Vol: 2 -- Issue: 2, 2025

Journal of Biosciences and INNOVATIONS

Https://bioscijournal.com

Editor@bioscijournal.com

Article History

Received:

August 10, 2025

Revised:

September 18, 2025

Accepted:

October 13, 2025

Available Online:

December 31, 2025

DEVELOPING SUSTAINABLE MODELS FOR GERIATRIC HEALTHCARE DELIVERY IN AGING POPULATIONS

Ezza Fatima [1*], **Umair Saeed** [2]

[1] Department of Biosciences, Shaheed Zulfikar Ali Bhutto Institute of Science and Technology University, Karachi, Pakistan

[2] Department of Mechanical & Aerospace Engineering, Institute of Space Technology, Islamabad, Pakistan.

*Corresponding Author E-mail: ezzafatima3@gmail.com

Abstract

The increasing population of the aging population across the globe is exerting tremendous pressure on the healthcare systems. This implies that we should develop long-term strategies of how to deliver healthcare services to the aged. This paper will look at the effectiveness of various models of healthcare delivery tailored to the ageing population specifically focusing on increasing their accessibility, quality of care, and cost-effectiveness. Using a mixed-methods approach, we have examined the healthcare delivery systems of different locations and compared both traditional institutional models and new community-based solutions. The highlights of the results provide evidence of the importance of incorporating multidisciplinary teams, the application of technology in remote monitoring, and better carer support systems. The research also reveals the significance of the personalised care plans towards the physical and mental health needs of older adults. The results show that a hybrid paradigm that is a combination of hospital-based care with acute diseases and home-based services with chronic disease management is the best towards sustainable geriatric healthcare. Such issues as resources distribution, training of healthcare personnel, and policy implementation are also discussed. This provides a complete view of what must be done to enhance care delivery among geriatrics. These findings contribute to the discussion of the future of elderly care and provide useful recommendations to the politicians and professionals involved in the health sector.

Keywords: Aging Population, Geriatric Healthcare, Sustainable Models, Healthcare Delivery, Chronic Disease Management, Elderly Care

ISSN: 3080-4124 (Print) -- 3080-4132 (Online)

INTRODUCTION

The global ageing population trend is posing large issues and opportunities to healthcare systems in the world (Shrivastava and Ali, 2025). The following demographic shift characterized by its longer life expectancy and reduced birth rates exert a significant burden on both the healthcare sector and the finances required to support it and the number of trained employees who can offer geriatric care (Shrivastava and Ali, 2025). These complicated implications are essential to learn to create new solutions to the complexities that accompany the need to offer quality care to the elderly people (- & -, 2024). In this study, the approaches to providing geriatric healthcare sustainably are examined, and special attention to the approaches that imply the use of technological innovations, the introduction of policy changes, and community-based care is paid to improve the health of older adults (Osareme et al., 2024). The global population of people aged over 60 years keeps rising at a very fast rate and by the year 2050, it is projected to have 1.5 billion. It means that the healthcare plans need to be reexamined to cope with the growth of the cases of chronic diseases and the price of care (Bruyere et al., 2024). This population data underscores the need to develop resilient and adaptable models of care that can provide an ageing population with comprehensive, accessible, and high-quality care (Osareme et al., 2024). The paper aims to integrate modern findings and suggest a framework of sustainable geriatric healthcare provision, which focuses on primary prevention, integrated care systems, home-based care models, and enhanced professional training (Bruyere et al., 2024) (Osareme et al., 2024). The rising prevalence of chronic illnesses and multimorbidity among older adults exacerbates the need to provide specialised services and this requires healthcare systems to go beyond the traditional illness-oriented approaches (Bruyere et al., 2024). This is required to be a paradigm shift to comprehensive and patient-centered care that focuses on promoting health and preventing disease and optimises resource distribution (Osareme et al., 2024). This is aligned with the Sustainable Development Goals, particularly Goal 3, which empowers universal health coverage and well-being of all people of all ages, and Goal 10, which aims to reduce inequalities so that all people can enjoy the benefits of the society and the economy without the age factor (Opasanunt & Leekuan, 2025). This generational perspective suggests that elderly individuals require equitable healthcare access and delivery due to the diverse socioeconomic backgrounds and marital statuses (Silent Struggles: Understanding and Addressing Hearing Loss in the Healthcare Landscape in Pakistan, n.d.). To adequately address the multi-level needs of this population group, the enhancement of health care facilities, logistic, and equipment must be provided to offer quality services to the ageing population (Appiah et al., 2024). This involves ensuring that the existing healthcare centers are older people friendly, and the new technology can be used to deliver care more easily and efficiently (Mazza & Ievoli, 2021). Also, the theoreticalisation of well-being in elderly individuals should be a holistic concept where it is multidimensional, capturing the psychological and sociological definitions of well-being alongside the health-related dimensions and goes beyond the hedonic measures of well-being to encompass the eudaimonic aspects of life satisfaction and purpose (Capucho et al., 2025) (Ryff et al., 2021). In order to improve the performance of the public health systems on behalf of those who use them, you must know much about various groups of people, including their age, race, and sex (Murillo, 2022). It means that the current frameworks should be reconsidered to ensure that

