

Study on the Design of Health Financial Products Based on Exercise Prescription

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Abstract: The integration of exercise prescription (EP) into health financial products represents an innovative approach to enhancing public health and managing healthcare costs. This study explores the design and implementation of EP-based health financial products, emphasizing the potential health, economic, and social benefits. Through a comprehensive literature review and analysis of case studies and pilot programs, the research highlights the significant improvements in health outcomes, including reduced prevalence of chronic diseases and lower healthcare utilization. The study also identifies key challenges, such as cultural preferences for medication over lifestyle changes, organizational barriers for healthcare providers, and economic and principle constraints. It proposes solutions, including educational campaigns, streamlined workflows, and supportive regulatory principles, to overcome these obstacles. The theoretical framework incorporates economic theories, operations research, and behavioral economics to support the integration of EP into health financial products. The research methodology combines quantitative and qualitative approaches, utilizing surveys, interviews, and data analysis to develop and validate a conceptual model. This model includes personalized EP formulation, continuous monitoring through technology, and financial incentives for adherence. The findings suggest that EP-based health financial products can lead to significant

cost savings for insurers and policyholders, improved health literacy, and broader societal benefits. Future directions for research include investigating long-term impacts, fostering cross-disciplinary and international collaborations, and leveraging technological advancements such as artificial intelligence and 5G integration to enhance the precision and effectiveness of EP programs. Rule makers are urged to create a supportive regulatory environment that facilitates the integration of EP into standard healthcare and insurance practices. The study concludes that while the implementation of EP-based health financial products requires sustained effort, the potential benefits for individual health, economic sustainability, and societal well-being make it a transformative and worthwhile endeavor.

Keywords: Exercise Prescription; Health Financial Products; Preventive Health; Cost-effectiveness; Technological Integration

1. Introduction

1.1 Background

Exercise prescription (EP) involves a tailored plan of physical activities designed to improve health outcomes. It is increasingly recognized for its extensive benefits, including improved cardiovascular health, better glycemic control in diabetes, and enhanced psychological well-being. EPs are often individualized to meet the unique needs and goals of the patient,

and they encompass specific recommendations regarding the type, intensity, duration, and frequency of exercise activities. The effectiveness of EPs is well-documented in managing chronic conditions, improving overall physical fitness, and enhancing quality of life [1].

The landscape of health financial products, which includes health insurance, health savings accounts (HSAs), and flexible spending accounts (FSAs), has seen significant innovation over recent years. These products are designed to mitigate the financial burden of healthcare costs on individuals while promoting preventive health measures. Health financial products traditionally focus on covering medical expenses such as hospital visits, medications, and procedures. However, there has been a growing interest in integrating wellness and preventive care initiatives into these products, driven by the rising cost of chronic diseases and the need to improve population health outcomes [2].

Despite the evident benefits of EPs and the innovations in health financial products, there is a notable gap in the integration of EPs into health financial products. While some health insurance plans have begun to offer incentives for physical activity, such as discounts on gym memberships or coverage for exercise equipment, the comprehensive inclusion of EPs as a standard component of health financial products remains limited. This gap highlights a missed opportunity to leverage the preventive and therapeutic potential of EPs to reduce healthcare costs and improve health outcomes. The integration of EPs into health financial products could provide a holistic approach to health management, combining financial support with structured physical activity programs to enhance individual and public health [3].

1.2 Research Objectives

This study aims to explore the integration of EPs into health financial products. Specifically, the research objectives are threefold:

First, the study aims to examine the health and economic benefits of incorporating EPs into health financial products. This includes evaluating how EPs can prevent and manage chronic diseases, reduce healthcare costs, and improve individuals' quality of life. Second, the study aims to design a model for EP-based

health financial products. This model will outline effective EP components and their systematic integration into health financial products to provide financial incentives for physical activity and health management. Third, to identify and address the barriers to the integration of EPs into health financial products. This includes understanding cultural, organizational, and economic challenges, and developing strategies to overcome these obstacles to facilitate the widespread adoption of EPs within health financial frameworks [4].

