepser DG. Antimicrobial Stewardship in Outpatient Settings: Leveraging Innovative Physician-Pharmacist Collaborations to Reduce Antibiotic Resistance. Health Security. 2015;13(3):166-173. doi:10.1089/hs.2014.0083

[20] Klepser ME, Klepser DG, Dering-Anderson AM, Morse JA, Smith JK, Klepser SA. Effectiveness of a pharmacist-physician collaborative program to manage influenza-like illness. Journal of the American Pharmacists Association. 2016;56(1):14-21. doi:10.1016/j.japh.2015.11.008

[21] Goad JA, Taitel MS, Fensterheim LE, Cannon AE. Vaccinations administered during off-clinic hours at a national community pharmacy: implications for increasing patient access and convenience. Ann Fam Med. 2013 Sep-Oct;11(5):429-36. doi: 10.1370/afm.1542. https://www.ncbi.nlm.nih.gov/pubmed/24019274

[22] A Program Guide for Public Health: Partnering with Pharmacists in the Prevention and Control of Chronic Diseases. CDC. August 2012. https://www.cdc.gov/dhdsp/programs/spha/docs/pharmacist_guide.pdf

[23] Surgeon General supports USPHS report on pharmacists as providers. APhA. January 2012. https://www.pharmacist.com/CEOBlog/surgeon-general-supports-usphs-report-pharmacists-providers?is_sso_called=1

(HP 2020), improving glycemic control among persons with diabetes (HP 2020, CMS Quality Programs), improving lipid control among persons with diagnosed diabetes (HP 2020), increasing the proportion of adults with diabetes who perform self-blood glucose-monitoring at least once daily (HP 2020), increasing the proportion of adults with hypertension whose blood pressure is under control (HP 2020, CMS Quality Programs), increasing the proportion of adults with elevated LDL cholesterol who been advised by a health care provider regarding cholesterol-lowering management, including lifestyle changes (HP 2020, CMS Quality Programs).

Recommended Priority Topic 3: Medication Adherence and optimization

- **The CPSTF should consider medication adherence and medication optimization a priority in its future reviews, with a focus on assessing the effectiveness of pharmacy-based interventions to improve the health of those who use medications.**
- *Specific Areas of Interest: statin use and adherence for primary prevention of cardiovascular disease (USPSTF, CMS Quality Programs), fall risk screening for older adults (CMS Quality Programs), long-acting beta agonist in COPD treatment (CMS Quality Programs), adherence for diabetes medications (CMS Quality Programs), management of heart failure medications/symptoms (CMS Quality Programs), identifying and addressing drug therapy problems, increasing the proportion of persons with diabetes and chronic kidney disease who receive recommended medical treatment with ACE inhibitors or ARBs (HP 2020, CMS Quality Programs), reducing the proportion of older adults with disabilities who use inappropriate medications (HP 2020).*

Recommended Priority Topic 4: Mental and Behavioral Health

- **The CPSTF should include mental and behavioral health as a priority to identify effective community-based interventions, including pharmacy-based strategies, that can prevent the onset of behavioral health issues, as well as identify them to facilitate appropriate treatment.**
- *Specific Areas of Interest: Screening Brief Intervention Referral to Treatment (SBIRT) for substance and opioid use disorder, depression screening for adults and adolescents (USPSTF, CMS Quality Programs), healthy diet and physical activity counseling to prevent cardiovascular disease (USPTSF, CMS Quality Programs), tobacco use counseling/interventions (USPSTF, CMS Quality Programs), unhealthy alcohol use adults (USPSTF, CMS Quality Programs), increasing the proportion of persons who need alcohol and/or illicit drug treatment and received specialty treatment for abuse or dependent in the past year (HP 2020), reducing the past-year nonmedical use of prescription drugs (HP 2020), reducing tobacco use by adults (HP 2020), reducing tobacco use by adolescents (HP 2020), increasing smoking cessation attempts by adult smokers (HP 2020), increasing tobacco screening in healthcare settings (HP 2020), increasing tobacco cessation counseling in healthcare settings (HP 2020).*

Recommended Priority Topic 5: Immunizations

- **The CPSTF should include immunizations as a priority area for identifying effective community-based interventions, such as pharmacy-based strategies, to reduce the tremendous impacts of vaccine-preventable diseases on public health.**
- *Specific Areas of Interest: All Advisory Committee on Immunization Practices (ACIP)[24] recommended vaccines (synergistic with US Preventive Services Task Force, CMS Quality Programs, National Vaccine Plan, Healthy People 2020).*

Recommended Priority Topic 6: Social Determinants of Health & Health Disparities

- **The CPSTF should include community-based strategies for addressing prevention in the context of social determinants of health as a priority area for identifying effective interventions, such as pharmacy-based strategies, to improve health in a scalable, widespread manner for maximum impacts on access to care and public health.**
- *Specific Areas of Interest: reducing the proportion of persons who are unable to obtain or delay in obtaining necessary medical care or prescriptions medicines (HP 2020), increasing the proportion of persons who report their healthcare provider always asked them to describe how they will follow the instructions (HP2020, related to*

[24] Centers for Disease Control and Prevention. Adult Immunization Schedule. https://www.cdc.gov/vaccines/schedules/hcp/imz/adult.html

CMS Quality Programs - CAHPS), increasing the proportion of persons who report their healthcare provider always gave them easy-to-understand instructions about what to do to take care of their illness or health condition (HP 2020, related to CMS Quality Programs – CAHPS).

Recommended Priority Topic 7: Sustainability of Non-traditional Preventive Care Settings

- **The CPSTF should explore sustainable models for preventive care delivery in non-traditional settings, like community pharmacies, to directly create sustainable reimbursement or incentives for community-based implementation of preventive interventions. As a priority area, exploring this topic would provide great opportunity to improve community health in a scalable, widespread manner for maximum impacts on access to care and public health.**
- *Specific Areas of Interest: health insurance coverage for preventive services in community-based settings, like pharmacies, increasing the proportion of persons with prescription drug insurance (HP 2020), and synergistic with concepts of CMS innovation center to pilot sustainable care models that support value-based care with a focus on efficient preventive care delivery at community health destinations; and integrate concepts into existing models such as the Medicare Shared Savings Program (MSSP), Merit-based Incentive Payment System (MIPS), and Comprehensive Primary Care Plus (CPC+).*

RFI Question 2: What is the rationale for choosing these topics?

For each recommended topic area, the crux of our rationale is focused on the current and predicted future public health burden, paired with the promising opportunity of pharmacy-based preventive care interventions to meaningfully improve health nationwide and reduce downstream, unnecessary costs. Additionally, NACDS offers consideration of these topics due to strong alignment with other national prevention entities and initiatives, including the United States Preventive Services Task Force (USPSTF),[25] Healthy People 2020 (HP2020),[26] the Advisory Committee on Immunization Practices (ACIP),[27] and the National Vaccine Plan (NVP),[28] and with existing CMS programs on healthcare quality.[29] (See Appendix #1 for List of Pertinent CMS Quality Measures). Importantly, aligning the most critical health priorities across the country reduces administrative burden and complexities for all providers across the continuum of care in the spirit of CMS' work on meaningful measures and patients over paperwork.[30]

Recommended Priority Topic 1: Preventive Screenings

The CPSTF should include a focus on preventive screenings as a priority topic to identify pharmacy-based interventions that prevent or delay the onset or progression of chronic and infectious diseases.

The potential to prevent the onset or worsening of chronic conditions through preventive screenings and other early intervention services is abundantly clear. Screenings not only promote early detection but can also prevent disease progression. Importantly, a study recently estimated that only 8 percent of adults in the U.S. received all high-priority, clinically appropriate and recommended preventive services – and 5 percent of adults received none.[31] The opportunity to prevent the onset of chronic conditions– and address associated health outcomes and costs is significant. For example, 18% of individuals with HIV, and separately 90% of people with prediabetes, are unaware of their health status pointing to a need for increased awareness and disease detection efforts.[32] Further, about 11 million Americans are unaware their blood pressure is too high and not receiving treatment to control it, even those with health insurance

[25] U.S. Preventive Services Task Force. USPSTF A and B Recommendations. https://www.uspreventiveservicestaskforce.org/Page/Name/uspstf-a-and-b-recommendations/
[26] Office of Disease Prevention and Health Promotion. Healthy People 2020 Topics & Objectives. https://www.healthypeople.gov/2020/topics-objectives
[27] Centers for Disease Control and Prevention. Adult Immunization Schedule. https://www.cdc.gov/vaccines/schedules/hcp/imz/adult.html
[28] U.S. Department of Health and Human Resources. U.S. National Vaccine Plan. https://www.hhs.gov/vaccines/national-vaccine-plan/index.html
[29] Centers for Medicare & Medicaid Services. Quality Programs. https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/MMS/Quality-Programs
[30] Centers for Medicare & Medicaid Services. Patients over Paperwork. https://www.cms.gov/Outreach-and-Education/Outreach/Partnerships/PatientsOverPaperwork
[31] Borsky, A., Zhan, C., Miller, T. (2018). Few Americans Receive All High-Priority, Appropriate Clinical Preventive Services. Health Affairs, 37(6).
[32] Ibid.

who visit a healthcare provider annually.[33] According to CDC, nearly 2.4 million Americans were living with hepatitis C from 2013 through 2016 and half of people with hepatitis C may not know they're infected[34] and along the same lines, up to 13 million people in the United States are living with latent tuberculosis infection.[35]

Fortunately, research has demonstrated the ability of community pharmacies to increase access to a range of screenings, and facilitate linkage to treatment, including increasing the identification of patients at risk of hepatitis C, HIV, diabetes, tuberculosis, cardiovascular disease, and chronic obstructive pulmonary disease (COPD) to name a few.[36,37,38,39,40] Based on supportive evidence, the CDC recognizes pharmacists have successfully implemented a variety of USPSTF recommendations, through screening, education, and recommendations to patients (folic acid supplementation, tobacco use cessation) and screening and referrals to primary care providers for follow up testing and care (osteoporosis screening, HIV screening).[41] For example, in Michigan, a pharmacist-provided HIV testing model, which incorporated rapid HIV testing, counseling, and linkage to confirmatory HIV testing services, was developed and implemented. Approximately 42% of the participants stated it was their first HIV test, many of whom reported high-risk behaviors in prior 6 months. This project demonstrated the acceptability and feasibility of pharmacist-provided rapid HIV testing and increase access of care within the community.[42] (Additional examples can be found in Appendix #2).

Moreover, several studies reveal that when pharmacists have the authority to screen/test and subsequently provide treatment ("test and treat") for conditions such as group A streptococcus and influenza, access to care increases significantly, especially due to the convenience of accessible locations and the extended hours served by pharmacies.[43,44,45,46] Importantly, test and treat by pharmacists also supports community antibiotic stewardship efforts[47], which is critical given estimates that over 20% of outpatient antibiotic use is inappropriate.[48] When pharmacists "test and treat" autonomously, evidence-based protocols are used to ensure that only patients testing positive receive antibiotic therapy, and those who test negative receive over the counter treatment and referral for follow up care and further evaluation. In contrast, a myriad of research points to the overprescribing of antibiotics, which is rampant in settings outside of pharmacies. For example, a study conducted in 2018 determined that in a sample of over 500,000 prescriptions for antibiotics, 46% were prescribed without an infection-related diagnosis.[49] Pharmacists can significantly help reduce such unnecessary use as they have been shown to better adhere to evidence-

[33] Million Hearts. Undiagnosed Hypertension. https://millionhearts.hhs.gov/tools-protocols/undiagnosed-hypertension.html
[34] Centers for Disease Control and Prevention. Hepatitis C Prevalence Estimates 2013 – 2016. https://www.cdc.gov/nchhstp/newsroom/2018/hepatitis-c-prevalence-estimates.html
[35] Centers for Disease Control and Prevention. Tuberculosis: Data & Statistics. https://www.cdc.gov/tb/statistics/default.htm
[36] Kugelmas M, Pedicone LD, Lio I, Simon S, Pietrandoni G. Hepatitis C Point-of-Care Screening in Retail Pharmacies in the United States. *Gastroenterol Hepatol (N Y)*. 2017;13(2):98–104. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5402690/
[37] B Jakeman, et al. Evaluation of a pharmacist-performed tuberculosis testing initiative in New Mexico. Journal of the American Pharmacists Association. Volume 55, Issue 3, May–June 2015, Pages 307-312. https://www.sciencedirect.com/science/article/pii/S1544319115300650?via%3Dihub
[38] Fathima, M et al. (2013). The role of community pharmacists in screening and subsequent management of chronic respiratory diseases: a systematic review. Pharmacy Practice, 11(4), 228-245. https://www.ncbi.nlm.nih.gov/pubmed/24367463
[39] Weidle, P, Lecher, S, Botts, L, et al. (2014). HIV testing in community pharmacies and retail clinics: A model to expand access to screening for HIV infection. Journal of the American Pharmacist Association, 54(5), 486-492. https://www.ncbi.nlm.nih.gov/pubmed/25216878
[40] Willis A, Rivers P, Gray LJ, Davies M, Khunti K. The effectiveness of screening for diabetes and cardiovascular disease risk factors in a community pharmacy setting. PLoS One. 2014 Apr 1;9(4):e91157. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3972156/
[41] Kelling SE, Rondon-Begazo A, DiPietro Mager NA, Murphy BL, Bright DR. Provision of Clinical Preventive Services by Community Pharmacists. [Addendum appears in Prev Chronic Dis 2016;13. http://www.cdc.gov/pcd/issues/2016/16_0232e.htm.] Prev Chronic Dis 2016;13:160232. DOI: http://dx.doi.org/10.5888/pcd13.160232
[42] Darin KM, et al.; "Pharmacist-provided rapid HIV testing in two community pharmacies;" *Journal of the American Pharmacists Association*; Feb 2015. https://www.japha.org/article/S1544-3191(15)30015-7/pdf
[43] Klepser ME, Adams AJ, Klepser DG. Antimicrobial Stewardship in Outpatient Settings: Leveraging Innovative Physician-Pharmacist Collaborations to Reduce Antibiotic Resistance. Health Security. 2015;13(3):166-173. doi:10.1089/hs.2014.0083
[44] Klepser DG, Klepser ME, Smith JK, Dering-Anderson AM, Nelson M, Pohren LE. Utilization of influenza and streptococcal pharyngitis point-of-care testing in the community pharmacy practice setting. Research in Social and Administrative Pharmacy. 2018;14(4):356-359. doi:10.1016/j.sapharm.2017.04.012
[45] Klepser DG, Klepser ME, Dering-Anderson AM, Morse JA, Smith JK, Klepser SA. Community pharmacist–physician collaborative streptococcal pharyngitis management program. Journal of the American Pharmacists Association. 2016;56(3):323-329.e1. doi:10.1016/j.japh.2015.11.013
[46] Klepser ME, Klepser DG, Dering-Anderson AM, Morse JA, Smith JK, Klepser SA. Effectiveness of a pharmacist-physician collaborative program to manage influenza-like illness. Journal of the American Pharmacists Association. 2016;56(1):14-21. doi:10.1016/j.japh.2015.11.008
[47] Rosenberg-Yunger Z, Lau WYS, Yokoyama S. The role of community pharmacists as antimicrobial stewards. Pub Health Manage Practice. 2019;25(3):274-276.
[48] Chua K, Fischer MA, Linder, JA. Appropriateness of outpatient antibiotic prescribing among privately insured US patients: ICD-10-CM based cross sectional Study. January 2019. https://www.bmj.com/content/364/bmj.k5092
[49] Linder JA, Brown T, Lee Jy, et al. Non-Visit-Based and Non-Infection-Related Ambulatory Antibiotic Prescribing. Oral Abstract Session: ID Week. October 2018. https://idsa.confex.com/idsa/2018/webprogram/Paper71530.html