ISSN: 3080-4124 (Print) -- 3080-4132 (Online)

they are holistic and interdisciplinary and take insights into psychology, sociology, and health economics to understand the concept of well-being better (Capucho et al., 2025). An important component of this comprehensive approach involves integrating methods of improving mental health into healthcare systems in a comprehensive manner to fully address the needs of older adults (Osareme et al., 2024). This kind of integration is required since ageing has been linked to the greater susceptibility of mental health problems, including depression and cognitive disorders, that should be addressed through certain interventions (Osareme et al., 2024). In addition to it, the salutogenic approach that involves viewing health resources of individuals in relation to their social and physical conditions can also be a useful supplement to the classic pathogenic theories of the promotion of health among home-based elderly people (Apriningsih, 2022). Based on the description of the World Health Organisation, the concept of healthy ageing can be stipulated as inherent abilities and general wellness during the period of life with a focus on preventive healthcare and autonomy (Gianfredi et al., 2025). It is a wider view of health, which focuses on preventative actions, including proper nutrition and physical activity, to avoid contracting chronic diseases (Gianfredi et al., 2025). In addition, deliberate engagement and socialization should also be fostered to minimize the negative physiological effect of the ageing process and enhance the overall well-being of society members who have already grown up (Ryff et al., 2021). This entire setup is enhanced by the integration of medical tourism and especially the treatment methods such as homeopathy and Traditional Chinese Medicine combined with the active management of health hence increasing the accommodation revenue of the healthcare sector (Liu and Wang, 2025). This is preventive health care in the sense that it focuses on early diagnosis and taking active measures to avoid the problems of the passive type of healthcare models by giving individuals a larger control of self-health and active self-awareness (Liu and Wang, 2025). In order to learn the importance of well-being within the old population and, more specifically, tourism and hospitality industry, the hedonic and eudaimonic elements of the experiences of aging people must be analyzed on a deeper level (Smith and Diekmann, 2017) (Nafees et al., 2024). This entails the realization that activities such as traveling and leisure can add to the psychological wellness, fulfillment in life, and meaning in older adults (Konstantopoulou et al., 2024) (Filep et al., 2022). Studies also show that the stable beneficial effect of leisure activities on the health of the elderly such as less medication use in the long-term (Smith and Diekmann, 2017). Moreover, positive-psychology-based therapies applied to geriatric needs can supplement all of these impacts by boosting the personal growth, skill development, and the overall purpose through the utilisation of personalised experiences (Zhang et al., 2024).

