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EDITORIALS

Clinical Preventive Medicine, Integrative Medicine, and Lifestyle Medicine: Current State and Future Opportunities in the Development of Emerging Clinical Areas



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The U.S. ranks last in life expectancy despite higher healthcare expenditures than that of similar countries.¹ Among contributing factors, preventable chronic diseases have been implicated with notable disparities across demographic factors, yet equitable provision of preventive medicine is underfunded.^{2–4} Under the umbrella of General Preventive Medicine and complementing population management approaches, clinical preventive medicine practice is adaptable and flexible, including core clinical preventive medicine and components of emerging clinical areas, addressing public health threats through expanding skills and expertise to respond to population needs. Clinical preventive medicine should be maximized to address preventable illness, health inequities, and increasing healthcare costs.

CORE CLINICAL PREVENTIVE MEDICINE

Although the scope of the Public Health and General Preventive Medicine specialty is appropriately recognized as clinical by the American Board of Medical Specialties (ABMS), hereafter, *clinical* will refer to direct patient care activities (Table 1). Traditional areas in core clinical preventive medicine assist with maintaining the health and well-being of patients across the lifespan while reducing risks of injury and disease through primary, secondary, and tertiary prevention measures.⁵ This includes clinical applications of U.S. Preventive Services Task Force recommendations (e.g., education, screenings, counseling, preventive medication, and risk-reduction treatment related to noncommunicable and lifestyle-related diseases, communicable diseases, and

injury prevention)⁶ and the Healthy People 2030 objectives, which provide evidence-based interventions that promote the health and well-being of patients and communities.^{7,8} Core clinical preventive medicine also includes specialized clinics, which use evidence-based practices supported by specialty literature. Specialized clinics may include communicable (e.g., travel medicine, HIV/STI, and tuberculosis) and noncommunicable (e.g., obesity and addiction) diseases, with some traversing both (e.g., refugee health). Board-certified subspecialty areas of occupational medicine, aerospace medicine, and addiction medicine are not covered here, except for components that physicians trained in public health and general preventive medicine without subspecialty boards can practice.

EMERGING CLINICAL AREAS

Emerging clinical areas in clinical preventive medicine include areas that are evidence-based, prevention-focused (maximizing wellness and addressing root causes) and correspond to a higher population-level need (Figure 1). Lifestyle medicine is based on data that

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Table 1. Scope of Practice for Clinical Preventive Medicine Direct Patient Care Subset of Public Health and General Preventive Medicine Specialty

Clinical Preventive Medicine			
Core Clinical Preventive Medicine		Emerging Clinical Areas	
Traditional Areas	Specialized Clinics ^a	Lifestyle Medicine	Integrative Medicine
<ul style="list-style-type: none"> • Vaccinations • Health education • Behavior change strategies • Health screenings and counseling • Prescribing risk-reduction medications 	<ul style="list-style-type: none"> • HIV/STI clinics • TB clinic • Travel clinic • Obesity clinic • Addiction clinic • Occupational health clinic • Refugee health clinic • Diabetes clinic • Tobacco cessation clinic 	<ul style="list-style-type: none"> • Whole-food, plant-predominant eating pattern • Physical activity • Restorative sleep • Stress management • Avoidance of risky substances • Positive social connection 	<ul style="list-style-type: none"> • Natural remedies • Mind-body practices • Bodywork

^aSpecialized clinics use evidence-based practices supported by specialty literature to assist with maintaining the health and well-being of patients across the lifespan while reducing risks of injury and disease through primary, secondary, and tertiary prevention measures for conditions that pose a challenge on the population-level.

nearly 80% of chronic conditions could be prevented by optimal lifestyle behaviors⁹ and that unhealthy lifestyle behaviors cause chronic diseases accounting for 63% of deaths.¹⁰ Lifestyle medicine physicians apply interventions focusing on 6 pillars (i.e., whole-food plant-based nutrition, physical activity, stress reduction, toxic substance avoidance, sleep, and healthy relationships)¹¹ and use motivational interviewing techniques through frequent, extended patient encounters. Integrative medicine

uses alternative and complementary treatments (e.g., natural remedies, mind-body practices, and bodywork) to support wellness, improve symptoms, and manage adverse treatment effects. Multiple herbal remedies used by traditional healers have crossed over into established medical use through the drug development process.¹² Important to this field is recognizing, respecting, and appreciating, rather than appropriating, the traditions from which these practices come. Although components of functional medicine could also develop as an emerging clinical area, it has yet to have significant uptake by clinical preventive medicine and thus is not addressed within this article.