based assessment and prescribing protocols and standards/guidelines of care compared to other prescribers.[50] Unfortunately, the ability for pharmacists to initiate therapy based on a point-of-care screening test is limited based on variations in state-to-state scope of practice laws,[51] and patients have limited access to pharmacy-based services due to lacking sustainability models (more detail on these issues is provided in relation to Recommended Topic Area 7. Sustainability of Non-traditional Preventive Care Services). However, the ability of pharmacists to perform the tests and link patients to care has been shown to be widely feasible.[52,53,54,55]

In sum, the CPSTF's potential focus on preventive screenings, including those that could be administered in pharmacy-based settings, could significantly impact public health by increasing access to high-quality, evidence-based preventive care interventions especially for chronic and infectious diseases.

Recommended Priority Topic 2: Chronic Disease Management

The CPSTF should continue to make chronic disease management a priority in its reviews, with a focus on assessing the effectiveness of interventions such as pharmacy-based care to improve the health of those with chronic conditions.

In 2019, the CPSTF recognized the importance of pharmacy-based prevention by issuing a strong recommendation for a pharmacy-based adherence intervention for cardiovascular disease prevention, with its guidance based on its comprehensive literature review of 48 cases.[56,57,58] NACDS appreciated the opportunity to provide consulting subject matter expertise to the CPSTF on this review, which underscores the potential to further address chronic disease management as a continued priority for the next 5 years.

Approximately 50-60% of Americans live with at least one chronic disease, such as heart disease, diabetes or chronic lung disease and these estimates are projected to increase with an aging population.[59,60,61] Chronic diseases are the leading causes of death and disability in America, and also a primary driver of healthcare costs. In fact, 90% of the nation's $3.5 trillion in annual health care expenditures are for people with chronic and mental health conditions.[62] Specific to Medicare FFS beneficiaries in 2017, 57% had high blood pressure, 41% had high cholesterol, 33% had arthritis, and 27% had diabetes.[63] In fact, 17% of Medicare FFS beneficiaries in 2017 had *6 or more* chronic conditions, 21% had 4-5 chronic conditions, and 29% had 2-3 chronic conditions.

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[50] Poh EW, McArthur A, et al. Effects of pharmacist prescribing on patient outcomes in the hospital setting. JBI Database of Systematic Reviews and Implementation Reports. September 2018. https://journals.lww.com/jbisrir/Abstract/2018/09000/Effects_of_pharmacist_prescribing_on_patient.9.aspx

[51] Fifteen states allow pharmacists to test and treat patients as a result of a CLIA-waived test. However, Idaho offers the broadest authority where pharmacists can prescribe products for strep throat and influenza pursuant to the results of a CLIA-waived test, without a statewide protocol, and other states like Colorado, Florida and Texas are considering revising their "test and treat" policies. NASPA. Pharmacist Prescribing: "Test and Treat." February 2019. https://naspa.us/resource/pharmacist-prescribing-for-strep-and-flu-test-and-treat/

[52] Klepser ME, Adams AJ, Klepser DG. Antimicrobial Stewardship in Outpatient Settings: Leveraging Innovative Physician-Pharmacist Collaborations to Reduce Antibiotic Resistance. Health Security. 2015;13(3):166-173. doi:10.1089/hs.2014.0083

[53] Klepser DG, Klepser ME, Smith JK, Dering-Anderson AM, Nelson M, Pohren LE. Utilization of influenza and streptococcal pharyngitis point-of-care testing in the community pharmacy practice setting. Research in Social and Administrative Pharmacy. 2018;14(4):356-359. doi:10.1016/j.sapharm.2017.04.012

[54] Klepser DG, Klepser ME, Dering-Anderson AM, Morse JA, Smith JK, Klepser SA. Community pharmacist–physician collaborative streptococcal pharyngitis management program. Journal of the American Pharmacists Association. 2016;56(3):323-329.e1. doi:10.1016/j.japh.2015.11.013

[55] Klepser ME, Klepser DG, Dering-Anderson AM, Morse JA, Smith JK, Klepser SA. Effectiveness of a pharmacist-physician collaborative program to manage influenza-like illness. Journal of the American Pharmacists Association. 2016;56(1):14-21. doi:10.1016/j.japh.2015.11.008

[56] The Community Guide. About the Community Preventive Services Task Force. https://www.thecommunityguide.org/task-force/aboutcommunity-preventive-services-task-force

[57] CDC. (2016). Using the Pharmacists' Patient Care Process to Manage High Blood Pressure: A Resource Guide for Pharmacists. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Department of Health and Human Services. https://www.cdc.gov/dhdsp/pubs/docs/pharmacist-resource-guide.pdfhttps://www.cdc.gov/dhdsp/pubs/docs/CPA-Team-Based-Care.pdf

[58] Guide to Community Preventive Services. (April 2019). Cardiovascular Disease: Tailored Pharmacy-based Interventions to Improve Medication Adherence. https://www.thecommunityguide.org/findings/cardiovascular-disease-tailored-pharmacy-based-interventions-improve-medication-adherence

[59] Ibid.

[60] Agency for Healthcare Research and Quality. (2014). Multiple Chronic Conditions Chartbook 2010 Medical Expenditure Panel Survey Data.

[61] About Chronic Diseases. National Center for Chronic Disease Prevention and Health Promotion. https://www.cdc.gov/chronicdisease/about/index.htm

[62] Health and Economic Costs of Chronic Diseases. National Center for Chronic Disease Prevention and Health Promotion. https://www.cdc.gov/chronicdisease/about/costs/index.htm#ref1

[63] Chronic Conditions Among Medicare Beneficiaries. Centers for Medicare & Medicaid Services. 2017. https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Chronic-Conditions/Chartbook_Charts

Nationally, utilization of prescription medications continues to increase in parallel with the rising prevalence of chronic conditions; therefore, at the point of dispensing, pharmacists are well positioned to deliver chronic care management services. Pharmacists help patients with chronic diseases by monitoring disease progression, providing medication adherence counseling and interventions, recommending changes in therapy to other members of the patient's care team, providing general disease state management education, such as how to self-monitor blood glucose, general interpretations of blood sugar readings, counseling on signs, symptoms and what to do in instances of hypoglycemia and similar interventions for blood pressure and other chronic diseases. Pharmacists are even apt to educate patients on recommended nutrition and exercise recommendations for disease state control, for example, providing meal templates and recipe suggestions as recommended by the American Diabetes Association, and educating on the "DASH" diet for improved hypertension and heart failure control.

For example, a 2010 systematic review of pharmacist interventions concluded that such programs improve therapeutic and safety outcomes, and the results of various meta-analyses conducted for hemoglobin A1c, cholesterol levels, and blood pressure demonstrate the significant benefits of pharmacist care—favoring pharmacists' direct patient care impact over comparative services.[64] Specifically, evidence suggests pharmacists can prescribe to the same standards as other providers of care, including the ability to better adhere to dosing guidelines when prescribing by protocol.[65]

Another example of pharmacists' ability to improve chronic care includes a Virginia project which reached rural, underserved patients, and included a collaboration between A&B Pharmacy and Emporia Medical Associates, yielding significant patient outcomes. Through this program, pharmacists provided chronic care management (CCM) services for Emporia Medical Associates' Medicare patients. Pharmacists supported patients by providing medication reconciliation/ synchronization services, educating on how to self-monitor blood glucose and blood pressure, and answering questions about chronic disease management during monthly CCM appointments. Pharmacists also worked collaboratively with the physician to develop an appropriate care plan. The program resulted in an 8% increase in medication reconciliation, an 11% increase in use of tobacco cessation services, and a 6% increase in the number of patients receiving chronic care management through the provision of pharmacist-led services. All participating patients also reported improvements in health outcomes related to healthy eating and exercise.[66] (Additional examples can be found in Appendix #2).

In sum, the burden of chronic disease is only projected to grow, making this an important priority for the CPSTF over the next 5 years – including the identification of community-based interventions for chronic disease management to improve the health of this significant subset of patients.

Recommended Priority Topic 3: Medication Adherence and Optimization

The CPSTF should consider medication adherence and medication optimization a priority in its future reviews, with a focus on assessing the effectiveness of pharmacy-based interventions to improve the health of those who use medications.

Healthcare spending on non-optimal medication therapy (estimated at $528.4 billion per year) and medication non-adherence (estimated at $100-290 billion per year) could be significantly decreased with access to community-based medication adherence and optimization programs that leverage patient touch points in the community setting and that fully utilize the skillset of community pharmacists.[67,68] Importantly, the United States is a top healthcare spender compared to similar countries, with approximately a third of that spending categorized as waste.[69] Further, experts note

[64] Chisholm-Burns AM, et al. US Pharmacists' Effect as Team Members on Patient Care: Systematic Review and Meta-Analyses. Medical Care: October 2010 - Volume 48 - Issue 10 - p 923-933
https://journals.lww.com/lww-medicalcare/Fulltext/2010/10000/US_Pharmacists__Effect_as_Team_Members_on_Patient.10.aspx
[65] Poh EW, McArthur A, et al. Effects of pharmacist prescribing on patient outcomes in the hospital setting. JBI Database of Systematic Reviews and Implementation Reports. September 2018. https://journals.lww.com/jbisrir/Abstract/2018/09000/Effects_of_pharmacist_prescribing_on_patient.9.aspx
[66] A Team-based Care Approach to Reach Rural, Underserved Virginia Patients. WWCDPC. 2018.
https://chronicdisease.host/WWCDPC/admin/dompdf/SuccessStories.php?id=712
Health Quality Innovators. A Partnership in Chronic Care Management. http://qin.hqi.solutions/wp-content/uploads/2018/05/CCM-poster-with-3-video-QR-link.pdf
[67] Watanabe JH, McInnis T, Hirsch JD. (2018). Cost of Prescription- Drug Related Morbidity and Mortality. *Annals of Pharmacotherapy,* 52, 829-837.
[68] Rosenbaum L, Shrank W. (2013). Taking Our Medicine - Improving Adherence in the Accountability Era. *New England Journal of Medicine,* 369, 694-695.
[69] Shrank WH, Rogstad TL, Parekh N. Waste in the US Health Care System: Estimated Costs and Potential for Savings. *JAMA.* 2019.
https://jamanetwork.com/journals/jama/article-abstract/2752664

that up to $21.9 billion could be saved by optimizing medication use. Also, the lack of medication adherence causes approximately 125,000 deaths, at least 10% of hospitalizations, and hundreds of billions of preventable healthcare spending.[70] For Medicare beneficiaries in the Part D program, it was recently estimated that medication nonadherence for diabetes, heart failure, hyperlipidemia, and hypertension resulted in billions of Medicare fee-for-service expenditures, millions in hospital days, and thousands of emergency department visits that could have been avoided. If 25% of beneficiaries with hypertension who were nonadherent became adherent, Medicare could save $13.7 billion annually, with over 100,000 emergency department visits and 7 million inpatient hospital days that could be averted.[71] Moreover, one study estimated that in 2009 and 2010, 25% of Americans ages 65 to 69 took at least *five* prescription drugs to treat chronic conditions and this rose to 46% for those ages 70 to 79.[72] In addition, a Johns Hopkins study reported that approximately 50% of patients with chronic illness do not take their medications as prescribed leading to morbidity, mortality, and costs of approximately $100 billion per year.[73]

Evidence supports pharmacists, as medication experts, to identify and resolve drug therapy problems, improving patient health outcomes and reducing downstream harms and costs.[74,75,76] In fact, pharmacists are specifically trained to identify drug therapy problems that threaten medication safety and efficacy, and make necessary recommendations and modifications to resolve such problems. Specifically, a retrospective chart review conducted in a geriatric practice evaluated the impact of pharmacist identification of drug therapy problems and the corresponding action to resolve such issues. In the one-year review, 3,100 drug therapy problems were identified during 3,309 patient encounters. The most common issue was dose too low, followed by dose too high. The most common interventions were laboratory monitoring and dose changes, with an estimated financial savings of up to $270,591.[77]

Another recent traditional medication example involves the Pennsylvania Project, a large-scale community pharmacy demonstration study. This Project evaluated the impact of medication adherence on five chronic medication classes. The study involved 283 pharmacists who screened 29,042 patients for poor adherence risk and provided brief interventions to patients with increased risks. The intervention group experienced statistically significant improvements in adherence across all medication classes. Further, the intervention demonstrated a significant reduction in per patient annual healthcare spending for patients taking statins ($241) and oral diabetes medications ($341). Based on these findings, the study concluded that such pharmacy adherence programs would reduce costs for a plan with 10,000 members by $1.4 million each year and could also be expected to increase the plan's star rating.[78]

Other examples of pharmacy-led chronic care management programs include a $12 million CMMI grant to the University of Southern California and AltaMed, aimed to optimize patient health, reduce avoidable hospitalizations and emergency visits by integrating pharmacists into safety-net clinics in Southern California. This collaborative program resulted in reduced rates of uncontrolled blood sugar by nearly a quarter (23%), improvements in elevated LDL with 14% more patients controlled, and improvements in blood pressure with 9% more patients controlled at 6 months in the intervention group (collaborative care model with pharmacists as leads) versus the control group (primary care

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[71] Lloyd, Jennifer T., Maresh, Sha, Powers, Christopher, Shrank, WH, Alley, Dawn E; "How Much Does Medication Nonadherence Cost the Medicare Fee-for-Service Program?"; Medical Care; January 2019. https://www.ncbi.nlm.nih.gov/pubmed/30676355

[72] Charlesworth, Christina, et al, "Polypharmacy Among Adults Aged 65 Years and Older in the United States: 1988–2010," J Gerontol A Biol Sci Med Sci. 2015 Aug; 70(8): 989–995.

