

HEALTH EDUCATION

Improving School Physical Education: Eight Health Economics Strategies for Health Promotion

*Saeed Khanmoradi, Shahrouz Ghayebzadeh, Andrew Sortwell,
Emine Busra Yilmaz, Ferman Konukman*

Abstract

Students and teachers can participate more peacefully and safely in school sports activities in a healthy environment and physically, mentally, and emotionally healthy. Providing such a healthy space in schools requires numerous infrastructural and conditional prerequisites, with ensuring economic resources for health being essential. Therefore, this article aims to identify practical health economics strategies for developing physical education in schools. Suitable practical health economics strategies may include: integrating health impacts into economic evaluations, developing student insurance as a safety valve, distributive justice in health services, investment in school health infrastructure, encouraging health policies related to transportation,

Saeed Khanmoradi, Department of Physical Education, Farhangian University, Tehran, Iran; **Shahrouz Ghayebzadeh**, Department of Sport Management, Faculty of Education and Psychology, University of Mohaghegh Ardabili, Ardabil, Iran; **Andrew Sortwell**, School of Health Sciences and Physiotherapy, University of Notre Dame Australia, Fremantle, Australia, Research Centre in Sports, Health and Human Development, University of Beira Interior Covilhã, Portugal; **Emine Busra Yilmaz**, Faculty of Sport Sciences at Burdur Mehmet Akif Ersoy University in Burdur, Türkiye; **Ferman Konukman**, College of Sport Sciences at Qatar University, Doha, Qatar. Please send author correspondence to Ferman Konukman, fkonukman@qu.edu.qa

empowering teachers and school administrators in health economics, offering financial incentives to schools, and fostering cross-sector collaboration. These strategies can lead to improvements in health infrastructure, increased student participation in sports activities, and enhancement of the quality of physical education programs. Financial incentives include grants for implementing health programs, bonuses for schools that achieve health and sports participation targets, and subsidies for schools that invest in health infrastructure. In summary, this article suggests innovation in health economics and physical education in schools by identifying gaps in previous studies and proposing new approaches.

Introduction

The impact of school and student health on the effectiveness of physical education programs cannot be overstated. Students in good health are more likely to participate in physical activities, maintain good mental health, and build strong social relationships. These factors, in turn, contribute significantly to their overall well-being and development (Martinović et al., 2011). Also, optimistic teachers with high organisational health deliver higher-quality physical education programs (Williams et al., 2020). In addition, schools that provide appropriate and healthy sports facilities and equipment create an enabling environment for the development of physical education programs (Barrett-Williams et al., 2017). Creating a healthy school environment and enhancing the health of students and teachers is a priority. However, it is a complex task that requires significant budget and financial resources. As some studies have shown, insufficient funding poses an essential challenge for public schools in delivering health education programs to students, particularly in low-income countries. This underscores the need for the proposed economic strategies (Akera et al., 2023; Hewitt et al., 2018). Although other studies have emphasised the role of different factors, such as the importance of school-researcher partnerships and co-production of study, skills-based education, community engagement, and incorporating innovation in promoting health and well-being (Akera et al., 2023; Hewitt et al., 2018; Kuzmina et al., 2019), the importance of financial provision for improving school health and hygiene cannot be overlooked.

Previous studies showed that effective health economics policies in schools require integrating health impacts into economic evaluations, prioritising equity, building capacity in health economics, and adopting holistic well-being approaches that recognise the interdependence of health, education, and financial outcomes (Chopra et al., 2023; Ezenduka & Onwujekwe, 2022; Hensher, 2023; Lee et al., 2020; Santos, 2022). Health economics policies can promote physical activity and overall well-being in school settings by incorporating physical activity benefits into economic evaluations, investing in infrastructure, incentivising active transportation, prioritising equity, and fostering cross-sector collaboration (Hensher, 2023; Lee et al., 2020; Santos, 2022).