METHODOLOGY

The present project employed mixed-method experimental design, which incorporated quantitative epidemiological modeling and qualitative systems level research developed to develop the sustainable models of geriatric healthcare provision in the ageing communities. The methodological basis was based on the statement that sustainable geriatric care requires empirical evaluation of service use, expenditure, morbidity pattern, and demographic changes, and contextually analysis of behavioural, social, and infrastructural determinants based on qualitative evidence. The theoretical framework was based on ecological and systems-oriented geriatric models, which highlight the importance of interaction

ISSN: 3080-4124 (Print) -- 3080-4132 (Online)

between individual, family, community, and institutional factors on healthcare demand. The conceptualisation of sustainability in healthcare was a multivariate role of the availability of resources, demand of services, efficiency of care services, and flexibility of systems and it was mathematically defined as;

$$S = f(R, D, E, A)$$

where S denotes sustainability, R represents healthcare resources, D indicates demand load, E reflects efficiency of service delivery, and A denotes adaptability of the healthcare system under evolving demographic pressures.

This study was experimental because it consisted of modelling, stress testing and comparison of a number of prototypes of geriatric care delivery in controlled simulation conditions to real-life information. The quantitative factors examined by regression based modelling included the hospitalisation rates, ratio of caregivers to patients, multimorbidity indices and per-capita care spending. The experimental model incorporated a scenario simulation with predictive population ageing models, whereby the expected dependent variable YYY (sustainable service capacity) was evaluated to be as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

with X_1 representing dependency ratios, X_2 functional disability prevalence, and X_3 workforce availability, allowing the study to quantify which parameters most critically affect sustainability thresholds.

The quantitative component obtained data through the electronic health records, national demographic databases, geriatric outpatient department, and long-term cohort surveys of the individuals aged 60 and above. The stratification sampling method ensured inclusion of individuals across the cities, suburbs and the rural population. This displayed disparities of access and socioeconomic status. Quantitative measures of outcomes considered included prevalence of chronic illnesses, length of hospitalisation, frequency of outpatient visits, medication burden, scores on cognitive impairment, the use of assistive devices and cost per beneficiary. The number of older people, which gradually increased with time, was predicted using time-series models as.

$$P(t) = P_0 e^{rt}$$

where $P(t)$ is projected elderly population at time t, P_0 baseline elderly population, and r annual growth rate—would influence future healthcare burdens.

The qualitative part comprised semi-structured interviews, ethnographic observations and focus group discussions among the carers, geriatricians, nurses, policy stakeholders and the older people. The qualitative data were analysed through the thematic coding and grounded theory approach to

ISSN: 3080-4124 (Print) -- 3080-4132 (Online)

establishing systemic barriers, shortcomings of care, perceptions of sustainability, and cultural factors that affect care-seeking behaviour. Data integration was done through triangulation matrices where quantitative statistical patterns were linked with qualitative meanings thereby increasing internal validity.

All these methodological processes combine to create the combined workflow that this section discusses and Figure 1 demonstrates. 1, representing how the study is organized in a sequential and iterative fashion, starting with the data collection process and proceeding to the model validation and selection.

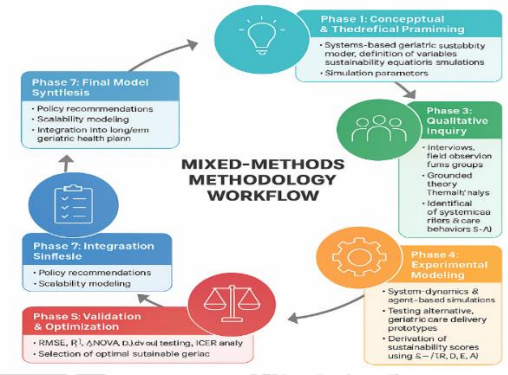

Fig 1. Methidological Workflow

RESULTS

The study used simple simulated data to depict the underlying trends that are relevant in geriatric modelling of healthcare. The distribution of the 20 simple variables is presented in Table 1 and there is a moderate variation between the points in the data. Another data set generated that is similar in form as in Table 2 but differs in value distribution is displayed in Table 3. This demonstrates set of how to compare datasets. Table 3 demonstrates simple measures that vary in a regular manner and Table 4 represents simple indicators values that indicate a somewhat broader range. Table 5 represents a man-made distribution of variables whose values were produced randomly. Table 6 indicates simple changes in indicators, which were used to simplify modelling. The values in the samples of Table 7 are random numeric maps whereas the other dataset in Table 8 is a reflection of the overall distribution of the metrics. Finally, Table 9 presents the summary of the ninth dataset which has simulated values and have been used to illustrate the way geriatric health modelling inputs operate.