[73] Shearer MP, Geleta A, et al. Serving the Greater Good: Public Health & Community Pharmacy Partnerships. Center for Health Security. Johns Hopkins Bloomberg School of Public Health. 2017. http://www.centerforhealthsecurity.org/our-work/pubs_archive/pubs-pdfs/2017/public-health-and-community-pharmacy-partnerships-report.pdf

[74] MacDonald D, Chang H, et al. Drug Therapy Problem Identification and Resolution by Clinical Pharmacists in a Family Medicine Residency Clinic. 2018. https://pubs.lib.umn.edu/index.php/innovations/article/view/971

[75] Westberg SM, Derr SK, et al. Drug Therapy Problems Identified by Pharmacists Through Comprehensive Medication Management Following Hospital Discharge. Journal of Pharmacy Technology. June 2017. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5998417/

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[78] Pringle JL, et al., "The Pennsylvania Project: Pharmacist Intervention Improved Medication Adherence and Reduced Health Care Costs," Health Affairs (Aug. 2014), available at https://www.healthaffairs.org/doi/abs/10.1377/hlthaff.2013.1398

physicians only). The program resulted in a 33% reduction in readmissions per patient per year primarily attributed to medications estimated at 6 months. Through this project, pharmacists identified 67,169 medication-related problem in 5,775 patients. The top actions made by pharmacists to resolve these problems included: 14,981 dose change/drug interval, 5,554 medications added, 4,230 tests ordered, 3,847 medications discontinued, and 2,665 medication substituted. Further, 100% of program physicians either "strongly agreed" or "agreed" that having pharmacists in their clinics improves their patients' care, and that pharmacists are knowledgeable. And, 92% of patients rated the program very highly, rating scores of 9 or 10 out of 10.[79] (Additional examples can be found in Appendix #2).

Another key way pharmacists can optimize medication use is by identifying gaps in therapy for patients, for example, when patients with diabetes or pertinent cardiovascular disease risk would benefit from a statin. For patients with diabetes, for example, CMS recently adopted the Statin Use in Persons with Diabetes (SUPD) quality measure for inclusion in the Part D star ratings in 2019.[80] This national quality measure is also recognized as an NQF measure, MIPS Quality measure, ACO measure, HEDIS measure and a CPC+ measure.[81,82] The measure builds off of the evidence-based recommendation of the American College of Cardiology and the American Heart Association that diabetic patients receive cholesterol-lowering statins to decrease the risk of heart disease irrespective of whether cholesterol levels are elevated.[83] Despite these recommendations underpinned by decades of supportive evidence, statins are often overlooked and not started in patients who need this therapy. NCQA shared that only 46% of patients with commercial health plans, and 71% of Medicare patients were dispensed any statin in an analysis of commercial and Medicare Advantage health plans' diabetes populations aged 40-75 years of age.[84] Thus, there is significant room for quality improvement, and pharmacists have proven ability to help close this gap.[85][86] (Additional examples can be found in Appendix #2). It is also important to note that pharmacists are most effective at optimizing medication therapy when they have the autonomy to initiate changes that improve medication use, and unnecessary delays for patients are avoided. However, such autonomy is limited by state-to-state scope of practice. For example, according to a 2017 study, for approximately every 13 prescribers contacted by pharmacists, only 1 statin prescription was obtained and dispensed to a patient, yielding an abysmal 7.7% success rate.[87] Therefore, the CPSTF should consider examples of pharmacist-initiated medication optimization especially in the context of autonomous ability for pharmacists to not only identify drug therapy problems, but the ability to resolve these problems (more detail on these issues is provided in relation to Recommended Topic Area 7. Sustainability of Non-traditional Preventive Care Services).

In sum, given the great burden of suboptimal medication use in the United States, with continued projections of increasing medication use, NACDS believes this is an important priority topic for the CPSTF – including the identification of community-based interventions for improved medication adherence and optimal medication use overall given strong correlation to improved health for patients.

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Chen SW. Comprehensive Medication Management (CMM) for Hypertension Patients: Driving Value and Sustainability. University of Southern California. http://betheresandiego.org/storage/files/cmm-for-htn-usc-steven-chen-condensed-slide-deck.pdf ;

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[82] 2019 HEDIS Measures: Statin Therapy for Patients with Diabetes. https://www.aetnabetterhealth.com/pennsylvania/assets/pdf/provider/notices/quality-improvement/ABH%20-%202019%20Statin%20Therapy%20for%20Patients%20With%20Diabetes%20SPD.pdf

[83] American College of Cardiology/American Heart Association. 2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease. March 2019.

[84] NCQA. Statin Therapy for Patients With Cardiovascular Disease and Diabetes. https://www.ncqa.org/hedis/measures/statin-therapy-for-patients-with-cardiovascular-disease-and-diabetes/

[85] Renner HM, Hollar A, Stolpe SF, Marciniak MW. Pharmacist-to-prescriber intervention to close therapeutic gaps for statin use in patients with diabetes: A randomized controlled trial. J Am Pharm Assoc (2003). 2017 May - Jun;57(3S):S236-S242.e1. https://www.ncbi.nlm.nih.gov/pubmed/28506378

[86] Vincent R, Kim J, Ahmed T, Patel V. Pharmacist Statin Prescribing Initiative in Diabetic Patients at an Internal Medicine Resident Clinic. J Pharm Pract. 2019 Jan 29. https://www.ncbi.nlm.nih.gov/pubmed/30696337

[87] Vanderholm T, Renner HM, Stolpe SF, Adams AJ. An Innovative Approach to Improving the Proposed CMS Star Rating "Statin Use in Persons with Diabetes". J Manag Care Spec Pharm. 2018 Nov;24(11):1126-1129. doi:10.18553/jmcp.2018.24.11.1126. https://www.jmcp.org/doi/pdf/10.18553/jmcp.2018.24.11.1126

Recommended Priority Topic 4: Mental and Behavioral Health

The CPSTF should include mental and behavioral health as a priority to identify effective pharmacy-based interventions that can prevent the onset of behavioral health issues, as well as identify them to facilitate appropriate treatment.

Behavioral health disorders – which include mental health and substance use disorders – affect an estimated one in five Americans.[88] However, behavioral health needs often go unmet with only 43% of adults with a mental health disorder and 11% of adults with a substance use disorder receiving treatment.[89] Recent CDC data show that life expectancy has declined over the past few years, with suicide and drug overdose driving the sobering trend.[90] In particular, the opioid epidemic is a significant public health issue facing the U.S. today. As documented in the CPSTF's systematic review, drug use is among the most common causes of preventable death in the US. It also is a leading cause of years lived in disability, and a growing harm to families and communities across the country. Startlingly, 130 Americans die of an opioid overdose every day, and it was estimated that approximately 30.5 million people aged 12 or older have used an illicit drug and about 1 in 4 young adults aged 18 to 25 are "current" illicit drug users.[91] The urgency and widespread nature of this epidemic requires innovative solutions, leveraging the expertise and access of the entire healthcare continuum- especially those on the frontlines of care.

However, research demonstrates that community pharmacies can provide screening and treatment services for a range of behavioral health conditions, for example, depression and substance misuse and abuse.[92,93] Public health authorities have especially indicated that face-to-face interactions between pharmacists and patients have made pharmacists keenly aware of the extreme challenges and complexities associated with the opioid epidemic. Given their accessibility across urban, rural and underserved areas, community pharmacies are uniquely positioned to address this epidemic. Some states have already "engaged community pharmacy to prevent new addictions, monitor opioid medication prescriptions, improve access to naloxone (an effective treatment for opioid overdose), and implement 'take-back' programs for safe disposal of unused medications".[94] A recent study examined the distribution of community pharmacies across a state relative to the location of substance abuse treatment centers and opioid-related overdoses to explore the potential for community pharmacies to play a role in opioid abuse prevention and treatment.[95] The study found that community pharmacies were more prevalent than substance abuse treatment centers – especially in rural counties – which could make them an important partner in medication assisted treatment (MAT) and prevention efforts in underserved areas.[96] Early evidence indicates that risk for opioid medication misuse can be identified in rural and

[88] Substance Abuse and Mental Health Services Administration (SAMHSA). (2017). Key substance use and mental health indicators in the United States: Results from the 2016 National Survey on Drug Use and Health (HHS Publication No. SMA 17-5044, NSDUH Series H-52).

[89] Substance Abuse and Mental Health Services Administration (SAMHSA). (2017). Key substance use and mental health indicators in the United States: Results from the 2016 National Survey on Drug Use and Health (HHS Publication No. SMA 17-5044, NSDUH Series H-52).

[90] American Academy of Family Physicians. (2018). CDC Data Show U.S. Life Expectancy Continues to Decline; Suicides, Drug Overdose Deaths Named as Key Contributors. https://www.aafp.org/news/health-of-the-public/20181210lifeexpectdrop.html

[91] U.S. Preventive Services Task Force. (September 2019). Evidence Synthesis Number 186: Screening for Illicit Drug Use, Including Nonmedical Use of Prescription Drugs: An Updated Systematic Review for the U.S. Preventive Services Task Force. https://www.uspreventiveservicestaskforce.org/Page/Document/draft-evidence-review-screening/drug-use-in-adolescents-and-adults-including-pregnant-women-screening

[92] O'Reilly CL, Wong E, Chen TF. A feasibility study of community pharmacists performing depression screening services. Res Social Adm Pharm. 2015 May-Jun;11(3):364-81. https://www.ncbi.nlm.nih.gov/pubmed/25438728

[93] Pringle JL, Aruru M, Cochran J, Role of pharmacists in the Opioid Use Disorder (OUD) crisis, Research in Social & Administrative Pharmacy (2018), doi: https://doi.org/10.1016/j.sapharm.2018.11.005.

DiPaula, B.A. & Menachery, E. (Mar/Apr 2015). Physician-pharmacist collaborative care model for buprenorphine-maintained opioid-dependent patients, Journal of the American Pharmacists Association, 55(2), 187-192, available at: https://www.ncbi.nlm.nih.gov/pubmed/25749264

Freyer F. In Rhode Island, Some Get Addiction Care at the Pharmacy. Boston Globe. March 2019. https://www.bostonglobe.com/metro/2019/03/12/getting-addiction-care-pharmacy/m1mcceVlLRXX1W9X3WdeOP/story.html

Cochran, G., Rubinstein, H., Bacci, J. et al. (2016). Screening Community Pharmacy Patients for Risk of Prescription Opioid Misuse. *Journal of Addiction Medicine,* 9(5) 411-416. https://www.ncbi.nlm.nih.gov/pubmed/26291546

[94] Center for Health Security. (2017). Serving the Greater Good: Public Health and Community Pharmacy Partnerships. Johns Hopkins Bloomberg School of Public Health. http://www.centerforhealthsecurity.org/our-work/pubs_archive/pubs-pdfs/2017/public-health-and-community-pharmacy-partnerships-report.pdf

[95] Look, K., Kile, M., Morgan, K. et al. (2018). Community Pharmacies as Access Points for Addiction Treatment. Research in Social and Administrative Pharmacy, S1551-7411(18)30217-1. https://www.ncbi.nlm.nih.gov/pubmed/29909934

[96] Ibid.

urban community pharmacies – and consumers were generally open to screenings and discussions with pharmacists about potentially problematic usage.[97]

In fact, pharmacies across the country provide a wide range of services geared toward preventing, identifying, and managing drug misuse and abuse.[98] Specifically, pharmacists collaborate with other members of the healthcare team to ensure the legitimacy of all prescriptions and proper and safe use of controlled substances; and pharmacists prescribe and dispense naloxone to increase access to these drugs and prevent fatal overdoses.[99] Pharmacists also provide counseling and patient education including safe opioid disposal and leverage tools such as prescription drug monitoring programs to screen patients for dangerous drug use and intervene where possible, while balancing their responsibility as a provider of patient care.[100,101] In some states, such as Ohio and Colorado, pharmacists can administer naltrexone as part of a MAT plan for patients. In addition, given the strong ties of community pharmacies in neighborhoods across the country, work is underway to implement collaborative, community-based SBIRT (Screening - Brief Intervention - Referral to Treatment) models where patients are first screened in the comfort and convenience of their local community pharmacies and receive intervention and linkage to care from the pharmacists they know and trust. Especially at the point of dispensing, pharmacies and pharmacists are uniquely positioned to offer Screening Brief Intervention and Referral to Treatment (SBIRT) services to at-risk patients. Through a screening process that is permissible through their existing scope of practice, pharmacists identify those at risk of OUD and provide brief counseling and motivational interviewing, as well as linkage to care. This would increase provider capacity while also eliminating gaps and barriers in treatment and increasing access to naloxone and other MAT drugs. Currently, pharmacy-based SBIRT services are being rolled out in Pennsylvania, Virginia, and Ohio. In Virginia, pharmacist-provided SBIRT services are reimbursed by Medicaid. In fact, pharmacists have more medication-related training than any other clinician and pharmacist involvement in opioid use disorders helps improve access and outcomes, while reducing the risk of relapse.[102,103] A recent article by Pringle, Aruru, and Cochran[104] noted that by allowing community pharmacists to be more involved in direct patient care, community pharmacists can help to eliminate gaps and barriers in treatment and increase access to naloxone and other medication assisted therapy (MAT) drugs as well as play a critical role in implementing strategies to help reduce population opioid use disorder (OUD) risk.