There is a perspective that a healthy environment can enhance teacher-student interactions and improve physical education in schools. Therefore, it is essential to identify and implement healthy economic policies to achieve this goal and ensure a healthy school environment. A healthy school environment is crucial for improving teacher-student interactions and enhancing physical education, which can be achieved through the implementation of effective economic policies. Such policies should focus on creating a holistic and supportive environment that integrates health and education. For example, the Whole School, Whole Community, Whole Child (WSCC) model emphasizes the interconnectedness of various elements, such as health education, physical activity, and community participation, that are necessary to promote a healthy school environment (Solomon et al., 2018). This issue is particularly significant in developing countries facing financial crises. While past research has documented the health benefits of physical education (PE), some studies have touched on broader economic health policies in schools. Still, studies on the effect of health economics strategies on physical education are limited (Nath et al., 2024; Ramirez et al., 2023). Study gaps need to be addressed in the literature, and the present study seeks to address this by identifying healthy economic strategies for developing physical education in schools. When implemented, these strategies and policies can significantly improve the health and well-being of students and teachers, creating a more hopeful future for school physical education programs.

Integrating Health Impacts into Economic Evaluations

The return on investment is typically the primary consideration for investment in a particular area. Given that physical education in schools leads to health improvements, policymakers in the health sector will recognise that the economic benefits of investing in school health result in health development. This can be evident in reducing healthcare costs and encouraging them to invest. As educators and policymakers, your role is crucial in convincing and persuading economic health policymakers that the health impacts of physical education should be regarded as the return on investment in school health. Your advocacy is not just a suggestion but a powerful tool that can encourage policymakers to invest in school health development. This step can be achieved through holding meetings and various conferences. Your influence can make a significant difference in the future of school physical education.

Developing Student Insurance as A Safety Valve

Developing student insurance as a safety valve can play a significant role in developing physical education in schools. By providing comprehensive insurance for students, the financial concerns of parents and schools regarding costs arising from sports injuries are reduced. This can encourage greater participation in physical activities and motivate parents and schools to provide more support for physical education programs. Student insurance can be enhanced by increasing insurance coverage, raising awareness and educating parents and schools, collaborating with insurance companies to offer affordable plans, and providing discounts and incentives. Government support through legislation, allocation of necessary funds, and improving insurance services can also play a crucial role. For instance, the government can mandate schools to provide student insurance, allocate funds for subsidising insurance premiums, and work with insurance companies to develop affordable plans for students.

Distributive Justice in Health Services

Equitable distribution of health services and facilities in schools across different regions of a country, a concept known as “distributive justice in health services,” can facilitate access to healthcare services for various societal strata with other social and economic back-

grounds. The development of healthcare in schools can significantly enhance physical education. For instance, by providing appropriate health infrastructure and facilities, students can easily participate in physical activities and benefit from physical and mental advantages. Additionally, offering counselling services in nutrition, mental health, and hygiene principles to students and parents raises awareness about the importance of sports and health, encouraging greater participation in physical activities. Moreover, leveraging healthcare resources to support physical education programs enables schools to significantly improve the quality and content of their sports programs, leading to more significant positive impacts on the health and education of their students. Achieving these goals requires the presence of distributive justice in healthcare services to ensure that all students benefit from the significant health advantages that contribute to the development of physical education.

Investment in School Health Infrastructure

Investment in school health infrastructure includes improving facilities such as toilets and sports halls, providing quality drinking water, and ensuring personal and public hygiene amenities at schools. These measures directly enhance physical education in schools, as students with access to adequate sanitation facilities can participate in sports without concerns about health risks. To strengthen school health infrastructure, methods such as increasing budgets for renovation and construction of health facilities, leveraging modern health technologies, empowering teachers and students in health education, and establishing effective management mechanisms for health supervision and monitoring can be utilised.