1.3 Significance of the Study

Integrating EPs into health financial products is a significant innovation in health management. Traditional health financial products focus on covering medical expenses, often neglecting preventive care and lifestyle modifications. Incorporating EPs shifts these products towards a proactive health approach, emphasizing disease prevention through regular physical activity.

The potential impact on public health and insurance costs is substantial. EPs can reduce the incidence and severity of chronic diseases, leading to lower healthcare utilization and costs. For insurance providers, this means reduced claims and better management of risk pools, ultimately leading to more sustainable health insurance models. For individuals, it translates to improved health outcomes and potentially lower insurance premiums due to better health behaviors and reduced medical expenses [5].

Furthermore, the study underscores the importance of innovative health financial products in addressing contemporary health challenges. The rising prevalence of chronic diseases, coupled with increasing healthcare costs, necessitates the development of financial products that not only provide coverage but also promote healthier lifestyles. Integrating EPs into these products aligns financial incentives with health goals, encouraging individuals to engage in regular physical activity and make healthier choices, thereby fostering a culture of wellness and prevention [6].

2. Literature Review

2.1 Exercise Prescription (EP)

Exercise prescription (EP) is a tailored

regimen of physical activities designed to meet individual health needs and objectives. It typically includes specifications on the type, intensity, duration, and frequency of exercises. The goal of EP is to enhance overall health, manage chronic conditions, and prevent future health issues. Historically, the concept of EP dates back to ancient civilizations, but it gained scientific validation in the 20th century with extensive research demonstrating its benefits. Today, EPs are widely used in clinical settings to manage conditions such as cardiovascular disease, diabetes, and obesity. The components of a typical EP involve a thorough assessment of the patient's health status, the establishment of specific fitness goals, and the continuous monitoring and adjustment of the exercise plan to ensure its effectiveness and safety [1].

The benefits of EP are multifaceted. Physiologically, regular exercise improves cardiovascular and respiratory function, enhances metabolic health, and strengthens the musculoskeletal system. It also helps in controlling body weight, reducing blood pressure, and improving lipid profiles. Psychologically, exercise has been shown to reduce symptoms of depression and anxiety, enhance cognitive function, and improve overall mood and self-esteem. Socially, engaging in regular physical activity can enhance social interaction and community engagement, contributing to better quality of life and well-being. These comprehensive benefits underscore the importance of incorporating EP into routine healthcare practices to promote holistic health improvements [2].

2.2 Health Financial Products

Health financial products are financial tools designed to reduce healthcare costs, including health insurance, health savings accounts (HSAs), and flexible spending accounts (FSAs). Health insurance covers medical expenses like hospital stays, doctor visits, and prescriptions. HSAs and FSAs enable individuals to save tax-free for medical expenses, providing a financial buffer for out-of-pocket costs.

Recent trends in health financial products focus on integrating wellness and preventive care. For instance, some health insurance plans offer premium discounts for participating in

wellness programs, such as gym memberships or smoking cessation programs. Innovations such as telehealth services and mobile health apps are also becoming integral components, facilitating remote consultations and health monitoring. These advancements aim to reduce healthcare costs by promoting early intervention and continuous health management [3].

However, there are significant challenges in the current landscape of health financial products. High deductibles and out-of-pocket costs continue to burden many individuals, leading to delayed care and financial stress. Additionally, there is a growing need for these products to address the rising prevalence of chronic diseases, which require long-term management and significant financial resources. The complexity of insurance policies and the lack of transparency also pose barriers to effective healthcare access and financial planning [4].

2.3 Integration of EP in Health Financial Models

The integration of exercise prescription (EP) into health financial products is a relatively new but promising approach. Case studies and pilot programs from various countries provide valuable insights into this integration. For instance, a study on a community-engaged exercise program for wheelchair users with multiple sclerosis (MS) highlighted the positive impact of personalized EPs combined with behavioral coaching. This program demonstrated significant improvements in physical health and quality of life, suggesting that such integrated approaches can be effective in managing chronic conditions and reducing healthcare costs [7].

