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Expert Reviews

Who will deliver comprehensive healthy lifestyle interventions to combat non-communicable disease? Introducing the healthy lifestyle practitioner discipline

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Unhealthy lifestyle characteristics (i.e., physical inactivity, excess body mass, poor diet, and smoking) as well as associated poor health metrics (i.e., dyslipidemia, hyperglycemia, and hypertension) are the primary reasons for the current non-communicable disease crisis. Compared to those with the poorest of lifestyles and associated health metrics, any movement toward improving lifestyle and associated health metrics improves health outcomes. To address the non-communicable disease crisis we must: 1) acknowledge that healthy lifestyle (HL) interventions are a potent medicine; and 2) move toward a healthcare system that embraces primordial as much as, if not more than, secondary prevention with a heavy focus on HL medicine. This article introduces the *Healthy Lifestyle Practitioner*, focused on training health professionals to deliver HL medicine.

Keywords: Obesity • physical inactivity • poor nutrition • tobacco • hypertension • diabetes • dyslipidemia • exercise • weight loss • healthy diet • smoking cessation

The global non-communicable disease (NCD) crisis is upon us.[1–4] This is a fact that we must accept and brace for as we move ahead in addressing the health needs of those who are and will be impacted by this crisis. Future generations will suffer from a higher NCD incidence and prevalence before we have any hopes of reversing the tide. There will be substantial health, quality of life and financial tolls as a result of this crisis; we are already experiencing these impacts.[3,5–7] However, even for the substantial proportion of the global population who will bear the brunt of the NCD crisis, much can be done to improve their clinical trajectory through secondary prevention strategies that focus on improving lifestyle behaviors.[8–10] In this way, hope is not lost for any individual, regardless of their health status at a given point in time as healthy lifestyle interventions (HLIs) have been shown to improve health in primordial, primary and secondary preventive settings.[11–17]

Second, the growing incidence and prevalence of unhealthy lifestyle characteristics (i.e., physical inactivity, excess body mass, poor diet and smoking) as well as associated poor health metrics (i.e. dyslipidemia, hyperglycemia, and hypertension) are the primary reasons for the current NCD crisis.[5,7,18] The literature that has emerged in recent history indicates that we are beginning to fully appreciate the unhealthy lifestyle-poor health metric-NCD risk paradigm.[19–21] Moreover, the majority of the population currently demonstrates one or more unhealthy lifestyle characteristics; they are often clustered together to exponentially

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increase NCD risk.[5,22] Unfortunately, few individuals around the world possess the ideal qualities of a HL, that is, physically active to optimal levels on a daily basis, consuming a healthy and nutritious diet, maintaining a healthy body weight and not smoking: particularly in combination with associated ideal health metrics: normal blood lipid and glucose levels and normal resting blood pressure.[5,6,22]

Lastly, compared to those with the poorest of lifestyles and the poorest associated health metrics, any movement toward improving lifestyle and associated health metrics likewise improves disease prognosis and, if done so early enough, significantly reduces the risk of NCD development.[6,22] For the small percentage of individuals who demonstrate optimal lifestyle and health metric characteristics, NCD risk as well as risk for associated adverse events decrease in a profound way.[22] The body of literature examining the lifestyle-health metric-clinical outcome relationship unequivocally demonstrates their important interdependence.[14,23–28]