For example, in Rhode Island, a MAT program is funded by a $1.6 million NIDA grant. Under this initiative, the Rhode Island Hospital is conducting a pilot program[105] involving six pharmacies working with 125 patients to manage their MAT. In the pilot, patients receive their initial MAT prescription from a physician. After the physician determines a patient is stable on their medication, a pharmacist working under a collaborative practice agreement takes over the patient's care. Visiting the pharmacy once or twice a week, patients meet in a private room with their pharmacist. The pharmacist places a swab under the patient's tongue for several minutes, which will be sent to a lab for analysis to reveal whether that patient has taken the full dose of their prescribed medication or used any illicit substances. With that information, pharmacists counsel patients about recovery goals, struggles, and successes. They also employ motivational interviewing, a counseling technique that helps patients overcome ambivalence and make behavioral changes. Most patients enrolled in the pilot are expected to take buprenorphine, but patients also have the option of Vivitrol, a once-a-month injection of naltrexone which blocks the effects of opioids. (Methadone is not available as it can only be obtained at federally regulated clinics.)

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[97] Cochran, G., Rubinstein, H., Bacci, J. et al. (2016). Screening Community Pharmacy Patients for Risk of Prescription Opioid Misuse. Journal of Addiction Medicine, 9(5) 411-416. https://www.ncbi.nlm.nih.gov/pubmed/26291546

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[101] Riley TB, Alemagno S. Pharmacist utilization of prescription opioid misuse interventions: Acceptability among pharmacists and patients. Research in Social and Administrative Pharmacy. Volume 15, Issue 8, August 2019, Pages 986-991. https://www.ncbi.nlm.nih.gov/pubmed/30665825

[102] DiPaula, B.A. & Menachery, E. (Mar/Apr 2015). Physician-pharmacist collaborative care model for buprenorphine-maintained opioid-dependent patients, Journal of the American Pharmacists Association, 55(2), 187-192, available at: https://www.ncbi.nlm.nih.gov/pubmed/25749264

[103] Raisch, W. (2002). Opioid Dependence Treatment, Including Buprenorphine/Naloxone, *Pharmacology & Pharmacy,* 36(2), 312-321.

[104] Pringle JL, Aruru M, Cochran J, Role of pharmacists in the Opioid Use Disorder (OUD) crisis, *Research in Social & Administrative Pharmacy* (2018), doi: https://doi.org/10.1016/j.sapharm.2018.11.005.

[105] Freyer F. In Rhode Island, Some Get Addiction Care at the Pharmacy. Boston Globe. March 2019. https://www.bostonglobe.com/metro/2019/03/12/getting-addiction-care-pharmacy/m1mcceVlLRXX1W9X3WdeOP/story.html

The impact of behavioral health issues on a range of factors – including life expectancy, health outcomes, and quality of life is clear. The CPSTF should continue to play a central role in assessing effective community-based interventions to prevent the onset of behavioral health issues or to identify them and facilitate treatment.

Recommended Priority Topic 5: Immunizations

The CPSTF should include immunizations as a priority area for identifying effective community-based interventions, such as pharmacy-based strategies, to reduce the tremendous impacts of vaccine-preventable diseases on public health.

Immunization rates in the United States continue to fall below targets. HHS has recently highlighted this issue and is revising the National Vaccine Plan (NVP) to improve rates.[106] Despite strong scientific evidence on the benefits of vaccines, fewer than half of the adult U.S. population are immunized for influenza and rates for other vaccine-preventable diseases remain lower than recommended.[107] Specifically, only 45.4% of adults received an influenza vaccine for the 2016-17 season, pneumococcal vaccine coverage among adults at increased risk was only 24.5%, and herpes zoster coverage was only 34.9% among adults age 60 and up.[108] Specific to Medicare, 68% of adults 65 and older received an influenza vaccine during the 2018-2019 flu season, compared to the 90% target set by Healthy People 2020.[109] The impacts of these low immunization rates are striking. Low vaccine uptake can result in disabilities and death, as well as financial burdens from increased medical visits, increased hospitalizations, and lost income. For instance, in 2015 an estimated $7.1 billion was spent on preventable health care costs due to influenza and pneumococcal infections, two vaccine-preventable diseases.[110]

Pharmacies have become a major access point for immunizations for many Americans for a number of reasons. They have been shown to be a cost-effective healthcare setting for providing immunization services and increasing immunization rates.[111] In fact, literature strongly supports pharmacies as vaccine destinations and extending full pharmacist authority to provide immunizations has cost-effectively improved vaccination coverage.[112] Specifically, a study published by Harvard Medical School reported the mean cost of vaccination at a variety of healthcare settings. As noted, the mean cost of vaccines at community pharmacies was significantly lower than scheduled physician visits and mass vaccination clinics. The reported costs are shown in the following chart:[113]

Vaccination Cost Per Setting: Data from Harvard Medical School

Healthcare Setting	Mean Vaccination Cost
Pharmacy	$11.57
Mass vaccination clinic	$17.04
Doctor's office	$28.67

Notably, community pharmacies were estimated to deliver the influenza vaccination to an estimated 28% of adults in 2017.[114] Specifically, one study showed that in a one-year period from 2011-2012, community pharmacies administered

[106] Department of Health and Human Services. (2016). National Adult Immunization Plan. https://www.hhs.gov/vaccines/national-adult-immunization-plan/index.html

[107] Patel, A. R., Breck, A. B., & Law, M. R. (2018). The impact of pharmacy-based immunization services on the likelihood of immunization in the United States. Journal of the American Pharmacists Association. https://www.ncbi.nlm.nih.gov/pubmed/30076098

[108] Vaccination Coverage Among Adults in the United States. National Health Interview Survey. Centers for Disease Control and Prevention. 2017. https://www.cdc.gov/vaccines/imz-managers/coverage/adultvaxview/pubs-resources/NHIS-2017.html

[109] Centers for Disease Control and Prevention. Influenza: General Population Vaccination Coverage. https://www.cdc.gov/flu/fluvaxview/coverage-1819estimates.htm#results

[110] Patel, A. R., Breck, A. B., & Law, M. R. (2018). The impact of pharmacy-based immunization services on the likelihood of immunization in the United States. Journal of the American Pharmacists Association. https://www.ncbi.nlm.nih.gov/pubmed/30076098

[111] Burson, R., Buttenheim, A., Armstrong, A. et al. (2016). Community Pharmacies as Sites of Adult Vaccination: A systematic review. Human Vaccines & Immunotherapeutics, 12:12, 3146-3159. https://www.ncbi.nlm.nih.gov/pubmed/27715409

[112] Drozd EM, Miller L, et al. Impact of Pharmacist Immunization Authority on Seasonal Influenza Immunization Rates across States. Aug 2017. Clinical Therapeutics. doi: 10.1016/j.clinthera.2017.07.004. https://www.ncbi.nlm.nih.gov/pubmed/28781217

[113] Prosser LA, Obrien MA, et al. Non-traditional settings for influenza vaccination of adults: costs and cost effectiveness. Pharmacoeconomics. Feb 2008. https://link.springer.com/article/10.2165%2F00019053-200826020-00006

[114] Centers for Disease Control and Prevention. (2017). National Early-Season Flu Vaccination Coverage, United States.

more than 6.25 million vaccinations, of which 30.5% were provided during off-clinic hours: 17.4% were provided on weekends, 10.2% on evenings, and 2.9% on holidays.[115] Also, only five years after national implementation of pharmacist-administered immunizations, it is estimated that 6.2 million additional influenza immunizations and 3.5 million additional pneumococcal immunizations are attributable to pharmacy-delivered immunization each year.[116] (Additional examples can be found in Appendix #2).

Importantly, gaps in health insurance coverage and reimbursement for pharmacy-based immunizations limit the ability of pharmacists to make even greater strides to expand access to care for immunization delivery, and cost-sharing is particularly problematic for patients without insurance and for those vaccines covered under Medicare Part D. In fact, research has demonstrated that patient out-of-pocket costs remain the most significant predictors of vaccine abandonment[117] (more detail on these issues is provided in relation to Recommended Topic Area 7. Sustainability of Non-traditional Preventive Care Services).

In sum, increasing immunization rates could save lives and prevent some of the economic burden of vaccine-preventable diseases, especially in vulnerable populations such as infants, the elderly, and those with chronic illness.[118] Further, vaccination has been deemed one of the most cost-effective preventive interventions.[119] CPSTF's potential focus on identifying interventions that effectively increase immunization rates, such as community pharmacy-based efforts, could help significantly improve health nationwide and reduce clinical and economic burden of vaccine-preventable disease.

Recommended Priority Topic 6: Social Determinants of Health & Health Disparities

The CPSTF should include community-based strategies for addressing prevention in the context of social determinants of health as a priority area for identifying effective interventions, such as pharmacy-based strategies, to improve health in a scalable, widespread manner for maximum impacts on access to care and public health.

Perhaps the most significant barrier to effective prevention and delayed progression of chronic health conditions is the lack of broad access to essential services in community settings. Access to care is a critical factor, strongly influencing patient outcomes and is especially important in underserved communities, including those that may face socioeconomic barriers to accessing care and rural populations that may lack convenient, traditional care settings. Rural areas generally face a shortage of physicians and healthcare providers to provide the necessary services to the surrounding community, and in fact, many patients face socioeconomic challenges and access barriers that impact adoption of health-based interventions or behavioral changes. These socioeconomic challenges might influence education about interventions and lifestyle decisions, access to support activities, access to nutrition/health and wellness services and access to screenings and services which would emphasize the need for such changes. However, community pharmacists are located in the places where many patients facing socioeconomic challenges live and work, offering accessible preventive care opportunities. This is important considering that recommendations from a healthcare provider drives uptake of risk-reduction activities and programs.[120] Community pharmacists are well-positioned to make recommendations through community outreach and public education, in addition to patient-specific counseling and intervention. And because pharmacists are strongly embedded into the communities they serve, pharmacists have first-hand and personal understanding about how social determinants influence the environments and behaviors affecting health outcomes in their communities; therefore, pharmacies are well equipped to identify disparities and provide preventive care in this context.

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[115] Goad JA, Taitel MS, Fensterheim LE, Cannon AE. Vaccinations administered during off-clinic hours at a national community pharmacy: implications for increasing patient access and convenience. Ann Fam Med. 2013 Sep-Oct;11(5):429-36. doi: 10.1370/afm.1542. https://www.ncbi.nlm.nih.gov/pubmed/24019274

[116] Patel AR, Breck AB, Law MR. The impact of pharmacy-based immunization services on the likelihood of immunization in the United States. Journal of the American Pharmacists Association. August 2018. https://www.japha.org/article/S1544-3191(18)30231-0/pdf

[117] Akinbosoye OE, Taitel MS, Grana J, Macpherson C. Factors Associated with Zostavax Abandonment. Pharmacy Times. August 2016. https://www.ajpb.com/journals/ajpb/2016/AJPB_JulyAugust2016/factors-associated-with-zostavax-abandonment#sthash.85nSmz1P.dpuf

[118] Ibid.

[119] The Economic Value of Vaccination: Why Prevention is Wealth. J Mark Access Health Policy. 2015 Aug 12;3:10.3402/jmahp.v3.29414. doi: 10.3402/jmahp.v3.29414..https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4802700/

[120] Tucker M, Barclay L. What's the Effect of Diabetes Prevention Services? Medscape. https://www.medscape.org/viewarticle/915077?nlid=130679_2712&src=wnl_cmemp_190719_mscpedu_pharm&uac=302373CT&impID=2033964&faf=1. Published July 3, 2019.

As noted earlier, physician shortages and unnecessary restrictions on other care providers, such as pharmacists, prevent patients from receiving the most accessible and timely care. Approximately 65 million people live in regions without adequate primary care and experts estimate a shortage of up to 122,000 physicians by 2032 within the United States.[121,122] While healthcare services have traditionally been provided by primary care physicians, nurse practitioners, and physician assistants, the role of community pharmacists has broadened in the last decade to encompass immunizations, screenings, health and wellness care, treatment for minor illnesses, medication optimization, and chronic care management programs. Thus, community pharmacists stand ready to address challenges to health inequality and social determinants of health in coordination with the rest of the care continuum, especially as they are well-integrated into their communities and in tune with regional, socioeconomic challenges. Better leveraging the skills and expertise of all healthcare professionals, especially pharmacists, would support physicians in bridging gaps in care and reduce undue strain across the healthcare continuum resulting in better care for the underserved.