Evidence of EP integration in existing health financial products shows mixed results. Some health insurance plans have successfully incorporated EP by offering financial incentives for regular physical activity. For example, programs like Fitness Your Way provide discounts at fitness centers, encouraging policyholders to engage in physical activities. Similarly, some plans allow the use of HSAs or FSAs for gym memberships and exercise equipment, making it easier for individuals to adhere to their prescribed exercise regimens. These initiatives indicate that integrating EP into health

financial products can promote preventive health measures and improve health outcomes [8].

However, several barriers hinder the widespread adoption of EP in health financial products. Cultural barriers, such as the preference for medication over lifestyle changes, pose significant challenges. Organizational constraints, including limited time for counseling and lack of resources, also impede implementation. Economic barriers, such as high deductibles and inadequate reimbursement policies, further complicate the integration process. To overcome these challenges, a multifaceted approach is needed, involving policy advocacy, stakeholder engagement, and the integration of digital health technologies to enhance patient adherence and provide personalized exercise recommendations [9].

3. Theoretical Framework

3.1 Economic Theories and Models

The cost-effectiveness of exercise prescription (EP) is well-documented in various studies. EP has been shown to provide significant health benefits that translate into economic savings, particularly by reducing the need for expensive medical treatments and hospitalizations. For instance, a study found that financial incentives for smoking cessation in pregnant women, which included exercise components, yielded a return on investment of £2 in healthcare savings for every £1 spent by the National Health Service (NHS) in England [10]. This demonstrates how incorporating EP into health financial products can be economically beneficial.

Economic theories relevant to health financial products emphasize the role of preventive care in reducing long-term healthcare costs. By investing in preventive measures such as EP, health insurance companies can lower the incidence of chronic diseases, thereby decreasing overall medical expenditures. The application of these economic theories supports the integration of EP into health financial products, promoting a proactive approach to health management that benefits both insurers and policyholders. Moreover, economic models such as cost-benefit analysis and cost-effectiveness analysis are crucial in evaluating the financial impact of EP programs,

ensuring that they provide value for money and are sustainable in the long run [11].

3.2 Operations Research in Healthcare

Operations research (OR) plays a critical role in optimizing healthcare delivery, including the implementation of EP. OR techniques such as linear programming, simulation, and decision analysis can be used to design efficient and effective EP programs. These methods help in identifying the optimal allocation of resources, scheduling of activities, and management of patient care pathways. For example, a study on the optimization of rehabilitation services for wheelchair users with multiple sclerosis utilized OR models to develop a home-based exercise program, demonstrating improved health outcomes and resource utilization [7].

Models and algorithms used in healthcare optimization include queuing theory, Markov decision processes, and machine learning. These tools can be applied to EP to enhance its effectiveness and efficiency. For instance, machine learning algorithms can analyze patient data to personalize EPs, ensuring that each individual receives the most appropriate and effective exercise regimen. Additionally, OR can assist in evaluating the logistical aspects of EP programs, such as determining the best times and locations for exercise sessions, thereby maximizing participation and adherence [12].

3.3 Behavioral Economics

Behavioral economics provides insights into how financial products can incentivize healthy behaviors. By understanding the psychological factors that influence decision-making, health financial products can be designed to encourage individuals to engage in regular physical activity. For example, financial incentives such as reduced insurance premiums for meeting exercise goals can motivate policyholders to adhere to their EPs. This approach leverages the principles of behavioral economics, which suggest that people are more likely to engage in desired behaviors when they receive immediate and tangible rewards [13].

The impact of EP on long-term health behavior change is also significant. Regular participation in EP can lead to the development of healthy habits, which are

crucial for maintaining long-term health and well-being. Behavioral economics emphasizes the importance of consistency and reinforcement in behavior change. By integrating EP into health financial products, insurers can provide continuous motivation and support for policyholders, helping them to establish and sustain healthy exercise routines. This not only improves individual health outcomes but also reduces healthcare costs by preventing chronic diseases and related complications [9].