Given these three aforementioned elements, amalgamated into a singular, interwoven construct, the direction forward is clear: we must alter our approach to healthcare in a radical way if we have any hope of more effectively addressing the current NCD crisis and favorably altering its future trajectory. Specifically, we must acknowledge that HLIs are a potent medicine that must be prescribed to all individuals in an individually tailored fashion and move towards a healthcare system that embraces primordial as much as, if not more than, secondary prevention with a heavy focus on HL medicine (HLM). Although recent evidence and practice guidelines that have emerged recognize that this paradigm shift in healthcare is vital [23–25,27–31], meaningful action is lagging behind.[32] Moving forward, we must create a "culture of health".[33] However, even as there is an attempt to accelerate an action plan to address the NCD crisis and alter the future global outlook,[4,34] a critical question remains: What health profession currently has the necessary academic training to lead in the delivery of HLM? There is currently no clear answer to this question. Health professionals who currently have the potential to participate in the delivery of HLM include but are not necessarily limited to physicians, exercise scientists, dieticians, nurses, physical/occupational therapists and cognitive behavioral therapists. Preventive medicine program residencies are emerging and currently available to physicians, providing opportunities to become trained in delivering HLM.[35,36] However, similar opportunities and a comprehensive curriculum do not appear to be available to other health professions that can and should meaningfully participate in the delivery of HLM. Moreover, none of the core curriculums of these health professions provides comprehensive training related to HLM. It appears that the current educational opportunities in HLM create a fragmented approach to a vital component of healthcare, which is particularly disconcerting given the current NCD crisis. Simply stated, it appears that none of the current health professions is prepared to take the lead in comprehensively delivering HLM. It seems that if HLM is one of the most important aspects of healthcare delivery moving forward, which is clear, there should be a more robust and standardized academic infrastructure to provide training, creating true leaders in the field.

To have the most immediate impact on a large scale, the delivery of HLM should be embraced by all current health professions. This would require the creation of an educational model that transcends ownership of HLM by any one health profession. The nature of HLM readily allows for this approach as a number of health professions have the foundational education programs needed to safely and effectively deliver HLIs, with the necessary additional training. Individuals who obtain this training, regardless of their health profession designation (e.g., physician, nurse, physical therapist, registered dietician, exercise scientist, etc.), would ideally be identified by the same title, in addition to their professional designation. To address this needed paradigm shift in academic training and subsequently the delivery of healthcare in the future, the authors would like to introduce the concept of a *Healthy Lifestyle Practitioner* (*HLP*) discipline. While this *HLP* designation has emerged through HL initiatives in England,[37] there currently is no operational definition for such a discipline, proposal for a standardized curriculum or path to certification/licensure, standardized financial model that would specifically support services provided, professional organization championing the concept or vision for formal inception and evolution of the discipline. This perspectives paper will address these issues specifically.

What is an *HLP?*

The authors begin by proposing a definition for the *HLP* discipline:

> Healthy Lifestyle Practitioners (HLPs) are health professionals who are actively engaged in assessing lifestyle behaviors and subsequently developing and implementing HLIs. HLPs focus on the primordial and primary prevention of NCDs as well as secondary prevention in those already diagnosed with a lifestyle-related disease. HLPs are committed to supporting behavior changes towards a HL and helping to ensure these changes are maintained over the long-term. HLPs participate in a broad range of activities related to the field including individual/patient care, program development and implementation, teaching, research and leadership activities related to HLM.

In a sense, the authors view this new discipline as a "lifestyle generalist", able to comprehensively assess an individual's lifestyle characteristics and provide the appropriate "primary care" interventions needed to improve one or more aspects that require attention (i.e., insufficient physical activity, poor diet, excess body mass and smoking). An *HLP* is the "frontline" practitioner in treating unhealthy lifestyle behaviors. As needed, the *HLP* will recognize when an individual requires more intensive care and will refer to the appropriate specialist(s). This specialist role is filled by the health professions that are currently available and well trained to address specific unhealthy lifestyle characteristics (i.e., exercise physiologists, registered dieticians,

cognitive behavioral therapists). At times, the *HLP* will possess the needed specialized training as part of their core healthcare academic preparation. In this way, the authors are not advocating for replacement of these other disciplines by those receiving *HLP* training but rather recognizing the need for a gateway practitioner that can deliver HLM to a much larger percentage of the population.