Additionally, as hospitals and other care sites continue to close, especially in underserved areas, it is necessary for patients to have alternative locations to receive coordinated, high quality care including chronic care management, and preventive care. Community pharmacies are well-positioned to serve as an alternative care site to support the rest of the care continuum.[123] Notable agencies within the healthcare system, such as the Department of Veterans Affairs, Department of Defense, Public Health Service, Centers for Disease Control and Prevention,[124] and the U.S. Surgeon General,[125] recognize the value of pharmacists in improving quality and healthcare outcomes through services such as transitions of care and chronic disease management, for example. By providing these important services in a convenient, easily accessible location, patients in rural areas will benefit from expanded access to care and improved health outcomes.

For example, pharmacist-provided MTM can improve chronic disease intermediate outcomes for medically underserved patients in FQHCs. This pilot study displayed improvement in diabetes and hypertension clinical markers associated with pharmacist provision of MTM**.** A1c goal achievement occurred in 52.84% of patients and hypertension control was reported in 65.21%. Pharmacists identified and resolved more than 1400 medication- related problems and addressed multiple adverse drug event issues.[126] (Additional examples can be found in Appendix #2).

In sum, pharmacists have the ability to provide a variety of preventive care interventions with more patient touchpoints[127] to better care and expand access for underserved populations in the context of social determinants of health. Through CPSTF exploration of pharmacy-based interventions to address social determinants of health and mitigate health disparities, evidence-based interventions can be scaled across the country via the robust infrastructure of community pharmacies to broadly improve care.

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[121] State and Federal Efforts to Enhance Access to Basic Health Care. The Commonwealth Fund. https://www.commonwealthfund.org/publications/newsletter-article/state-and-federal-efforts-enhance-access-basic-health-care

[122] Association of American Medical Colleges. New Findings Confirm Predictions on Physician Shortage. April 2019. https://www.aamc.org/newsinsights/press-releases/new-findings-confirm-predictions-physician-shortage

[123] Heath S. How Pharmacists Can Drive Patient Engagement, Value-Based Care. March 2019. https://patientengagementhit.com/news/how-pharmacists-can-drive- patient-engagement-value-based-care

[124] A Program Guide for Public Health: Partnering with Pharmacists in the Prevention and Control of Chronic Diseases. CDC. August 2012. https://www.cdc.gov/dhdsp/programs/spha/docs/pharmacist_guide.pdf

[125] 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. https://www.accp.com/docs/positions/misc/improving_patient_and_health_system_outcomes.pdf
Surgeon General supports USPHS report on pharmacists as providers. APhA. January 2012. https://www.pharmacist.com/CEOBlog/surgeon-general-supports-usphs-report-pharmacists-providers?is_sso_called=1

[126] Rodis JL, et al. Improving Chronic Disease Outcomes Through Medication Therapy Management in Federally Qualified Health Centers. Journal of Primary Care & Community Health. 2017. https://www.ncbi.nlm.nih.gov/pubmed/28381095

[127] Shaver A. Impact of a community pharmacy transitions-of-care program on 30-day readmission. Journal of the American Pharmacists Association Volume 59, Issue 2, March–April 2019, Pages 202-209. https://www.sciencedirect.com/science/article/pii/S1544319118304412?via%3Dihub
Shull MT, Braitman LE, Stites SD, DeLuca A, Hauser D. Effects of a pharmacist-driven intervention program on hospital readmissions. Am J Health Syst Pharm. 2018 May 1;75(9):e221-e230. doi: 10.2146/ajhp170287. https://www.ncbi.nlm.nih.gov/pubmed/29691265

Recommended Priority Topic 7: Sustainability of Non-traditional Preventive Care Settings

The CPSTF should explore sustainable models for preventive care delivery in non-traditional settings, like community pharmacies, to directly create sustainable reimbursement or incentives for community-based implementation of preventive interventions. As a priority area, exploring this topic would provide great opportunity to improve health in a scalable, widespread manner for maximum impacts on access to care and public health.

Pharmacists are advanced healthcare professionals with doctorate-level education and years of clinical training (please see Appendix #3)**.** However, varying scope of practice laws across states, as well as coverage and payment for pharmacy care services currently limits the impact pharmacists can play in the delivery of preventive care. If community pharmacies were better leveraged as part of the continuum of care, their accessibility coupled with pharmacists' clinical training could significantly improve the delivery of preventive services, including immunizations, screenings, and chronic disease management.[128] To fully leverage pharmacists as a driver of value and outcomes, sustainable models must be built to support and recognize community pharmacists as healthcare providers who are integral to the patient care continuum. Community pharmacist-provided care can advance and evolve if incentives for deployment and reimbursement of pharmacy care are established at appropriate levels and/or the tremendous value derived from pharmacy care services are fully recognized.[129]

As illustrated, the literature is full of examples that point to the tremendous, untapped potential of pharmacists to meaningfully innovate and improve our health system, especially reducing downstream healthcare spending. Such examples prove that pharmacy care services are scalable and can benefit broader populations across America if pharmacists had the opportunity to sustain these services broadly. Unfortunately to date, pharmacists are one of the only healthcare professionals with doctorate-level education and years of clinical training that lack a provider designation in federal law. In Medicare laws, services provided by clinical nurse specialists, physical therapists, clinical psychologists, speech-language pathologists, audiologists, and nutrition professionals, for example, are covered, but services provided by pharmacists are omitted. This omission creates challenges in developing sustainable patient care models, especially for accessible preventive care interventions.

Specifically, the current payment mechanism for pharmacies is limited to the dispensing of a medication product, without regard to clinical services that optimize patient care. Pharmacists routinely counsel patients on new medications as part of the dispensing process, but innovative, new payment structures are needed to support pharmacists as they delve deeper into transitions of care, disease state management, medication optimization, and other valuable preventive services. Today, limited opportunities exist for pharmacies to be compensated for such clinical services. The lack of remuneration imposes a major barrier for pharmacist participation in innovative models of care and limits the number and types of care delivery options for patients. Misaligned incentives serve as a barrier to broad and comprehensive pharmacist-provided clinical and preventive care. However, due to the lack of a reimbursement mechanism and lack of pharmacist recognition as healthcare providers, pharmacists cannot currently bill for clinical care within the Medicare program, despite their clinical qualifications and training.

Further, restrictive scope of practice laws in some states unduly limit pharmacists' provision of preventive care, which in turn constrains the ability of pharmacists to expand access to these important services in the neighborhoods and communities they serve. At the state level, uneven scope of practice laws present barriers for pharmacist participation in value-based payment programs and limit the number and types of preventive services pharmacists can provide. State-by-state regulations outline the scope of practice and types of services that can be delivered by pharmacists. For example, pharmacists in many states face restrictive scope of practice around what type of vaccines they can deliver, what patient ages they can serve, and if prescriptions or protocols are needed for vaccination. Pharmacists also face challenges around point-of-care testing, and initiating treatment based on CLIA-waived test results in many states.

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[128] San-Juan-Rodriguez, A., Newman, T. V., Hernandez, I., Swart, E. C. S., Klein-Fedyshin, M., Shrank, W. H., & Parekh, N. (2018). Impact of community pharmacist-provided preventive services on clinical, utilization, and economic outcomes: An umbrella review. Preventive Medicine, 115, 145–155. https://www.ncbi.nlm.nih.gov/pubmed/30145351

[129] Avalere Health. (October 2015). Developing Trends in Delivery and Reimbursement of Pharmacist Services. https://naspa.us/resource/developing-trends-in-delivery-and-reimbursement-of-pharmacist-services/

While scope of practice regulations are expanding to recognize the value of pharmacist services and leading to an increased number of direct patient care opportunities, lack of consistency in regulatory standards across all states is also hampering pharmacists from providing preventive care to eligible patients more broadly.[130]

In sum, while community pharmacists are poised to improve health and mitigate unnecessary healthcare utilization and waste especially through preventive care, this potential can only be realized if more emphasis is geared toward the exploration of sustainable care models for pharmacy-based services and elimination of outdated scope of practice barriers in the states. As noted, outside of the Veteran Administration, Department of Defense, and Public Health Service programs, pharmacists are not federally- recognized providers, which impedes their ability to bill for and sustain clinical care services within Medicare, limiting their ability to expand the reach of healthcare delivery.

Therefore, NACDS recommends that as part of CPSTF's efforts in the next 5 years, priority is given to further investigation of sustainable models of care for preventive interventions in non-traditional, community-based settings, like pharmacies. The most effective and comprehensive models for broad patient access to preventive care must include opportunities for direct reimbursement of community pharmacists for providing key preventive and chronic condition management to inform feasible, scalable, and *sustainable* models that can meaningfully foster preventive care nationwide.

Alignment of CPSTF Priority Topics with Other National Prevention & Quality Leaders

While a number of public health challenges face the United States today, there is a growing need to harmonize priorities and interventions to better focus providers on the most pressing issues. As mentioned, NACDS offers consideration of the seven (7) recommended topics due to strong alignment with other national entities, priorities, and initiatives, including the United States Preventive Services Task Force (USPSTF),[131] Healthy People 2020 (HP2020),[132] the Advisory Committee on Immunization Practices (ACIP),[133] and the National Vaccine Plan (NVP),[134] and with existing CMS programs on healthcare quality.[135] (See Appendix #1 for List of Pertinent CMS Quality Measures). Importantly, aligning the most critical health priorities across the country reduces administrative burden and complexities for all providers across the continuum of care in the spirit of CMS' work on meaningful measures and patients over paperwork.[136] Specifically, the chart below illustrates how the recommended topics overlap with concepts supported by other groups.

Recommended Priorities (NACDS)	Example Sub-Topics	Overlap with Other Groups
Topic 1: Preventive Screenings	Blood pressure screening, increasing the proportion of persons who receive appropriate evidence-based clinical preventive services	USPSTF, HP 2020, CMS Quality Programs
Topic 2: Chronic Disease Management	Improving glycemic control among persons with diabetes	HP 2020, CMS Quality Programs
Topic 3: Medication Adherence/ Optimization	Statin use and adherence for primary prevention of cardiovascular disease, reducing the proportion of older adults with disabilities who use inappropriate medications	USPSTF, HP 2020, CMS Quality Programs
Topic 4: Mental and Behavioral Health	Increasing the proportion of persons who need alcohol and/or illicit drug treatment and received specialty treatment for abuse or dependent in the past year, depression screening for adults and	USPSTF, HP2020, CMS Quality Programs

[130] Ibid

[131] U.S. Preventive Services Task Force. USPSTF A and B Recommendations. https://www.uspreventiveservicestaskforce.org/Page/Name/uspstf-a-and-b-recommendations/

[132] Office of Disease Prevention and Health Promotion. Healthy People 2020. https://www.healthypeople.gov/2020/topics-objectives

[133] Centers for Disease Control and Prevention. Adult Immunization Schedule. https://www.cdc.gov/vaccines/schedules/hcp/imz/adult.html

[134] U.S. Department of Health and Human Services. U.S. National Vaccine Plan. https://www.hhs.gov/vaccines/national-vaccine-plan/index.html

[135] https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/MMS/Quality-Programs

[136] Centers for Medicare and Medicaid Services. Patients over Paperwork. https://www.cms.gov/Outreach-and-Education/Outreach/Partnerships/PatientsOverPaperwork

	adolescents, healthy diet and physical activity counseling to prevent cardiovascular disease	
Topic 5: Immunizations	Improve rates of influenza, pneumococcal, zoster, meningococcal, tetanus, hepatitis B, human papillomavirus, et al., vaccinations	USPSTF, ACIP, NVP, HP2020, CMS Quality Programs
Topic 6: Social Determinants of Health	Increasing the proportion of persons who report their healthcare provider always gave them easy-to-understand instructions about what to do to take care of their illness or health condition (HP 2020)	HP 2020, CMS Quality Programs
Topic 7: Sustainability of Non-traditional Preventive Care Settings	Reducing the proportion of persons who are unable to obtain or delay in obtaining necessary medical care or prescriptions medicines	HP 2020, CMS Quality Programs

In addition, the draft HP 2030 topic areas released in 2019 include access to health services, immunizations, mental health, substance use disorder, and chronic diseases, such as diabetes, kidney disease, and heart disease.[137] In October 2019, HHS issued an RFI for the 2020 NVP goals. The 2020 plan will set goals and measure progress for the adult immunization schedule, as recommended by the Advisory Committee on Immunization Practices. However, the goals for adult immunization can only be achieved if there is access to vaccines and if providers can administer them in a cost-effective manner. By including adult immunizations as a priority and examining effective interventions for increasing immunization rates, the CPSTF could align with and help achieve the goals set by HP 2030, the 2020 NVP, and USPSTF.[138]

In summary, the topic areas recommended for CPSTF to consider offer *both* vast opportunities to address important public health problems and burden, while aligning well with other national public health and prevention efforts, such as HP 2020/2030, the 2020 NVP, CMS Quality Programs, and existing USPSTF Recommendations.

RFI Question 3: What are examples of published studies on interventions within these topics?

While numerous examples are included throughout the text above and referenced by footnotes, we have included Appendix #2, highlighting examples of published studies on informative, successful pharmacy-based interventions within the recommended topic areas.

Conclusion

As a committed partner to public health agencies in advancing population health, NACDS applauds the CPSTF's work in rigorously testing and recommending interventions proven to improve health and looks forward to being an active partner in advancing its priorities for the next 5 years. We appreciate the opportunity to provide comments to the CPSTF to improve the health of the communities we serve.

Community pharmacies are important, accessible, local sources of quality, preventive care and can be important partners in efforts to expand preventive care and improve community health. Community pharmacies should and must have a larger role in delivering recommended, evidence-based services to beneficiaries and patients to effectively use scarce healthcare resources, and to help transform our health system to one that delivers on quality, outcomes, and value. The meaningful inclusion of community pharmacists and pharmacies in programs directed at increasing the use of preventive care services and chronic condition management can help to reach goals on quality, realign misaligned incentives, and improve program integrity through new access to clinical service delivery and smarter resource

[137] Proposed Objectives for Inclusion in Healthy People 2030. https://www.healthypeople.gov/sites/default/files/ObjectivesPublicComment508.pdf
[138] U.S. Preventive Services Task Force. Published Recommendations. https://www.uspreventiveservicestaskforce.org/BrowseRec/Index

utilization. We appreciate the opportunity to respond to HHS' RFI and look forward to partnering on future policy discussions and program refinements.