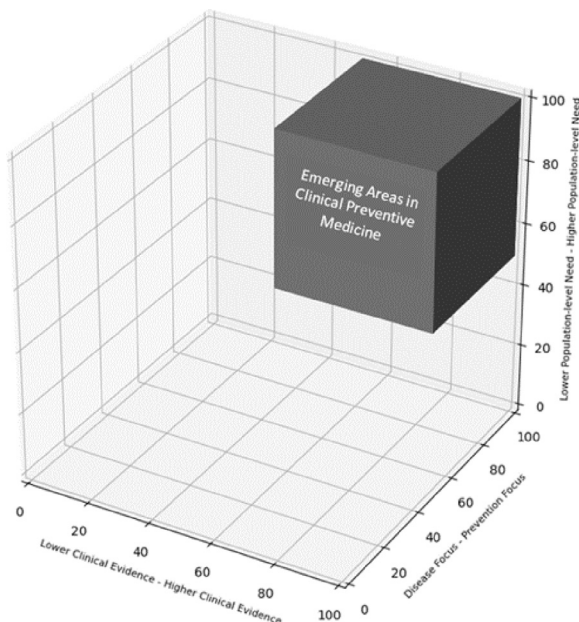


Figure 1. Graphical representation of emerging areas in clinical preventive medicine, by prevention focus, evidence base, and population-level need.

Note: Emerging clinical areas in clinical preventive medicine include areas that are evidence-based, prevention-focused (maximizing wellness and addressing root causes), and correspond to a higher population-level need.

CHALLENGES, OPPORTUNITIES, AND THE WAY FORWARD FOR CLINICAL PREVENTIVE MEDICINE

Reimbursement continues as a prevailing challenge. ICD codes are rooted in a disease-centered rather than wellness-centered model, leading to lower reimbursement for clinics that prioritize counseling or motivational interviewing, which require longer visits. Reimbursement models also favor reactionary rather than preventive approaches, which is economically counterintuitive given the disproportionate cost of preventable chronic diseases. These challenges contribute to clinics shifting to direct pay, concierge, or other out-of-pocket models, which may further inequity. Despite some improvements in this area, pressure to see more patients over less time and for less pay poses challenges to the sustainability of the field and equitable provision of services.

Furthermore, research on prevention is limited compared with other fields. Much of the evidence is based on observational data (e.g., cross-sectional surveys) and

with under-representation of racial, ethnic, and other minorities.¹³ Interventional studies are further challenged by the complexities of human behavior within different environments. With limited funding to perform high-quality prevention studies (e.g., only 3.7% of funding for the NIH is specifically allocated toward prevention¹⁴), evidence may continue to fall behind.

Finally, inadequate education in medical training has created a system in which individuals seeking care do not consistently receive clinical preventive medicine recommendations.¹⁵ Only 27% of U.S. medical schools provide the minimum required number of nutrition education hours,¹⁶ with medical students receiving little formal training to prevent chronic diseases.¹⁷ With such little exposure, there is less awareness of preventive medicine as a specialty option.

A cultural shift from reactive clinical care to preventive care supported by equitable population-level policy, funding, and programmatic efforts would facilitate the success of clinical preventive medicine in overcoming social determinants and environmental barriers (e.g., lack of sidewalks for physical activity, unsafe housing conditions where communicable diseases rapidly spread) and providing access to basic needs (e.g., nutrient-dense foods, mental health services). With population-level changes, patients can be supported in the environments in which they live, work, and play to facilitate equitable preventive care and a more level field for making healthy choices.

Learners have advocated for inclusion of clinical preventive medicine in medical training by creating preventive medicine, lifestyle medicine, integrative medicine, and wellness interest groups. Lifestyle medicine¹⁸ and integrative medicine curricula have been incorporated into some U.S. residency training programs. The recent passing of a resolution requiring adequate clinical nutrition education within medical training may support further widespread preventive care education.¹⁹ Further investment is needed in preventive medicine training programs and prehealth pipelines into preventive medicine. Although integrative medicine is recognized as a distinct specialty by the American Board of Physician Specialties, lifestyle medicine is not part of either the American Board of Physician Specialties or ABMS. With the strong relationship between lifestyle factors and disease prevention, Preventive Medicine should consider adding Lifestyle Medicine as an ABMS subspecialty.

The COVID-19 pandemic has also raised awareness in several key areas. Data suggest that worse COVID-19-related outcomes are associated with several health conditions,²⁰ many of which, if caught early, could be treated early or even reversed (e.g., type 2 diabetes).

Clinical preventive medicine could also play a significant role in helping patients facing emerging diseases like long COVID, including approaches to some of the most common symptoms (e.g., brain fog, headaches, and post-exertional malaise).²¹

Setting-specific wellness programs (e.g., school and employee-based) are valuable targets for expansion and can include access to services such as fitness classes and nutrition counseling. Employee wellness programs encourage a healthier workforce while optimizing productivity and decreasing insurance costs.²² There are also opportunities to use innovative technology (e.g., wearable devices and health apps) for patients to take an active role in monitoring their health and using a combination of telehealth and other technologies to reach patients more conveniently.

Clinical preventive medicine expertise is needed to promote health, contain infectious diseases, provide symptom management, and prevent, manage, or reverse chronic health conditions that sicken our communities. Immediate attention is warranted toward policies, programmatic efforts, funding, and rapid implementation of payment models to support equitable provision of clinical preventive medicine, from research to education, training, and reimbursement of services to curb the morbidity, mortality, and healthcare costs for all communities.

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