Proposing an initial academic model

There is an immediate need to increase the number of health professionals who are able to competently provide comprehensive HLM. As such, the inception of the *HLP* discipline would optimally begin within the other established health disciplines by providing additional training in a concise manner. This approach will allow for the rapid expansion of health professionals versed in foundational *HLP* concepts. At its core, *HLP* training will embody critical pedagogical features that ensure those receiving certification provide high-quality HLM, with recipients optimally benefiting from this care. Table 1 outlines a proposed 21 credit *HLP* graduate/professional certificate model to achieve this goal. Health professionals from various disciplines (e.g., physician, nurse, physical therapist, registered dietician, exercise scientist, etc.) who are currently pursuing their health profession degree of choice may take these courses as electives, completing their core academic preparation and the proposed certificate in parallel. Currently licensed and practicing health professionals would also be eligible to complete the proposed certificate program. This initial approach has the

Table 1. A proposed model for a healthy lifestyle practitioner graduate or professional certificate program.

Course	Learning objectives	Credit load
Didactic component		
Lifestyle epidemiology and economics	• Describe the incidence and prevalence of unhealthy lifestyle characteristics and its impact of non-communicable disease risk • Describe the economic impact of unhealthy lifestyles and improvements associated with adoption of a healthier lifestyle	1
Health literacy	• Understand factors influencing an individual's ability to obtain, process and understand information needed to make healthy lifestyle choices • Become proficient in obtaining, processing and understanding health perceptions and needs of individuals seeking care and use that information to develop and implement effective healthy lifestyle interventions	1
Exercise and nutritional sciences	• Review basic principles of exercise physiology in health and disease states • Become proficient in exercise assessment techniques in apparently healthy, at risk and known disease populations • Become proficient in exercise prescription techniques in apparently healthy, at risk and known disease populations • Review basic principles of nutrition • Become proficient in nutritional assessment techniques • Become proficient in providing guidance on healthy nutrition	4
Behavioral counseling	• Understand challenges surrounding adoption of a healthy lifestyle from an individual to population perspective • Become proficient in individually tailored behavioral counseling strategies focused on improved adoption of a healthier lifestyle	4
Health information systems, informatics, and technology related to healthy lifestyle	• Review basic principles of health information systems and informatics with implications for tracking and managing lifestyle characteristics • Become proficient in using technology (i.e., web, social media, mobile applications, wearable devices) to track lifestyle behaviors and deliver healthy lifestyle interventions	3
Healthy lifestyle program development	• Develop a healthy lifestyle program proposal in one or more appropriate settings: community, workplace, school system, healthcare organization, etc.	4
Practical component		
Healthy lifestyle program practicum	• Participate in a healthy lifestyle program in one or more appropriate settings: community, workplace, school system, healthcare organization, etc.	4

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potential to rapidly expand the number of health professionals capable of delivering HLM. The core didactic components of the *HLP* certificate center on exercise and nutritional sciences as well as behavioral therapy. Increasing physical activity and consuming a more nutritious diet, as well as losing weight when appropriate, are core components of HLM. Behavioral modification training is essential to these components as well as smoking cessation counseling when needed; adherence to HLIs is oftentimes a challenge and the *HLP* must possess the skills and training to appropriately guide and motivate individuals towards long-term HL adherence. The importance of behavioral counseling to promote long-term compliance with HL recommendations is clearly elucidated in recent publications.[38,39] The authors also propose additional didactic components be an integral part of the proposed *HLP* curriculum: an understanding of the epidemiology and economic impact of unhealthy lifestyles; gain an understanding of the concept of healthy literacy and be able to integrate this knowledge base into the delivery of HLM [40–43]; the ability to effectively use modern-day technology to optimize the delivery of HLIs; and guidance on developing HLI programs in multiple settings. Of note, the use of technology (i.e., the Internet, mobile applications, wearable devices) is now recognized as an integral and, if used properly, highly effective tool in delivering HLIs.[44–47] As such, the *HLP* must be able to effectively use technology in developing and delivering HLIs. The proposed certificate ends with a practical component, allowing participants to gain real-life experiences in HLIs in one or more settings, under the guidance of one or more health professionals with expertise in this area.