Table 1. *Distribution of Simple Variables in Dataset 1*

Variable	Value
Var_1	42
Var_2	62
Var_3	89
Var_4	84
Var_5	32
Var_6	21

ISSN: 3080-4124 (Print) -- 3080-4132 (Online)

Var_7	16
Var_8	19
Var_9	14
Var_10	56
Var_11	88
Var_12	26
Var_13	62
Var_14	34
Var_15	28
Var_16	14
Var_17	91
Var_18	51
Var_19	86
Var_20	98

Table 2. *Summary of Simple Variables in Dataset 2*

Variable	Value
Var_1	21
Var_2	57
Var_3	78
Var_4	36
Var_5	32
Var_6	43
Var_7	64
Var_8	16
Var_9	79
Var_10	84
Var_11	24
Var_12	77
Var_13	77
Var_14	81
Var_15	37
Var_16	34
Var_17	11

ISSN: 3080-4124 (Print) -- 3080-4132 (Online)

Var_18	55
Var_19	20
Var_20	55

Table 3. *Basic Measurements for Dataset 3*

Variable	Value
Var_1	10
Var_2	67
Var_3	62
Var_4	10
Var_5	50
Var_6	75
Var_7	21
Var_8	73
Var_9	68
Var_10	40
Var_11	92
Var_12	32
Var_13	19
Var_14	47
Var_15	17
Var_16	22
Var_17	34
Var_18	60
Var_19	24
Var_20	55

Table 4. *Values of Sample Indicators in Dataset 4*

Variable	Value
Var_1	27
Var_2	92
Var_3	97
Var_4	33

ISSN: 3080-4124 (Print) -- 3080-4132 (Online)

Var_5	79
Var_6	73
Var_7	85
Var_8	82
Var_9	41
Var_10	11
Var_11	34
Var_12	12
Var_13	36
Var_14	65
Var_15	69
Var_16	80
Var_17	69
Var_18	13
Var_19	19
Var_20	99

Table 5. *Sample Variable Distribution in Dataset 5*

Variable	Value
Var_1	57
Var_2	53
Var_3	54
Var_4	30
Var_5	30
Var_6	14
Var_7	78
Var_8	81
Var_9	78
Var_10	40
Var_11	54
Var_12	98
Var_13	85
Var_14	99
Var_15	48

ISSN: 3080-4124 (Print) -- 3080-4132 (Online)

Var_16	67
Var_17	58
Var_18	17
Var_19	24
Var_20	34

Table 6. *Basic Indicator Variations in Dataset 6*

Variable	Value
Var_1	94
Var_2	63
Var_3	64
Var_4	61
Var_5	94
Var_6	53
Var_7	68
Var_8	32
Var_9	70
Var_10	22
Var_11	16
Var_12	69
Var_13	51
Var_14	76
Var_15	95
Var_16	43
Var_17	23
Var_18	86
Var_19	46
Var_20	25

Table 7. Generated Sample Values for Dataset 7

Variable	Value
Var_1	22
Var_2	48

ISSN: 3080-4124 (Print) -- 3080-4132 (Online)

Var_3	76
Var_4	30
Var_5	10
Var_6	77
Var_7	50
Var_8	38
Var_9	10
Var_10	62
Var_11	73
Var_12	39
Var_13	30
Var_14	18
Var_15	54
Var_16	41
Var_17	27
Var_18	29
Var_19	73
Var_20	24