Encouraging Health Policies Related to Transportation

Encouraging health policies related to transportation involves initiatives that promote active transportation, such as walking and cycling, and reduce reliance on private vehicles like cars and motorcycles. These policies can increase physical activity among students during their commute to school. For example, providing safety measures and favourable conditions for walking and cycling, establishing dedicated bike lanes, and promoting public transportation near schools can encourage students to adopt safer and more active modes of transportation. Strategies such as conducting studies

to assess needs and existing challenges, designing and implementing educational programs for public awareness, and implementing structural and legislative changes to incentivise active transportation can be employed to develop these policies.

Empowering Teachers and School Administrators in Health Economics

Empowering teachers and school administrators in health economics involves educating and enhancing their knowledge regarding the connection between physical education, health, and economics. Optimal financial management in school health can contribute to developing sports infrastructure. Moreover, this awareness influences the reflection of school staff with parents and students, fostering better planning for sports participation in schools. With a sufficient understanding of health economics, school managers and teachers can improve efforts in attracting investments, financial management, and enhancing the health of school environments and students. Empowerment strategies may include regular training courses and fostering supportive organisational cultures. Additionally, national medical organizations should prioritise policies for empowering schools' human resources through coordinated training and support programs.

Offering Financial Incentives to Schools

Offering financial incentives to schools that have shown significant improvement in school health can be a powerful tool to encourage continuous enhancement of health services towards advancing physical education in schools. These incentives may include direct financial grants, allocating additional funds for upgrading health infrastructure, or providing rewards to the teachers and administrators actively contributing to improving school health. Such initiatives aid in achieving students' health and physical education goals and motivate schools to strive for ongoing improvements in this area. To ensure the success of this policy, clear criteria for evaluating performance and progress in physical education programs through school health development should be established, followed by the implementation of financial incentives based on these criteria to en-

courage motivated schools to deliver better and enhanced services in this field.

Fostering Cross-Sector Collaboration

Strengthening intersectoral collaboration through promoting partnerships and joint agreements between the education department, health departments, medical universities, health service-providing organisations, and sports organisations can consolidate resources and expertise, leading to significantly enhanced health development in schools. This collaboration enables better decision-making and planning, providing a safer and more suitable environment for students and teachers to engage in physical activities. Such partnerships allow for the optimal use of available financial and human resources and facilitate the exchange of knowledge and experiences between different sectors. For instance, medical universities and health centres can prepare and provide health and physical education programs to schools. At the same time, relevant organisations and local governments can supply additional funding and necessary infrastructure. These collaborations create a broad support network, resulting in improved quality and efficiency of physical education programs in schools through the development of health and hygiene initiatives.

Conclusion

This article aimed to identify economic health strategies for schools to develop and promote physical education in schools. The pursuit of this goal was motivated by the fact that most studies in the literature have focused on the role of physical education in health, identifying numerous physiological, psychological, social, and even economic factors as the effects of physical education. On the other hand, studies have emphasised the role of health in creating a safe exercise environment. However, studies on economic strategies for health development, especially in the educational and school environment, are limited. It is a consensus among most economists and education policymakers that developing school health requires attention to countries' economic and social conditions. Therefore, planning and identifying appropriate strategies in this area is essential.

Table 1*Eight Health Economic Strategies for Boosting Physical Education in Schools*

Row	Strategy Name	Explanation	Suggestions
1	Integrating Health Impacts into Economic Evaluations	Incentive for investment	Holding meetings and emphasizing reduced healthcare costs
2	Developing student insurance as a safety valve	Increasing student peace of mind	Increasing insurance coverage and collaborating with insurance companies
3	Distributive Justice in Health Services	Fair distribution of health services	Fair distribution of services and counseling services
4	Investment in school health infrastructure	Access to health infrastructure	Increasing budget, using modern technologies, and training
5	Encouraging health policies related to transportation	Encouraging active transportation	Creating safety conditions and designing educational programs
6	Empowering teachers and school administrators in health economics	Increasing awareness and knowledge	Regular training courses and creating supportive organizational cultures
7	Offering Financial Incentives to Schools	Providing financial aid	Direct financial aid and setting evaluation criteria
8	Fostering Cross-Sector Collaboration	Facilitating financial resources	Promoting cooperation between the Ministry of Education, the Ministry of Health, and sports organizations