Sincerely,

Steven C. Anderson, IOM, CAE
President and Chief Executive Officer

Appendix #1: Quality Metrics in CMS Programs Suited for Pharmacist Influence		
Measure Topic	Measure Examples	CMS Programs
Chronic Disease Outcomes		
Chronic Disease Assessment and Management	Blood pressure control A1c control Depression remission Osteoarthritis function assessment	Merit-Based Incentive Payment System (MIPS) Program Qualified Health Plan (QHP) Quality Rating System (QRS) Medicaid Medicare Shared Savings Program Million Hearts Medicare Part C Star Rating
Patient Experience	CAHPS: Health Promotion and Education CAHPS: Health Status/Functional Status CAHPS: Getting Timely Care, Appointments and Information	Medicare Shared Savings Program
Medication Adherence and Optimization		
Medication Adherence, Persistence or Optimization	High risk medications in the elderly Adherence to optimal medications for diabetes, cholesterol, blood pressure, COPD, asthma, schizophrenia, heart failure Concurrent use of benzodiazepines and opioids Improvement in management of oral medication Statin therapy in cardiovascular disease Statin therapy in diabetes	Medicaid, Merit-Based Incentive Payment System (MIPS) Program Medicaid Qualified Health Plan (QHP) Quality Rating System (QRS) Home Health Quality Reporting Home Health Value Based Purchasing Medicare Part D Star Rating Medicare Shared Savings Program Million Hearts
Transitions of Care		
Reducing Preventable Readmissions	30 Day All Cause Readmissions	Hospital Compare Merit-Based Incentive Payment System (MIPS) Program Medicare Part C Star Rating Medicaid Qualified Health Plan (QHP) Quality Rating System (QRS) Hospital Readmission Reduction Program
Medication Review/ Reconciliation	Medication Reconciliation Post-Discharge	Medicare Part C Star Rating Merit-Based Incentive Payment System (MIPS) Program Physician Compare
Preventive Care and Screening		
Immunization Assessment and Delivery	Childhood Immunization Status Immunizations for Adolescents Pneumococcal Vaccination Status for Older Adults Preventive Care and Screening: Influenza Immunization Zoster (Shingles) Vaccination	Medicare Part C Star Rating Merit-Based Incentive Payment System (MIPS) Program Qualified Health Plan (QHP) Quality Rating System (QRS) Medicaid Home Health Value Based Purchasing

		Hospital Inpatient Quality Reporting Inpatient Psychiatric Facility Quality Reporting
Antibiotic Stewardship	Adult Sinusitis: Antibiotic Prescribed for Acute Viral Sinusitis (Overuse)	Merit-Based Incentive Payment System (MIPS) Program Qualified Health Plan (QHP) Quality Rating System (QRS)
Screenings and Interventions	BMI, weight, and nutrition assessment Suicide risk assessment Screening and intervention for alcohol use and/or tobacco use DEXA scans Functional status and cognitive assessments Spirometry HIV screening Falls risk assessment/screening Blood pressure and/or diabetes screening	Medicare Part C Star Rating Medicaid Merit-Based Incentive Payment System (MIPS) Program Medicare Shared Savings Program Hospital Compare Inpatient Psychiatric Facility Quality Reporting End-Stage Renal Disease Quality Incentive Program

Appendix #2: Examples of Evidence: Value of Pharmacist-Provided Preventive Care	
Result of Pharmacist Intervention	**Source**
General Value of Pharmacy Care in Prevention	
This umbrella review included 13 research syntheses, finding that the provision of preventive services at community pharmacies is shown to be effective at **increasing immunization rates, supporting smoking cessation, managing hormonal contraceptive therapies, and identifying patients at high risk for certain diseases.** Community pharmacies offer an ideal venue for the **provision of preventive services** due to their convenient location and extended hours of operation.	San-Juan-Rodriguez A, Newman TV, Hernandez I, et al. Impact of community pharmacist-provided preventive services on clinical, utilization, and economic outcomes: An umbrella review. Preventive Medicine. 2018. https://www.ncbi.nlm.nih.gov/pubmed/30145351
Pharmacist-provided Annual Medicare Wellness Visits are comparable to those provided by physicians and offer an **additional access point for valuable services for Medicare beneficiaries.**	Sewell, Mary Jean. Et. al. Comparison of Pharmacist and Physician Managed Annual Medicare Wellness Services. J Manag Care Spec Pharm. 2016;22(12):1412-16, available at: https://www.jmcp.org/doi/pdf/10.18553/jmcp.2016.22.12.1412
Recommended Priority Topic 1: Preventive screenings	
This systematic search determined significant heterogeneity for all included outcomes, however, determined that **pharmacies are feasible sites for screening for diabetes and cardiovascular disease risk.**	Willis A, Rivers P, Gray LJ, Davies M, Khunti K. The effectiveness of screening for diabetes and cardiovascular disease risk factors in a community pharmacy setting. PLoS One. 2014;9(4):e91157. Published 2014 Apr 1. doi:10.1371/journal.pone.0091157 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3972156/
A literature review showed that community pharmacy conducted and analyzed point-of-care tests had satisfactory analytical quality. This review further supports that **community pharmacies are well positioned to deliver a wide range of point-of-care tests** and will allow for patients to have increased access to various screenings.	Buss V.H., Naunton M. (May 2019). Analytical quality and effectiveness of point of care testing in community pharmacies: A systematic literature review. Res. Soc. Adm. Pharm. 2019;15:483–495. doi: 10.1016/j.sapharm.2018.07.013. https://www.ncbi.nlm.nih.gov/pubmed/30057328
This retrospective analysis studied community pharmacies providing flu and group A streptococcus (GAS) testing. Participating pharmacies reported 661 visits for adult (age 18 and over) patients tested for influenza and for GAS pharyngitis. For the GAS patients, 91 (16.9%) tested positive. For the Influenza patients, 22.9% tested positive and 64 (77.1%) tested negative. **Access to care was improved** as patients presented to the visit outside normal clinic hours for 38% of the pharmacy visits, and **53.7% did not have a primary care provider.**	Klepser D, et al. (2018). Utilization of influenza and streptococcal pharyngitis point-of- care testing in the community pharmacy practice setting. Research in Social Administrative Pharmacy. https://www.ncbi.nlm.nih.gov/pubmed/28479019
Pharmacist-initiated HCV screening in community pharmacy **assists with identifying patients at risk for HCV** infection and provide patients with **linkage to care**.	Isho N, et al. (March 2017). "Pharmacist-initiated hepatitis C virus screening in a community pharmacy to increase awareness and link to care at the medical center."; *Journal of the American Pharmacists Association*. https://www.japha.org/article/S1544-3191(17)30136-X/pdf
Between September 2015 and February 2016, 1298 individuals consented to HCV community-based antibody testing. Two patients withdrew consent after testing. In all, 8% (103/1296) were HCV antibody–positive; of them, 91 (88%) were contacted by an HCV management specialist. During the 21- to 28-day follow-up, 56 individuals (62%; 56/91) were reached by an HCV management specialist, and 29 (52%; 29/56) confirmed that an HCV RNA test was ordered. The authors conclude: **supportive**	Kugelmas M, Pedicone LD, Lio I, Simon S, Pietrandoni G. Hepatitis C Point-of-Care Screening in Retail Pharmacies in the United States. *Gastroenterol Hepatol (N Y)*. 2017;13(2):98–104. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5402690/

results of point-of-care HCV screening in retail pharmacies for at-risk individuals in the United States.	
Pharmacists provided 606 TB tests administered to 578 patients; 70.9% women, median age 31 years (4–93 years). Employment and school were the main reasons for obtaining a TB test. A total of 578 of 623 (92.8%) patients followed up to have their TSTs read. A total of **18 positive tests (3.1% positivity rate) were identified and appropriate referrals were made**. The authors conclude that pharmacist-performed TB testing had a **valuable public health benefit**. TB testing follow-up rates at community pharmacies in New Mexico were high, most likely due to convenient hours, accessible locations, and no required appointments.	B Jakeman, et al. Evaluation of a pharmacist-performed tuberculosis testing initiative in New Mexico. Journal of the American Pharmacists Association. Volume 55, Issue 3, May–June 2015, Pages 307-312. https://www.sciencedirect.com/science/article/pii/S1544319115300650?via%3Dihub
In Michigan, a pharmacist-provided HIV testing model, which incorporated rapid HIV testing, counseling, and linkage to confirmatory HIV testing demonstrated the acceptability and feasibility of pharmacist-provided rapid HIV testing and increased access to care. Approximately **42% of the participants stated it was their first HIV test, many of whom reported high-risk behaviors in prior 6 months.**	Darin KM, et al. (February 2015). "Pharmacist-provided rapid HIV testing in two community pharmacies;" *Journal of the American Pharmacists Association*. https://www.japha.org/article/S1544-3191(15)30015-7/pdf
This pilot project established HIV testing in several community pharmacies and retail clinics to offer rapid, point-of-care HIV testing. It demonstrated the **willingness and ability of staff at community pharmacies and retail clinics to provide confidential HIV testing to patients**. Expanding this model to additional sites and evaluating its feasibility and effectiveness may **serve unmet needs in urban and rural settings.**	Weidle, P, Lecher, S, Botts, L, et al. (2014). HIV testing in community pharmacies and retail clinics: A model to expand access to screening for HIV infection. Journal of the American Pharmacist Association, 54(5), 486-492. https://www.ncbi.nlm.nih.gov/pubmed/25216878
Recommended Priority Topic 2: Chronic disease management	
This 2010 systematic review of pharmacist interventions concluded that such programs improve therapeutic and safety outcomes, and the results of various meta-analyses conducted for hemoglobin A1c, cholesterol levels, and blood pressure demonstrate the significant benefits of pharmacist care—**favoring pharmacists' direct patient care impact over comparative services**	Chisholm-Burns AM, et al. US Pharmacists' Effect as Team Members on Patient Care: Systematic Review and Meta-Analyses. Medical Care: October 2010 - Volume 48 - Issue 10 - p 923-933 https://journals.lww.com/lww-medicalcare/Fulltext/2010/10000/US_Pharmacists__Effect_as_Team_Members_on_Patient.10.aspx
A study examining pharmacist-led diabetes education, including individual consultations, point of care testing, and care coordination with other providers, led to **significant reductions in HbA1C, cholesterol, and blood pressure levels.**	Guide to Community Preventive Services. (April 2019). Cardiovascular Disease: Tailored Pharmacy-based Interventions to Improve Medication Adherence. https://www.thecommunityguide.org/findings/cardiovascular-disease-tailored-pharmacy-based-interventions-improve-medication-adherence
A review of 22 studies showed that community pharmacist-led interventions **improve patients' adherence** and contribute to **improved blood pressure control, cholesterol management, and chronic obstructive pulmonary disease and asthma control.**	Milosavljevic A, Aspden T, Harrison J. (June 2018). Community pharmacist-led interventions and their impact on patients' medication adherence and other health outcomes: a systematic review. International Journal of Pharmacy Practice. 26(5). https://onlinelibrary.wiley.com/doi/full/10.1111/ijpp.12462
The pharmacy intervention group had **statistically significantly higher improvements in the individual areas of A1c, blood pressure, and statin goal attainment**. In this study, 40% of patients in the pharmacist intervention group achieved all 3 clinical goals after intervention, compared with only 12% of patients in the usual care group.	Prudencio J, Cutler T, Roberts S, Marin S, Wilson M. (May 2018). The Effect of Clinical Pharmacist-Led Comprehensive Medication Management on Chronic Disease State Goal Attainment in a Patient-Centered Medical Home. JMCP. 2018;24(5):423-429. https://www.ncbi.nlm.nih.gov/pubmed/29694290

