ViTAL Hacks 2025: Preventative Care

Preventive care focuses on addressing potential health issues before they develop into serious conditions, emphasizing early intervention, education, and monitoring to improve overall well-being. Its importance cannot be overstated; by identifying risks and promoting healthy behaviors, preventive care reduces the burden of chronic diseases, lowers healthcare costs, and enhances the quality of life for individuals and communities.

Despite its long-term importance for human health, in 2020, only 5.3% of U.S. adults received full recommended preventive care [3]. This is a stark 2.7% drop from 2015, where ~8% of U.S. adults received said care [2]. These considerably low percentages are not without cause – there are many identified barriers that contribute to the low adherence rates of preventive care.

The Assistant Secretary for Planning and Evaluation of the U.S. Department of Health and Human Services finds that the nationally uninsured rate in 2023 was a record low [4]. With this positive statistic, preventive care rates should grow as well, as the Affordable Care Act has most plans covering preventive care. However, that is not the case.

Simply, the lack of knowledge surrounding preventive care and its long-term importance can cause patients to deprioritize the care they need, especially when the care is not addressing immediate, life-threatening problems. High out-of-pocket costs only further discourage patients from pursuing care [3]. Even with insurance, coverage details concerning preventive care are inconsistent, complicated, and inadequate. Physical barriers such as distance and transportation also lower the incentive for seeking preventive care [5]. Especially in rural areas, specialists for specific preventive care types can be difficult to locate and reach.

This is where software solutions can provide support and knowledge to address these common issues. Whether it is educating individuals or bridging the physical gap between patients and care, software can significantly contribute to a healthier society by increasing accessibility, efficiency, and tailorability.

Solution Tracks

Track One: Preventive Care Education

Preventive care plays a crucial role in maintaining overall health and well-being. One significant challenge in this space is the lack of knowledge and education about preventive care and the healthcare system. Individuals might be unaware of the benefits of preventive care and what their healthcare plan may or may not cover. Those without a healthcare plan may incorrectly assume they do not have access to preventive care services. For these reasons and many more, preventive care education at the individual and systemic level can provide a foundation for healthier and longer lives. Your challenge is to build a product that supports education of preventative care options and how they can help individuals.

Track Two : Access to Care

Physical barriers pose a tough challenge for preventive care. Long distances, in-person time constraints, and transportation limitations are just a few examples of such physical barriers. Individuals may be unaware of preventive care services in their immediate area, what public transportation is available for these services, or just might not have enough time to attend in-person appointments. Socioeconomic factors, physical disabilities, or caregiving responsibilities can further compound these challenges, leaving many without timely preventive care. Your challenge is to build a product that can bridge this physical gap and increase the access to preventive care.

Track Three : Digital Health Monitoring

Digital health monitoring is transforming the way we understand and manage personal health, leveraging technology to track key metrics and provide real-time insights. From wearable devices that measure heart rates and sleep patterns to apps that monitor diet, stress, or physical activity, these tools empower individuals to make informed decisions about their well-being.

By turning data into actionable insights, digital health monitoring helps identify early signs of health concerns, promote healthier habits, and bridge the gap between patients and preventive care. Your challenge is to design a digital health monitoring solution that is innovative, user-friendly, and impactful.

Track Four : Artificial Intelligence

Preventive care is the key to a healthier future, focusing on identifying risks and intervening before health issues arise. By promoting early detection and encouraging healthier lifestyles, it reduces the burden of chronic diseases and improves overall well-being. AI is revolutionizing this field by analyzing data to predict health risks, providing personalized recommendations, and enabling smarter, more proactive healthcare. Your challenge is to create an AI-driven software solution that enhances preventive care for individuals.

References

1. Allen, E. M., Call, K. T., Beebe, T. J., McAlpine, D. D., & Johnson, P. J. (2017). Barriers to Care and Health Care Utilization Among the Publicly Insured. *Medical Care*, *55*(3), 207–214. https://doi.org/10.1097/MLR.0000000000000644
2. Borsky, A., Zhan, C., Miller, T., Ngo-Metzger, Q., Bierman, A. S., & Meyers, D. (2018). Few Americans Receive All High-Priority, Appropriate Clinical Preventive Services. *Health Affairs (Project Hope)*, *37*(6), 925–928. https://doi.org/10.1377/hlthaff.2017.1248
3. Hoagland, A., & Shafer, P. (2021). Out-of-pocket costs for preventive care persist almost a decade after the Affordable Care Act. Preventive Medicine, 150, 106690. https://doi.org/https://doi.org/10.1016/j.ypmed.2021.106690
4. *Increase the proportion of adults who get recommended evidence-based preventive health care—AHS-08—Healthy People 2030 | odphp.health.gov*. (n.d.). Retrieved January 28, 2025, from https://odphp.health.gov/healthypeople/objectives-and-data/browse-objectives/health-care-access-and-quality/increase-proportion-adults-who-get-recommended-evidence-based-preventive-health-care-ahs-08
5. National Uninsured Rate Reaches an All-Time Low in Early 2023 After Close of ACA Open Enrollment Period (Issue Brief No. HP-2023-20). *Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services*. August 2023.
6. Syed, S. T., Gerber, B. S., & Sharp, L. K. (2013). Traveling Towards Disease: Transportation Barriers to Health Care Access. *Journal of Community Health*, *38*(5), 976–993. https://doi.org/10.1007/s10900-013-9681-1
7. Taber, J. M., Leyva, B., & Persoskie, A. (2015). Why do People Avoid Medical Care? A Qualitative Study Using National Data. *Journal of General Internal Medicine*, *30*(3), 290–297. https://doi.org/10.1007/s11606-014-3089-1