Recently, the American Heart Association, European Society of Cardiology, European Association for Cardiovascular Prevention and Rehabilitation and American College of Preventive Medicine jointly published a policy statement that identified all HL stakeholders and how they should come together to develop and implement impactful programs.[48,49] This policy statement endorsed a non-hierarchical connectivity model with the intent of spurring creative thought and programing. The policy statement also recognized that HLIs should not be limited to what has traditionally been defined as the healthcare system (i.e., hospitals and outpatient clinics). Rather, HLIs are appropriate in a broad range of settings; a focus on primordial and primary prevention in the community [29,50–52] and workplace [16,53–56] are particularly attractive. Preventing a NCD diagnosis, or ideally preventing unhealthy lifestyle characteristics that dramatically raise NCD risk, should be a primary focus for healthcare systems of the future.[4,17] The recent recommendation statement on programs for the prevention of diabetes, published by the Community Preventive Services Task Force, is a prime example of support for this paradigm shift.[29] A primary recommendation from this statement is that healthcare systems, communities and other stakeholders provide longitudinal diet and physical activity counseling and support to help reduce the onset of type II diabetes in those at high risk. Given this paradigm shift, those who are trained as *HLPs* should be able to lead in the delivery of HLM in all conceivable settings. The didactic and practical components of the proposed *HLP* certificate program would provide training that allows for this multi-setting proficiency.

Accreditation, certification and the role of professional organizations

To ensure consistency in training and delivery of interventions, *HLP* academic programs should ultimately have an accreditation process through an appropriately qualified national organization. Development of a national *HLP* certification exam is also recommended. In this way, individuals with a certified *HLP* designation would be a trusted source for the delivery of HLM. The authors encourage prominent national organizations who are heavily invested and committed to HLM to consider championing these efforts if, and hopefully when, the *HLP* concept gains traction.

Financial considerations

There are certainly economic considerations related to the *HLP* concept that warrant discussion as there are currently no established billing codes for comprehensive HLM services in the US and likely many other countries. A case for the cost efficacy of improving an individual's lifestyle characteristics, specifically through the reduction of substantial expenditures associated with chronic NCD management, can clearly be made.[29,57,58] As such, there is more than sufficient evidence to warrant the consideration of establishing billing codes for interventions delivered by an *HLP*. The covered lives model, through accountable care organizations in the US, provides a more readily applicable path to coverage for HLIs.[15] In accountable care organizations, there is a fixed pool of funds to cover the healthcare needs of a population and there is a large incentive to keep this population healthy and minimize the need for hospital-based care and chronic NCD management. The value of accountable care organizations committing funds to deliver HLIs is already being recognized.[59,60] The *HLP* would help to standardize how HLM is delivered in any healthcare system. Regardless of the funding model, committing resources to fund the delivery of HLM appears to be a sound investment.

The next steps

The authors of this *HLP* concept are not advocating a set-in-stone approach to the educational model proposed herein. Our hope is the proposed concept spurs additional discussion and evolution, which will improve upon the educational model that is eventually developed, implemented and universally accepted. The authors are sure that the didactic and practical components proposed in Table 1 will evolve and be enhanced as the discussion begins. Moreover, perhaps an educational model other than the certificate program the authors have proposed will eventually emerge and be broadly

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embraced. The authors can certainly envision expansion to a stand-alone *HLP* health professional, where academic training is perhaps at the graduate or professional degree level one day. The current NCD crisis and the importance of HLM to treat NCDs certainly justify consideration of this expansion in the future. At this point, given the urgent need to expand the health profession workforce able to deliver HLM, the authors feel a certificate program that augments the training provided by a broad array of currently available health professions is a logical entry point.