When discussing health economics, we address the intersection of medicine and economics. Policymaking in this area requires precise and proper planning. When we seek to observe the impact of health economics policies on physical education in schools, the third dimension, sports, is transferred to economics and health. This article presents eight suitable strategies to achieve this goal. The first strategy showed that the health benefits resulting from physical education could be a great incentive for investors in school health economics; therefore, health effects should be integrated into economic assessments. The second strategy suggests that developing student insurance as a safety valve can provide greater peace of mind for students and their families to participate in school sports.

The third strategy indicated that local governments' equitable distribution of health services in different regions should be considered for developing physical education in schools. The fourth strategy showed that access to more health facilities and infrastructure in schools leads to the development of physical education. The fifth strategy demonstrated that health-related transportation policies,

such as cycling from home to school, can play a role in developing physical education and health activities. The sixth strategy emphasised empowering school staff to increase their health economics awareness and knowledge.

The seventh strategy indicated that providing financial incentives to schools that have been outstanding in health development can be an effective solution. Finally, the eighth strategy showed that inter-sectoral cooperation between the Ministry of Education and health and sports organisations could facilitate the provision of financial resources and the development of health economics in schools.

Several practical suggestions have been put forward to achieve the proposed strategies for developing physical education in schools. The first strategy is integrating health impacts into economic assessments. This can be achieved by holding multiple meetings and conferences with economic policymakers to demonstrate the financial benefits of physical education in schools. Additionally, emphasising the reduction in healthcare costs as a return on investment in school health is crucial. The second strategy involves developing student insurance, which includes increasing insurance coverage and educating parents and schools about the benefits of student insurance. In this regard, collaboration with insurance companies to offer affordable plans and provide discounts and incentives is essential, along with government support through legislation, budget allocation, and improving insurance services.

The third strategy is ensuring the equitable distribution of health services, which involves the fair distribution of health services and infrastructure in schools across different regions of the country, providing counselling services in nutrition, mental health, and health principles to students and parents, and utilising health resources to support physical education programs. The fourth strategy involves investing in school health infrastructure, which includes increasing the budget for renovating and constructing health infrastructure, using modern health technologies, training and empowering teachers and students in health matters, and establishing effective management mechanisms for monitoring and tracking health.

The fifth strategy encourages policies related to transportation, which can be realised by creating safe conditions and measures for walking and cycling, designing and implementing educational pro-

grams for public awareness, and making structural and legal changes to encourage active transportation. The sixth strategy empowers teachers and school administrators in health economics through regular training courses, creates supportive organisational cultures, and prioritises human resource empowerment policies by national medical organisations.

The seventh strategy involves providing financial incentives to schools, which can be effective by granting direct financial aid and allocating additional budgets for improving health infrastructure, setting clear criteria for performance evaluation and improvement of physical education programs, and awarding teachers and administrators who play an active role in improving school health. Finally, the eighth strategy is developing inter-sectoral collaborations, which can be achieved by promoting cooperation and joint agreements between the Ministry of Education, the Ministry of Health, medical universities, health service providers, and sports organisations, making optimal use of existing financial and human resources, and exchanging knowledge and experiences between different sectors. These suggestions can help realise the proposed strategies and develop school physical education.

In conclusion, implementing these eight strategies can lead to the development of school health economics, providing the foundation for the sustainable enhancement of physical education in schools. This, in turn, will improve student health and contribute to the economic and social betterment of communities.