4. Research Methodology

4.1 Data Collection

The methodology for integrating exercise prescription (EP) into health financial products involves comprehensive data collection from primary and secondary sources. Primary data will be gathered through surveys and interviews with industry experts, healthcare providers, and policymakers. Surveys will collect quantitative data on the benefits, challenges, and feasibility of EP integration, while interviews will offer qualitative insights from key stakeholders. This mixed-method approach provides a holistic understanding, enabling a robust analysis of EP integration's potential impact and practical considerations. Secondary data will be gathered through an extensive literature review, focusing on existing research, case studies, and financial models related to EP and health financial products. This review will include academic journals, industry reports, and policy documents, providing a comprehensive background and context for the study. The literature review will also help identify gaps in current knowledge and practice, guiding the development of the research framework and hypotheses. Additionally, existing financial models will be analyzed to understand the economic implications and potential benefits of integrating EP into health financial products. This analysis will involve evaluating the cost-effectiveness of EP programs and their impact on healthcare costs and health outcomes [14].

4.2 Research Design

The research design employs a mixed-method approach, combining quantitative and qualitative methods for comprehensive

analysis. The quantitative analysis will evaluate the cost-effectiveness of EP programs using cost-benefit, cost-effectiveness, and regression analyses. It will compare healthcare costs and outcomes of individuals participating in EP programs with non-participants. Data for this analysis will be sourced from surveys, existing financial models, and health records. The goal is to quantify the economic benefits of EP and its potential to reduce healthcare costs.

Qualitative insights will be gathered through interviews with industry experts, healthcare providers, and policymakers. These interviews will explore the challenges and opportunities associated with integrating EP into health financial products, capturing detailed narratives and experiences. Thematic analysis will be used to identify common themes and patterns in the qualitative data, providing a deeper understanding of the factors influencing the success and feasibility of EP integration. This qualitative component will complement the quantitative analysis, offering a richer and more nuanced perspective on the research problem [10].

The development of a conceptual model for EP-based health financial products will be a key outcome of this research. This model will incorporate the findings from both quantitative and qualitative analyses, outlining the essential components and mechanisms for effective integration. The model will include recommendations for financial incentives, program design, and implementation strategies, providing a practical framework for policymakers and industry stakeholders. The conceptual model will be validated through expert feedback and case studies, ensuring its relevance and applicability in real-world settings [7].

4.3 Data Analysis

Data analysis will use both statistical and thematic methods, tailored to quantitative and qualitative data. For quantitative data, descriptive statistics will summarize key trends and patterns, inferential statistics will test hypotheses and determine significance, and regression analysis will identify relationships between variables, such as the impact of EP on healthcare costs and health outcomes.

Thematic analysis will be used to analyze

qualitative data from interviews, identifying common themes and patterns. This method involves coding the data, grouping similar codes into themes, and interpreting the findings to provide insights into the research problem. Thematic analysis allows for a detailed examination of the qualitative data, capturing the complexities and nuances of stakeholder experiences and perspectives. This approach ensures that the qualitative data are systematically analyzed and integrated into the overall research findings [9].

Validation of the conceptual model will be conducted through case studies and expert feedback. Case studies will provide real-world examples of EP integration, illustrating the practical application of the model and its impact on health and financial outcomes. Expert feedback will be gathered through consultations with industry professionals, ensuring that the model is grounded in practical experience and aligned with industry standards. This iterative process of validation will enhance the robustness and credibility of the research findings, providing a solid foundation for the proposed model [13].

5. Design of Health Financial Products Based on Exercise Prescription (EP)

5.1 Conceptual Framework

The conceptual framework for the proposed EP-based health financial product integrates tailored exercise programs into health insurance and related financial products. This aims to enhance health outcomes and reduce healthcare costs through preventive measures. Built on personalized medicine principles, it recognizes individual health needs and exercise capabilities. The product includes formulating EPs, continuous monitoring, and feedback mechanisms to ensure adherence and effectiveness.