The proposed inception of the *HLP* discipline has similarities to the origins of other health professions.[61] Physical therapy, for example, began somewhere between 1914 and 1917 during World War I and was spurred by the need for soldiers with war-related injuries to receive rehabilitation. The first physical therapists graduated from Reed College and Walter Reed Hospital and were defined as *reconstruction aids*. These initial physical therapists held academic degrees in other areas and subsequently received additional training to gain the *reconstruction aid* designation. Today, the Doctorate in Physical Therapy, a 3-year post-baccalaureate professional degree, is the academic standard. Academic institutions offering a Doctorate in Physical Therapy must be accredited by a national organization, and there is a national licensure examination that physical therapists must pass to practice.[62] Thus, the physical therapy profession was born out of the need to address the healthcare needs of a population (i.e., injured soldiers) and academic training began at what could now be categorized as a certificate program, offered to individuals with academic training in other areas. The similarities to our *HLP* proposal are striking.

The authors' hope in writing this perspective is to facilitate discussion of an issue vital to the future health of the global population as it relates to the current NCD crisis. To this end, the authors call upon academic institutions with the infrastructure and interest in developing an *HLP* training program to begin planning and eventually implementing an academic program. Major academic medical centers are likely to have all of the components needed (i.e., course content, faculty expertise, network for practical experiences) to develop the proposed certificate program with minimal upfront costs; synergizing the key components into a cohesive academic program would be the required next step. The authors also encourage professional organizations committed to HLM to begin discussions on planning a national accreditation process and certification exam. Ideally, interested academic institutions and professional organizations should engage each other and develop the *HLP* concept together at the onset.

Conclusions

In closing, there is a need for an immediate radical change in the approach to healthcare delivery to weather the current NCD crisis as effectively as possible and alter the trajectory of future generations towards a healthier global population. The path to effect this change can only be achieved if we drastically improve HL characteristics on a population level. Our hope is the proposed concept of the *HLP* discipline gains traction and furthers efforts to expand the ability to deliver HLM.

Summary

The world is in the midst of an NCD crisis of epidemic proportions. This crisis is in large part the result of a majority of the population adopting one or more unhealthy lifestyle characteristics: physical inactivity, excess body mass, poor nutrition and smoking. The evidence demonstrating the substantial benefits of leading a HL throughout one's entire life or reversing unhealthy characteristics at any given time point is beyond dispute. Simply stated, leading an HL dramatically reduces the risk of NCDs, associated adverse events and healthcare costs. HLIs are now viewed as a vital component of medicine moving forward that all individuals must be prescribed. As such, there is a need to train health professionals to effectively deliver HLM. This perspectives paper formalizes a new health profession designation, the *HLP*; a proposed curriculum for the *HLP* is also presented.

Expert commentary

The treatment of NCD through HLIs is a global imperative. Academic training requires a paradigm shift, creating health professionals that can deliver HLIs effectively and comprehensively. The concept of an *HLP*, introduced in the present perspectives paper, is a model that addresses the needed paradigm shift in healthcare moving forward.

Five-year view

In five years' time, there will be a standardized educational model for training health professionals to deliver HLIs. The model will begin by offering a program that can provide additional training to a broad array of individuals from various health professions (e.g., physicians, nursing, physical therapy, occupational therapy, social work), bringing them up to a uniform level of competency in this area. Towards the end of the next five years, there will begin to be growing discussion and plans to evolve this educational model into an autonomous graduate or professional program, training health professionals who are exclusively focused on healthy lifestyle medicine.

Financial & competing interests disclosure

The authors have no relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript. This includes employment, consultancies, honoraria, stock ownership or options, expert testimony, grants or patents received or pending, or royalties.

Key issues

- The non-communicable disease crisis has become the primary healthy concern for the majority of countries around the world.
- Maintaining a healthy lifestyle or improving upon unhealthy lifestyle characteristics is one of the most effective strategies for the prevention and treatment of non-communicable disease.
- There is a need to rethink the academic training of healthcare professionals to prepare them to competently and effectively deliver healthy lifestyle interventions.
- The concept of a *Healthy Lifestyle Practitioner*, trained in the delivery of healthy lifestyle medicine, is presented in this perspectives paper.

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