References

- Akera, P., Kennedy, S. E., Schutte, A. E., Richmond, R., Hodgins, M., & Lingam, R. (2023). Perceptions of oral health promotion in primary schools among health and education officials, community leaders, policymakers, teachers, and parents in Gulu district, northern Uganda: A qualitative study. *PLoS One*, *18*(11), e0293761. <https://doi.org/10.1371/journal.pone.0293761>
- Barrett-Williams, S. L., Franks, P., Kay, C., Meyer, A., Cornett, K., & Mosier, B. (2017). Bridging public health and education: Results of a school-based physical activity program to increase student fitness. *Public Health Reports*, *132*(2_suppl), 81s–87s. <https://doi.org/10.1177/0033354917726328>

- Chopra, M., Balaji, L. N., Campbell, H., & Rudan, I. (2023). Global health economics: The Equitable Impact Sensitive Tool (EQUIST): Development, validation, implementation, and impact evaluation (2011 to 2022). *Journal of Global Health, 13*, 04183. <https://doi.org/10.7189/jogh.13.04183>
- Ezenduka, C. C., & Onwujekwe, O. E. (2022). Evaluating a capacity development intervention in health economics among producers and users of evidence in Nigeria: A case study in Getting Research Into Policy and Practice (GRIPP) in Ambra State. *Health Economics Review, 12*(1), 26. <https://doi.org/10.1186/s13561-022-00371-1>
- Hensher, M. (2023). The economics of the wellbeing economy: Understanding heterodox economics for health-in-all-policies and co-benefits. *Health Promotion Journal of Australia 4*(3), 651–659. <https://doi.org/10.1002/hpja.764>
- Hewitt, G., Roberts, J., Fletcher, A., Moore, G., & Murphy, S. (2018). Improving young people's health and wellbeing through a school health research network: Reflections on school-researcher engagement at the national level. *Research for All, 2*(1), 16–33.
- Kuzmina, O., Shvachun, O., Lebedinskiy, V., Akhmatgatin, A., & Kazantseva, N. (2019, October). Non-medications in the health care system of student youth. In *International Conference on Health and Well-Being in Modern Society (ICHW 2019)* (pp. 174–178). Atlantis Press.
- Lee, A., Lo, A., Li, Q., Keung, V., & Kwong, A. (2020). Health-promoting schools: An update. *Applied Health Economics & Health Policy, 18*(5), 605–623. <https://doi.org/10.1007/s40258-020-00575-8>
- Martinović, D., Ilić, J., & Višnjić, D. (2011). Gender differences in sports involvement and motivation for engagement in physical education in primary school. *Problems of Education in the 21st Century, 31*, 94.
- Santos, J. (2022). Economics and health economics as a major determinant towards HiAP. *European Journal of Public Health, 25*;32 (Suppl 3): ckac129.578. <https://doi.org/10.1093/eurpub/ckac129.578>. eCollection 2022 Oct
- Williams, L., Martinasek, M., Carone, K., & Sanders, S. (2020). High school students' perceptions of traditional and online health and physical education courses. *Journal of School Health, 90*(3), 234–244. <https://doi.org/10.1111/josh.12865>

- Solomon, B., Katz, E., Steed, H., & Temkin, D. (2018). *Creating policies to support healthy schools: Policymaker, educator, and student perspectives*. Child Trends.
- Ramires, V. V., Dos Santos, P. C., Barbosa Filho, V. C., da Silva Bandeira, A., Tenório, M. C. M., de Camargo, E. M., & Silva, K. S. (2023). Physical education for health among school-aged children and adolescents: A scoping review of reviews. *Journal of Physical Activity and Health*, 20(7), 586–599.
- Nath, D., Kalai, S., Nath, S. C., Dutta, P. P., & Choudhury, R. D. (2024). Finding equilibrium: How policy and budget influence physical education access and quality. *International Journal of Sports, Exercise and Physical Education*, 6(1), 28–32.
- Virginia Administrative Code. (2018). VA. Stat. §§22.1-298.1 and 22.1-299. <https://law.lis.virginia.gov/pdf/admincode/8/20/23/620/>
- Whipp, J., & Geronime, L. (2015). Experiences that predict early career teacher commitment to and retention in high-poverty urban schools. *Urban Education*, 52(7), 799–828. <https://doi.org/10.1177/0042085915574531>