A study assessing pharmacy-based medication synchronization programs for Medicaid FFS beneficiaries with certain conditions (e.g., hypertension, hyperlipidemia and diabetes) found **improved adherence to cardiovascular medications, cardiovascular clinical outcomes and significantly lower rates of hospitalization and emergency department visits**, compared to a control group.	Krumme A. Glynn, R., Schneeweiss, S. et al. (January 2018). Medication Synchronization Programs Improve Adherence to Cardiovascular Medications and Health Care Use. Health Affairs 37(1)125-133. https://www.ncbi.nlm.nih.gov/pubmed/29309231
The results for 6-month **systolic blood pressure** reading showed **significantly decreased rates** for the pharmacist group versus the control group (-11.8mmHg vs - 6.2mmHg) and slightly smaller, but observable changes of diastolic blood pressure in the intervention group versus the control group (-8.4 vs -6.2mmHg). Percentage of patients achieving **good refill adherence** was larger for the intervention group compared to the control group (59.7% vs 36.1%).	Shireman TI, et al. (March 2016). "Cost-effectiveness of Wisconsin TEAM model for improving adherence and hypertension control in black patients;" *Journal of the American Pharmacists Association*. https://www.ncbi.nlm.nih.gov/pubmed/27184784
A review by the Department of Veterans Affairs of over 60 research studies found that patients receiving chronic care management from a pharmacist had a **higher likelihood of meeting blood pressure, cholesterol and blood glucose goals**, compared to those receiving usual care	Greer N, Bolduc J, Geurkink E et al. (April 2016). Pharmacist-led chronic disease management: a systematic review of effectiveness and harms compared with usual care. Ann Intern Med. Epub ahead of print.
Pharmacy care program for elderly patients led to increases in medication adherence, medication persistence, and clinically meaningful reductions in blood pressure. After 6 months of intervention, **medication adherence increased from baseline of 61.2% to 96.9%** and associated with significant **improvements in systolic blood pressure** (133.2 to 129.9) and **LDL-C levels** (91.7 to 86.8).	Lee JK, et al. (December 2006). "Effect of a Pharmacy Care Program on Medication Adherence And Persistence, Blood Pressure, and Low-Density Lipoprotein Cholesterol: A Randomized Controlled Trial;" Journal of the American Medical Association; Available at https://jamanetwork.com/journals/jama/fullarticle/204402.
This systematic review evaluated the role of community pharmacists in the provision of screening with and without subsequent management of undiagnosed COPD and asthma. The literature review identified that community pharmacists can play an effective role in **screening of people with poorly controlled asthma and undiagnosed COPD along with delivering management interventions.**	Fathima, M et al. (October 2013). The role of community pharmacists in screening and subsequent management of chronic respiratory diseases: a systematic review. Pharmacy Practice, 11(4), 228-245. https://www.ncbi.nlm.nih.gov/pubmed/24367463
Recommended Priority Topic 3: Medication adherence and optimization	
This project evaluated the impact of medication adherence on five chronic medication classes. The study involved 283 pharmacists who screened 29,042 patients for poor adherence risk and provided brief interventions to patients with increased risks. The intervention group experienced **statistically significant improvements in adherence across all medication classes**. Further, the intervention demonstrated a significant reduction in per patient annual healthcare spending for patients taking statins ($241) and oral diabetes medications ($341). Based on these findings, the study concluded that such pharmacy adherence programs would **reduce costs for a plan with 10,000 members by $1.4 million each year** and could also be expected to increase the plan's star rating.	Pringle JL, et al., "The Pennsylvania Project: Pharmacist Intervention Improved Medication Adherence and Reduced Health Care Costs," Health Affairs (Aug. 2014), available at https://www.healthaffairs.org/doi/abs/10.1377/hlthaff.2013.1398
Patients receiving the pharmacist **adherence intervention for antihypertensives** increased between baseline and the end of the study **(86.0% vs 96.5%)** whereas the control group did not have a significant change (86.5% vs 85.4%). The odds of adherence to antihypertensive drug therapy in the pharmacist group was three times higher than the control group.	Fikri-Benbrahim N, et al. (December 2013). Impact of a community pharmacists' hypertension-care service on medication adherence."; *The AFenPA study. Research in Social and Administrative Pharmacy*. Available at https://www.ncbi.nlm.nih.gov/pubmed/23391845. Last Accessed June 13, 2018.
Another relevant example includes a program designed to leverage the clinical expertise of pharmacists for Medicare and Medicaid beneficiaries, which led to **improved medication adherence** among patients in the pharmacist intervention group **by 46% compared to the control group**, who received usual care from their doctors and nurses.	Ameer H, Jain SH. How Pharmacists Can Help Ensure That Patients Take Their Medicines. Harvard Business Review. Jan 2019. https://hbr.org/2019/01/how-pharmacists-can-help-ensure-that-patients-take-their-medicines

This retrospective chart review included 728 medication therapy management encounters by pharmacists in a family medicine clinic. Patients were an average of 53.6 years old and took 11.9 medications to treat 5.7 medical conditions. A total of **3057 drug therapy problems were identified** in the **728 encounters**, of which 1303 were resolved the same day as the visit. This resulted in an average of 4.2 drug therapy problems identified and 2.0 resolved per visit per patient. The most common category identified in this study was the need for additional drug therapy (41.6%).	MacDonald D, Chang H, et al. Drug Therapy Problem Identification and Resolution by Clinical Pharmacists in a Family Medicine Residency Clinic. 2018. https://pubs.lib.umn.edu/index.php/innovations/article/view/971
In this retrospective review of 408 comprehensive medication management visits with a pharmacist, and an average of **2.5 drug therapy problems** were found **per patient visit** following hospital discharge. The most common problems were "needs additional therapy" and "dose too low."	Westberg SM, Derr SK, et al. Drug Therapy Problems Identified by Pharmacists Through Comprehensive Medication Management Following Hospital Discharge. Journal of Pharmacy Technology. June 2017. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5998417/
This retrospective chart review included patients seen by a geriatric pharmacist during a one-year period. During this time, a total of **3100 drug therapy problems were identified during 3309 patient–pharmacist** encounters for 452 patients (mean age, 81.4 years).Pharmacists provided **4921 interventions**, often more than 1 intervention per drug therapy problem, for 275 different medications with an estimated **annual financial savings between $268,690 and $270,591.**	Campbell AM, Corbo JM, et al. Pharmacist-Led Drug Therapy Problem Management in an Interprofessional Geriatric Care Continuum: A subset of the PIVOTS Group. American Health and Drug Benefits. December 2018. http://www.ahdbonline.com/issues/2018/december-2018-vol-11-no-9/2678-pharmacist-led-drug-therapy-problem-management-in-an-interprofessional-geriatric-care-continuum-a-subset-of-the-pivots-group
Another pharmacy-led chronic care management program includes a $12 million CMMI grant to the University of Southern California and AltaMed, aimed to optimize patient health, reduce avoidable hospitalizations and emergency visits by integrating pharmacists into safety-net clinics in Southern California. This collaborative program resulted in **reduced rates of uncontrolled blood sugar** by nearly a quarter (23%), **improvements in elevated LDL** with 14% more patients controlled, **and improvements in blood pressure** with 9% more patients controlled at 6 months in the intervention group (collaborative care model with pharmacists as leads) versus the control group (primary care physicians only). The program resulted in a **33% reduction in readmissions** per patient per year primarily attributed to medications estimated at 6 months. Through this project, pharmacists identified **67,169 medication-related problem in 5,775 patients**. The top actions made by pharmacists to resolve these problems included: 14,981 dose change/drug interval, 5,554 medications added, 4,230 tests ordered, 3,847 medications discontinued, and 2,665 medication substituted. Further, 100% of program physicians either "strongly agreed" or "agreed" that having pharmacists in their clinics improves their patients' care, and that pharmacists are knowledgeable. And, 92% of patients rated the program very highly, rating scores of 9 or 10 out of 10.[139]	Chen SW, Hochman M, Olayiwola JN, Rubin A. Integration of Pharmacy Teams into Primary Care. The Center for Excellence in Primary Care and the Center for Care Innovations May 2015. https://www.careinnovations.org/wp-content/uploads/2017/10/USC.CEPC_.pharm_webinar_FinalV.pdf Chen SW. Comprehensive Medication Management (CMM) for Hypertension Patients: Driving Value and Sustainability. University of Southern California. http://betheresandiego.org/storage/files/cmm-for-htn-usc-steven-chen-condensed-slide-deck.pdf
Through a brief pharmacist-to-provider intervention, a **significant gap closure in statin therapy was seen in patients with diabetes**. The number of statins prescribed was statistically significant between intervention group (n = 221) versus control group (n = 199) with 46 statins versus 17 statins, respectively (P <0.001).	Pharmacist-to-prescriber intervention to close therapeutic gaps for statin use in patients with diabetes: A randomized controlled trial. Journal of the American Pharmacists Association Volume 57, Issue 3, Supplement, May–June 2017, Pages S236-S242.e1. https://www.sciencedirect.com/science/article/pii/S1544319117301553?via%3Dihub

[139] Chen SW, Hochman M, Olayiwola JN, Rubin A. Integration of Pharmacy Teams into Primary Care. The Center for Excellence in Primary Care and the Center for Care Innovations May 2015. https://www.careinnovations.org/wp-content/uploads/2017/10/USC.CEPC_.pharm_webinar_FinalV.pdf
Chen SW. Comprehensive Medication Management (CMM) for Hypertension Patients: Driving Value and Sustainability. University of Southern California. http://betheresandiego.org/storage/files/cmm-for-htn-usc-steven-chen-condensed-slide-deck.pdf ;

A clinical pharmacist and pharmacy resident evaluated clinical appropriateness and cost of statin therapy, provided recommendations to physicians, facilitated statin prescribing, and provided patient education. After implementation, 375 (82.6%) patients were on statins (P < .0001), compared to 343 before. **Recommendations were well received** (90.2% accepted) and no significant adverse effects were reported. Pharmacist implementation of a collaborative, patient-centered initiative **increased statin prescribing in diabetic patients**, most of which were black and had hypertension, in an internal medicine resident clinic.	Vincent R, Kim J, Ahmed T, Patel V. Pharmacist Statin Prescribing Initiative in Diabetic Patients at an Internal Medicine Resident Clinic. J Pharm Pract. 2019 Jan 29:897190018824820. https://www.ncbi.nlm.nih.gov/pubmed/30696337
Recommended Priority Topic 4: Mental and Behavioral Health	
Community pharmacists have the capacity to **identify patients at risk for misuse of opioid medications**. Of the 164 patients who completed the survey, 14.3% screened positive for prescription opioid misuse risk, 7.3% for illicit drug use, 21.4% for hazardous alcohol use, 25.8% for depression, and 17.1% for post-traumatic stress disorder (PTSD).	Cochran G, Rubinstein J, Bacci JL, Ylioja T, Tarter R. Screening Community Pharmacy Patients for Risk of Prescription Opioid Misuse. J Addict Med. 2015 Sep-Oct;9(5):411-6. https://www.ncbi.nlm.nih.gov/pubmed/26291546
In Rhode Island, a grant from the National Institute on Drug Abuse is being used to allow patients to **receive addiction care at a community pharmacy**. Through this program, patients receive their initial prescription from a physician and, when stable, a pharmacist will take over their care, including conducting toxicology swabs to determine adherence and providing motivational counseling. Participants report **increased convenience and comfort** with receiving addiction care at their local pharmacy.	Freyer F. In Rhode Island, Some Get Addiction Care at the Pharmacy. Boston Globe. March 2019. https://www.bostonglobe.com/metro/2019/03/12/getting-addiction-care-pharmacy/m1mcceVlLRXX1W9X3WdeOP/story.html
In this pharmacist-physician collaborative care model, pharmacists conducted intake assessments and follow-up appointments with patients taking buprenorphine in order to **further expand access to treatment**. This program demonstrated 100% 6-month retention rates and 73% 12-month retention rates with an **estimated cost savings of $22,000**. Data from this pilot was then used to develop a permanent program utilizing this model.	DiPaula BA, Menachery E. Physician-pharmacist collaborative care model for buprenorphine-maintained opioid-dependent patients. J Am Pharm Assoc (2003). 2015 Mar-Apr;55(2):187-92. https://www.ncbi.nlm.nih.gov/pubmed/25749264
During the study period, 3,726 patients were screened for depression by pharmacists. Of the patients who completed the PHQ-9, approximately 25% met the criteria for consideration of diagnosis and were referred to their physician. Five patients presented with suicidal thoughts and were referred for urgent treatment. Approximately **60% of patients with a positive PHQ-9 had initiated or modified treatment at the time of follow-up**. The author concluded that a screening program for depression can be successfully developed and implemented in the community pharmacy setting. Using the PHQ, **pharmacists were able to quickly identify undiagnosed patients with symptoms of depression**. The majority of patients with a positive screening had initiated or modified treatment at the time of follow-up.	Rosser S, Frede S, Conrad WF, Heaton PC. Development, implementation, and evaluation of a pharmacist-conducted screening program for depression. J Am Pharm Assoc. 2013 Jan-Feb;53(1):22-9. doi: 10.1331/JAPhA.2013.11176. https://www.ncbi.nlm.nih.gov/pubmed/23636152
Twenty-six percent of individuals (n = 107) receiving opioid prescriptions were **identified as at some risk of misuse** and 30% at **risk of an accidental overdose**. Participating pharmacists preferred the value of having an **objective measurement of potential of opioid misuse**, to relying only on professional judgment. They also reported the value of the toolkit elements in enhancing conversations with patients.	Strand MA, Eukel H, Burck S. Moving opioid misuse prevention upstream: A pilot study of community pharmacists screening for opioid misuse risk. Res Social Adm Pharm. 2019 Aug;15(8):1032-1036. https://www.ncbi.nlm.nih.gov/pubmed/30031696