EP formulation involves developing personalized exercise plans based on individual health assessments. These plans are designed by healthcare providers and fitness experts, taking into account factors such as age, medical history, fitness level, and specific health goals. The monitoring component utilizes technology such as mobile apps and wearables to track the individual's progress and provide real-time feedback. Feedback mechanisms include regular check-ins with

healthcare providers and adjustments to the exercise plan as needed. This continuous cycle of assessment, monitoring, and feedback ensures that the EP remains effective and aligned with the individual's health goals [15].

5.2 Product Features

The proposed health financial product offers several features to incentivize policyholders and integrate seamlessly with existing health insurance models. One of the primary incentives is premium discounts for individuals who adhere to their EPs. This financial incentive encourages policyholders to maintain regular physical activity, thereby improving their health outcomes and reducing healthcare costs for insurers. Additionally, policyholders can utilize Health Savings Accounts (HSAs) or Flexible Spending Accounts (FSAs) to cover expenses related to their EP, such as gym memberships, fitness equipment, and personal training sessions. These benefits make it financially feasible for individuals to engage in regular exercise and follow their prescribed plans [14].

Integration with existing health insurance models involves incorporating EPs as part of the preventive care services covered by insurance plans. Insurers can collaborate with healthcare providers and fitness centers to offer comprehensive wellness programs that include EPs. Technology plays a crucial role in this integration, with mobile apps and wearables being used to monitor and track physical activity. These tools provide data that can be shared with healthcare providers to ensure that the EP is effective and making a positive impact on the individual's health. For example, fitness trackers can monitor metrics such as steps taken, calories burned, and heart rate, providing valuable insights into the policyholder's adherence and progress [10].

6. Analysis of Potential Benefits

6.1 Health Benefits

The integration of exercise prescription (EP) into health financial products offers significant health benefits for policyholders. Regular physical activity prescribed through EPs is associated with improved health outcomes, including better cardiovascular health, enhanced metabolic function, and improved mental health. For instance, studies have

shown that regular exercise can reduce the incidence of chronic diseases such as hypertension, diabetes, and cardiovascular disease, which are major contributors to healthcare costs [16]. Additionally, physical exercises have been found to improve mental health during stressful periods, such as the COVID-19 pandemic, by reducing depressive symptoms and relieving anxiety. This emphasizes the importance of incorporating EP into health strategies to enhance both physical and mental well-being [17].

Furthermore, EPs can lead to a reduction in healthcare utilization by preventing the onset of chronic conditions and managing existing ones more effectively. For example, exercise has been shown to help control intraocular pressure in glaucoma patients, reducing the need for more invasive treatments and frequent medical visits [18]. By integrating EP into health financial products, insurers can promote preventive care, thereby decreasing the frequency of costly medical interventions and hospitalizations. This not only benefits policyholders by improving their health but also reduces the overall burden on healthcare systems [19].

6.2 Economic Benefits

The economic benefits of integrating EP into health financial products are substantial for both insurers and policyholders. The primary advantage is cost savings, as preventive health measures like EP can significantly reduce the costs of treating chronic diseases. For example, raising tobacco taxes in Argentina showed substantial economic benefits by reducing smoking-related burdens. Similarly, EP integration can lower chronic disease incidence and associated healthcare costs.

EP-based health financial products also offer long-term financial sustainability. By promoting healthier lifestyles, they can reduce the risk pool of insurance plans, leading to lower premiums and stable financial performance for insurers. Policyholders benefit from financial incentives, such as premium discounts and HSA/FSA benefits, making regular physical activity economically feasible, improving health outcomes, and lowering out-of-pocket healthcare expenses.

6.3 Social and Behavioral Impact

Integrating EP into health financial products

also has significant social and behavioral impacts. One key benefit is enhanced health literacy and self-management among policyholders. Participation in EP programs helps individuals understand their health better and recognize the importance of regular physical activity, leading to better self-management and proactive health behaviors. For example, regular exercise can encourage other healthy behaviors like improved diet and smoking cessation.

The societal benefits of a healthier population are substantial. Regular physical activity lowers chronic disease rates, reducing healthcare costs and increasing productivity. These benefits extend to economic gains from a healthier workforce and reduced strain on public health resources. For instance, a study on novel tuberculosis vaccines in low- and middle-income countries showed how preventive measures can reduce health inequities and improve financial protection, illustrating the broader social benefits of such initiatives.

7. Challenges and Solutions

7.1 Cultural Barriers

One of the primary cultural barriers to integrating exercise prescription (EP) into health financial products is the societal preference for medication over lifestyle changes. Many individuals and healthcare providers are accustomed to relying on pharmaceutical solutions to manage health conditions, which can undermine the adoption of preventive measures like EP. Overcoming this preference requires a shift in public perception and behavior. Educational campaigns highlighting the benefits of EP and the long-term health improvements associated with regular physical activity can help change attitudes. For instance, public health initiatives that promote the success stories of individuals who have benefitted from EP can be particularly effective [20]. Additionally, incorporating EP into standard medical practice and ensuring that healthcare providers advocate for it as a viable and effective treatment option can further shift societal preferences towards lifestyle changes [21].

Strategies for shifting public perception and behavior include leveraging social proof and community-based interventions. Programs that

involve community leaders and influencers in promoting EP can help normalize the practice and encourage wider acceptance. Furthermore, integrating EP into school curricula and workplace wellness programs can instill the importance of physical activity from a young age and reinforce it throughout an individual's life. These strategies not only address cultural barriers but also foster a supportive environment for the sustained adoption of EP [22].

7.2 Organizational Barriers

Organizational barriers, such as time constraints and workload pressures for healthcare providers, pose significant challenges to the implementation of EP. Healthcare providers often face demanding schedules that leave little room for additional tasks, such as developing and monitoring individualized exercise plans. To address this, healthcare organizations can implement workflow modifications that streamline the EP process. For example, incorporating EP assessments into routine check-ups and utilizing automated tools to generate and update exercise plans can reduce the time burden on providers [23].

Ensuring adequate training and resources for implementing EP is crucial. Healthcare providers need comprehensive training on the principles of exercise science and the specific requirements for prescribing and monitoring physical activity. This can be achieved through continuous professional development programs and integrating EP training into medical education curricula. Additionally, providing healthcare providers with access to resources such as EP guidelines, patient education materials, and technological tools for monitoring exercise adherence can facilitate the effective implementation of EP. These resources can empower providers to confidently prescribe and manage EP, ultimately improving patient outcomes [24].

7.3 Economic and Policy Barriers

Economic barriers, including navigating reimbursement policies and financial constraints, significantly impact the integration of EP into health financial products. Reimbursement policies that do not cover preventive measures like EP can discourage both providers and patients from adopting

these practices. To overcome this, advocating for policy changes that include EP as a reimbursable service is essential. Policymakers need to recognize the long-term cost savings associated with preventive care and adjust reimbursement frameworks accordingly. Demonstrating the cost-effectiveness of EP through pilot programs and case studies can support these advocacy efforts [25].

Advocating for supportive policies and regulatory changes involves engaging with stakeholders at multiple levels, including government agencies, insurance companies, and professional health organizations. Collaborative efforts to develop guidelines and standards for EP can help integrate it into mainstream healthcare practices. Additionally, policies that incentivize preventive care, such as tax benefits for participating in wellness programs or reduced insurance premiums for maintaining an active lifestyle, can encourage more individuals to adopt EP. These measures not only address economic barriers but also create a policy environment that supports the sustainable integration of EP into health financial products [26].