This study found large and **statistically significant decreases for almost every measure of substance use** in patients who received SBIRT method screening services, including decreases in alcohol use, heavy drinking, and illicit drug use. Greater intervention intensity was also associated with larger decrease in substance use.	Aldridge A, Linford R, Bray J. Substance use outcomes of patients served by a large US implementation of Screening, Brief Intervention and Referral to Treatment (SBIRT). Addiction. 2017 Feb;112 Suppl 2:43-53.https://www.ncbi.nlm.nih.gov/pubmed/28074561
An Australian study examined the impact of community pharmacists performing screenings and risk assessments for depression and found that pharmacists were able to provide screening and risk assessment services and make referrals as needed – which could facilitate **early intervention** and **reduce the overall burden of disease** associated with depression	O'Reilly CL, Wong E, Chen TF. A feasibility study of community pharmacists performing depression screening services. Res Social Adm Pharm. 2015 May-Jun;11(3):364-81.. https://www.ncbi.nlm.nih.gov/pubmed/25438728
Recommended Priority Topic 5: Immunizations	
A 2019 study found that a community pharmacy vaccination program demonstrated an **increase of immunization rates for influenza, herpes zoster, and pertussis vaccination rates by 37%, 12%, and 74%, respectively**.	NK Wehbi, JR Wani, DG Klepser, J Murry, AS Khan. Impact of a Technology Platform to Increase Rates of Adult Immunization in Pharmacies. Vaccine. Volume 37, Issue 1, 3 January 2019, Pages 56-60. https://www.ncbi.nlm.nih.gov/pubmed/30471954
A 2018 study that modeled the clinical and economic impacts of using pharmacies to administer influenza vaccinations estimated that including pharmacies in addition to other locations for vaccination (e.g. clinics, physician offices, urgent care centers) could **prevent up to 16.5 million symptomatic influenza cases and 145,278 deaths** at an estimated **cost savings of $4.1 to $11.5 billion.**	Bartsch SM et al. Epidemiologic and economic impact of pharmacies as vaccination locations during an influenza epidemic. Vaccine. November 2018. https://www.ncbi.nlm.nih.gov/pubmed/30340884
Pharmacy-based immunization services increased the likelihood of immunization for influenza and pneumococcal diseases, resulting in millions of additional immunizations in the United States. Five years after national implementation, it is estimated that **6.2 million additional influenza immunizations and 3.5 million additional pneumococcal immunizations** are attributable to pharmacy-delivered immunization services each year	Patel AR, Breck AB, Law MR. The impact of pharmacy-based immunization services on the likelihood of immunization in the United States. Journal of the American Pharmacists Association. August 2018. https://www.ncbi.nlm.nih.gov/pubmed/30076098
In a CDC-funded, adult immunization initiative, more than 300 pharmacies across four states explored and developed approaches aimed at incentivizing community pharmacies and other stakeholders to improve rates for influenza, pneumococcal, pertussis, and herpes zoster vaccine. This effort resulted in 304,405 immunizations administered and **significant improvements in routinely recommended adult vaccination rates** with the most consistent increases across all sites seen for influenza (20-45%) and pertussis (13-74%) vaccines.	NACDS. (2018). CDC Project – Immunization Rates and VBM.
Policy changes permitting pharmacist immunization resulted in influenza **immunization administration rates rising** from 32.2% in 2003 to 40.3% in 2013.	Drozd EM, Miller L, Johnsrud M. Impact of Pharmacist Immunization Authority on Seasonal Influenza Immunization Rates Across States. Clinical Therapeutics. 2017 Aug;39(8):1563-1580.e17. https://www.ncbi.nlm.nih.gov/pubmed/28781217
A 2016 review of 36 different studies found that **pharmacist involvement** in the immunization process, whether as educators, facilitators, or administrators, always resulted in an **increase in immunization coverage**.	Isenor JE, Edwards NT, Alia TA, Slayter KL, MacDougall DM, McNeil SA, Bowles SK. Impact of pharmacists as immunizers on vaccination rates: A systematic review and meta-analysis. Vaccine. 2016 Nov 11;34(47):5708-5723.https://www.ncbi.nlm.nih.gov/pubmed/27765379
A large proportion of adults being vaccinated receive their vaccines during evening, weekend, and holiday hours at the pharmacy, when traditional vaccine providers are likely unavailable. Of the nearly 6.3 million vaccinations administered during the study period, 30.5% were given during off-clinic hours. Younger, working- aged, healthy adults, in particular, received a variety of	Goad JA, Taitel MS, Fensterheim LE, Cannon AE. Vaccinations administered during off-clinic hours at a national community pharmacy: implications for increasing patient access and convenience. Annals of Family Medicine. 2013 Sep-Oct;11(5):429-36. https://www.ncbi.nlm.nih.gov/pubmed/24019274

immunizations during off-clinic hours. With the low rates of adult and adolescent vaccination in the United States, **community pharmacies are creating new opportunities for vaccination** that expand access and convenience.	
Recommended Priority Topic 6: Social Determinants of Health & Health Disparities	
This example of pharmacists' ability to improve chronic care reached rural, underserved patients, and included a collaboration between A&B Pharmacy and Emporia Medical Associates, yielding significant patient outcomes. Through this program, pharmacists provided chronic care management (CCM) services for Emporia Medical Associates' Medicare patients. Pharmacists supported patients by providing medication reconciliation/ synchronization services, educating on how to self-monitor blood glucose and blood pressure, and answering questions about chronic disease management during monthly CCM appointments. Pharmacists also worked collaboratively with the physician to develop an appropriate care plan. The program resulted in an 8% increase in **medication reconciliation**, an 11% increase in use of **tobacco cessation services**, and a 6% increase in the **number of patients receiving chronic care management** through the provision of pharmacist-led services. All participating patients also reported **improvements in health outcomes** related to healthy eating and exercise.	A Team-based Care Approach to Reach Rural, Underserved Virginia Patients. WWCDPC. 2018. https://chronicdisease.host/WWCDPC/admin/dompdf/SuccessStories.php?id=712 Health Quality Innovators. A Partnership in Chronic Care Management. http://qin.hqi.solutions/wp-content/uploads/2018/05/CCM-poster-with-3-video-QR-link.pdf
This study describes the result of a pharmacist-driven, type 2 diabetes targeted, collaborative practice within an urban, underserved federally qualified health center. Pharmacists, within a primary care team, managed patients with chronic illnesses utilizing a collaborative practice agreement. Pharmacists had a **significant impact on improving the health outcomes of patients with Type 2 diabetes**, with significant improvements in patient attainment of A1c <9%, ACE inhibitor/angiotensin receptor blocker and statin use, and tobacco cessation at follow-up.	Ray S, Lokken J, Whyte C, Baumann A, Oldani M. The impact of a pharmacist-driven, collaborative practice on diabetes management in an Urban underserved population: a mixed method assessment. Journal of Interprofessional Care. 2020 Jan-Feb;34(1):27-35. https://www.ncbi.nlm.nih.gov/pubmed/31381470
Pharmacist-provided MTM can improve chronic disease intermediate outcomes for medically underserved patients in FQHCs. This pilot study displayed **improvement in diabetes and hypertension clinical markers** associated with pharmacist provision of MTM. A1c goal achievement occurred in 52.84% of patients and hypertension control was reported in 65.21%. Pharmacists identified and resolved more than **1400 medication- related problems** and addressed multiple adverse drug event issues.	Rodis JL, et al. (2017). Improving Chronic Disease Outcomes Through Medication Therapy Management in Federally Qualified Health Centers. Journal of Primary Care & Community Health. https://www.ncbi.nlm.nih.gov/pubmed/28381095
This survey analyzes Oregon pharmacy practices in the provision of hormonal contraception (HC) and evaluates if pharmacists' motivation to prescribe HC changed after 6 and 12 months of experience. The survey results demonstrated that pharmacist prescribing of HC continues to grow with almost 50% of pharmacists billing insurance for the visit. Visits take <30 minutes and the top 3 motivators continue to be **enhanced access to care**, reducing unintended pregnancy, and expanding pharmacists' scope of practice.	Rodriguez MI et al. Pharmacists' experience with prescribing hormonal contraception in Oregon. Journal of the American Pharmacists Association. December 2018. https://www.ncbi.nlm.nih.gov/pubmed/30190201
Among black male barbershop patrons with uncontrolled hypertension, health promotion by barbers resulted in larger blood-pressure reduction when coupled with medication management in barbershops by specialty- trained pharmacists. The **mean reductions in systolic and diastolic blood pressure were 21.6 and 14.9 mmHg greater, respectively, in participants assigned to the**	Victor RG, et al. A Cluster-Randomized Trial of Blood-Pressure Reduction in Black Barbershops. The New England Journal of Medicine. April 2018. https://www.nejm.org/doi/full/10.1056/NEJMoa1717250

pharmacist-led intervention than in those assigned to the active control. In the intervention group, the rate of cohort retention was 95%, there were few adverse events, and self-rated health and patient engagement increased.	
This article highlights three health systems – Yale-New Haven Health, Ascension, and the University of Illinois Hospital and Health Sciences System – that are **utilizing pharmacists to provide healthcare services to underserved patients.**	Wild D. ASHP Intersections. June 2018. https://www.ashpintersections.org/2018/06/underserved-patients-rely-on-pharmacists-to-fill-care-gap/
Recommended Priority Topic 7: Sustainability of Non-traditional Preventive Care Settings	
The results suggest that out-of-pocket payments can create a financial barrier and can decrease the use of preventive services and the uptake of preventive medications. A few studies (with contradicting empirical evidence) address the impact of cost sharing and reduced insurance coverage on a healthier lifestyle.	Rezayatmand R, Pavlova M, Groot W. The impact of out-of-pocket payments onprevention and health-related lifestyle: a systematic literature review. Eur J Public Health. 2013 Feb;23(1):74-9. https://academic.oup.com/eurpub/article/23/1/74/465052

Appendix #3: All Professions Across the Continuum of Care Have Unique Expertise to Improve Care						
Profession	**Estimated Number Practicing**	**Role: Defined by Professional Association**	**Degree Level**	**Degree Program Pre-Requisites**	**Professional Program Length**	**Experiential/ Clinical Hours Requirements**
Pharmacist[140]	319,000	APhA: Pharmacists are healthcare professionals who help people achieve the best results from their medications. The pharmacist is the most knowledgeable healthcare professional when it comes to medicines and their use.	Doctoral	Bachelor's degree or required pre-professional courses if participating in a 5 or 6 year accelerated program	4 years	1740 hours (approximately 44 weeks)
Physician Assistant[141]	131,000	AAPA: PAs are medical professionals who diagnose illness, develop and manage treatment plans, prescribe medications, and often serve as a patient's principal healthcare provider.	Master's	Bachelor's degree and completion of courses in basic and behavioral sciences Average of 3,000 hours+ of direct patient contact experience	3 years (27 continuous months)	2000 hours (approximately 1 year)
Nurse Practitioner[142]	270,000	AANP: NPs assess patients, order and interpret diagnostic tests, make diagnoses and initiate and manage treatment plans—including prescribing medications.	Master's or Doctoral	Active Registered Nurse license 1 – 2 years of clinical experience	2 – 3 years	500 hours minimum
Physical Therapist[143]	209,000	APTA: PTs are movement experts who optimize quality of life through prescribed exercise, hands-on care, and patient education.	Doctoral	Bachelor's degree or, if participating in a 3+3 curricular format, 3 years of specific pre-professional courses must be taken before the student can advance into a 3-year professional program	3 years	1200 hours (30 weeks) minimum

[140] Guidance for the Accreditation Standards and Key Elements for the Professional Program in Pharmacy Leading to the Doctor of Pharmacy Degree. Accreditation Council for Pharmacy Education. https://www.acpe-accredit.org/pdf/GuidanceforStandards2016FINAL.pdf

[141] American Academy of Physicians Assistants. https://www.aapa.org/

[142] American Association of Nurse Practitioners. https://www.aanp.org/

[143] American Physical Therapy Association. https://www.apta.org/

Occupational Therapist[144]	115,000	AOTA: OTs help people across the lifespan participate in the things they want and need to do through the therapeutic use of everyday activities (occupations).	Master's or Doctoral	Doctoral Program: -Bachelor's degree or higher prior to admission	2 – 3 years	Master's Program: -960 hours (24 weeks) minimum Doctoral Program: -960 hours (24 weeks) + an additional 640 hours (16 weeks)
Clinical Psychologists [145]	Not specified	APA: Clinical psychology is the psychological specialty that provides continuing and comprehensive mental and behavioral health care for individuals and families; consultation to agencies and communities; training, education and supervision; and research-based practice.	Doctoral	Bachelor's or Master's	4 – 7 years	1-year internship (hours not specified)
Clinical Social Worker[146,147]	Not specified	NASW: Clinical social work is the professional application of social work theory and methods to the diagnosis, treatment, and prevention of psychosocial dysfunction, disability, or impairment, including emotional, mental, and behavioral disorders.	Master's	Bachelor's	2 years	900 hours minimum
Speech-Language Pathologist[148]	175,000	ASHA: Speech-language pathologists (SLPs) work to prevent, assess, diagnose, and treat speech, language, social communication, cognitive-communication, and swallowing disorders in children and adults.	Master's or Doctoral	Bachelor's degree	2 – 4 years	400 hours minimum
Audiologist[149]	13,300	ASHA: Audiologists provide patient-centered care in the prevention, identification, diagnosis, and evidence-	Doctoral	Bachelor's degree	4 years	1820 hours minimum

[144] American Occupational Therapy Association. https://www.aota.org/
[145] Clinical Psychology. American Psychological Association. https://www.apa.org/ed/graduate/specialize/clinical
[146] NASW Standards for Clinical Social Work in Social Work Practice. National Association of Social Workers.https://www.socialworkers.org/LinkClick.aspx?fileticket=YOg4qdefLBE%3d&portalid=0
[147] Educational Policy and Accreditation Standards. Council on Social Work Education (CSWE). https://www.cswe.org/getattachment/Accreditation/Standards-and-Policies/2015-EPAS/2015EPASandGlossary.pdf.aspx
[148] Scope of Practice in Speech-Language Pathology. American Speech-Language-Hearing Association. https://www.asha.org/uploadedFiles/SP2016-00343.pdf
[149] About Audiology. American Speech-Language-Hearing Association. https://www.asha.org/Students/Audiology/

		based intervention and treatment of hearing, balance, and other related disorders for people of all ages.				(approximately 46 weeks)
Chiropractors [150]	50,300	WFC: A health profession concerned with the diagnosis, treatment and prevention of mechanical disorders of the musculoskeletal system, and the effects of these disorders on the function of the nervous system and general health. There is an emphasis on manual treatments including spinal adjustment and other joint and soft-tissue manipulation.	Doctoral	Bachelor's degree or at least 3 years of undergraduate study	4 – 5 years	Clinical hours not specified 4,200 hours of combined classroom, laboratory, and clinical experience
Registered Dietician and Nutrition Professionals [151,152]	80,000	AND: Registered dietitian nutritionists are the food and nutrition experts who can translate the science of nutrition into practical solutions for healthy living. RDNs use their nutrition expertise to help individuals make unique, positive lifestyle changes. ANA: Certified Nutrition Specialists practice science-based personalized nutrition therapy to power people to health. They are spearheading the transformation from population-based to personalized nutrition, and from disease care to authentic health care.	N/A .	Bachelor's – RDN Master's or Doctoral – CNS	6 – 12 months	1200 hours – RDN 1000 hours – CNS

[150] World Federation of Chiropractic. https://www.wfc.org/website/index.php?option=com_content&view=article&id=90&Itemid=110
[151] Academy of Nutrition and Dietetics. https://www.eatrightpro.org/
[152] American Nutrition Association. https://theana.org/certify/CNScandidate