8. Case Studies and Pilot Programs

8.1 Successful Integrations

The integration of exercise prescription (EP) into health financial products has seen several successful implementations globally, highlighting its potential benefits and providing valuable lessons for future initiatives. A notable example is the pilot project conducted in Belgium, where patients were referred to physical literacy counseling meetings led by specialized physical educators. This program demonstrated significant positive impacts on patients' well-being and preventive care within primary healthcare settings. Patients reported improved physical fitness, mental health, and overall satisfaction with their healthcare experience, illustrating the effectiveness of incorporating EP into routine care practices [27].

Lessons learned from this integration emphasize the importance of tailoring the EP programs to the local healthcare context and ensuring that healthcare providers are adequately trained to deliver and monitor these programs. Additionally, the success of such integrations often relies on strong

collaboration between healthcare providers, insurers, and fitness professionals. In the Belgian case, the involvement of a multidisciplinary team was crucial in addressing the diverse needs of patients and ensuring the sustainability of the program. These findings suggest that similar programs could be successfully implemented in other geographical regions with appropriate adaptations to the local healthcare infrastructure and patient population needs [28].

Another successful integration is highlighted in a study focusing on tailored lifestyle treatments prescribed at the individual office visit level. This approach has shown excellent health outcomes by leveraging the intimate details of each patient's health status and lifestyle preferences. By integrating EP into regular consultations, healthcare providers can offer personalized exercise recommendations that patients are more likely to follow. This micro-level integration at the office visit level serves as a foundation for broader health system and population health improvements, demonstrating that even small-scale interventions can have significant impacts on overall health outcomes [29].

8.2 Pilot Programs

Ongoing and planned pilot programs provide further insights into the feasibility and impact of integrating EP into health financial products. One such program is currently being conducted in the United States, where insurers are partnering with fitness centers and digital health platforms to offer EP as part of their wellness benefits. This program includes comprehensive assessments, personalized exercise plans, and continuous monitoring through wearable devices. Preliminary results from this pilot indicate improvements in physical activity levels, reduced healthcare utilization, and enhanced patient engagement in their health management. Participants have reported increased motivation to adhere to their exercise regimens due to the financial incentives and the support provided through digital tools [24].

Evaluation metrics for these pilot programs include physical activity levels, healthcare utilization rates, patient satisfaction, and overall health outcomes. The use of wearable technology allows for precise tracking of

physical activity and provides real-time data to both patients and healthcare providers. This continuous feedback loop helps ensure adherence to EP and allows for timely adjustments to the exercise plans based on the patients' progress and changing health needs. The preliminary success of such pilot programs underscores the potential for scaling these initiatives to broader populations and integrating them into standard health financial products [21].

9. Conclusion

The integration of exercise prescription (EP) into health financial products is a transformative approach to enhancing public health and reducing healthcare costs. This study highlights several key insights underscoring its importance and feasibility. EP offers significant health benefits, such as improved physical fitness, reduced chronic disease incidence, and enhanced mental well-being. These improvements lead to economic benefits, including reduced healthcare utilization and cost savings for both insurers and policyholders. Successful EP integration relies on a well-structured framework with personalized exercise plans, continuous monitoring, and feedback mechanisms. Collaboration among healthcare providers, insurers, and fitness professionals is crucial, and technological advancements in wearables and mobile health apps are vital for monitoring and optimizing EP adherence and effectiveness.

The potential transformative impact of EP-based health financial products is immense. As healthcare systems face rising chronic disease rates and escalating costs, integrating preventive measures like EP provides a sustainable path forward. EP-based products promote healthier lifestyles and incentivize regular physical activity through financial benefits like premium discounts and HSA/FSA contributions. This dual approach fosters a culture of wellness and prevention. Continued innovation and research are essential to refine and expand EP-based health financial products. Future research should focus on long-term impacts, cross-disciplinary collaborations, and technological advancements to enhance EP programs' precision and effectiveness. Policymakers and industry stakeholders must create supportive regulatory environments to

facilitate EP integration into standard healthcare and insurance practices. The journey toward widespread adoption of EP-based health financial products requires sustained efforts and commitment, but the potential benefits for individual health, economic sustainability, and societal well-being make it a worthy endeavor.

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