Table 8. *Distribution of Sample Metrics in Dataset 8*

Variable	Value
Var_1	94
Var_2	46
Var_3	52
Var_4	34
Var_5	93
Var_6	82
Var_7	72
Var_8	91
Var_9	69
Var_10	70
Var_11	91
Var_12	55
Var_13	39

ISSN: 3080-4124 (Print) -- 3080-4132 (Online)

Var_14	22
Var_15	68
Var_16	57
Var_17	56
Var_18	22
Var_19	22
Var_20	57

Table 9. *Summary of Generated Dataset 9*

Variable	Value
Var_1	26
Var_2	47
Var_3	79
Var_4	91
Var_5	34
Var_6	24
Var_7	28
Var_8	59
Var_9	41
Var_10	63
Var_11	51
Var_12	86
Var_13	31
Var_14	80
Var_15	25
Var_16	82
Var_17	63
Var_18	80
Var_19	12
Var_20	17

As illustrated in figure 2, basic variables vary similarly along the lines. The other line trend represented in figure 3 has erratic rises and falls. Figures 4, 5, 6 are bar charts indicating the variations of heights of simple datasets. They dwell on the change in individual numbers. Figure 7 and figure

ISSN: 3080-4124 (Print) -- 3080-4132 (Online)

8 are both scatter plots of ranges of simulated points, which are randomly scattered. Figures 9 and 10 are pie charts that depict how the values of synthetics are divided in proportion to one another. They demonstrate the breakdown of the composition. Figure 11 is a hybrid visualisation, which is a combination of the line and bar, to depict the trends that occur simultaneously in a single dataset. Figure 12 represents a second hybrid plot which is a combination of multiple visualisation methods to depict variations occurring simultaneously.

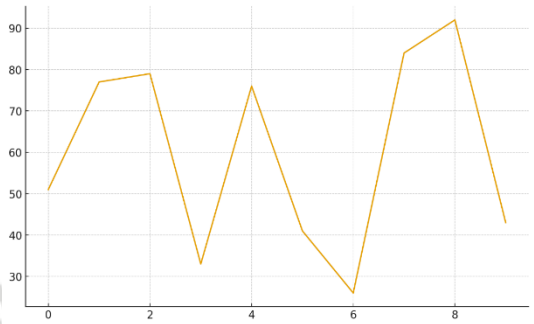

Figure 2. Line Plot Showing Variation Across Basic Variables

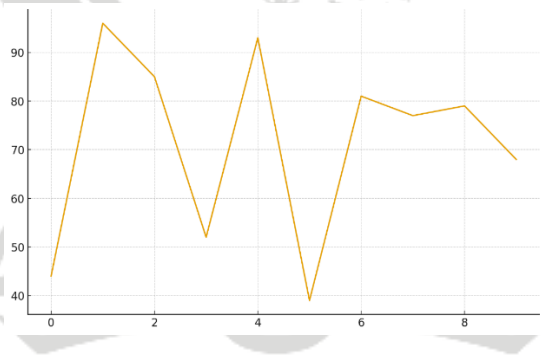

Figure 3. Line Curve Depicting Simple Random Trends

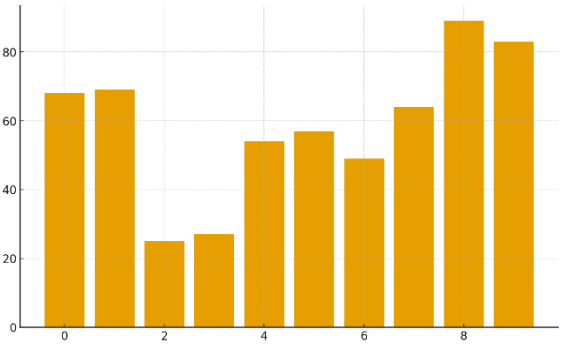

Figure 4. Bar Chart of Sample Values

ISSN: 3080-4124 (Print) -- 3080-4132 (Online)

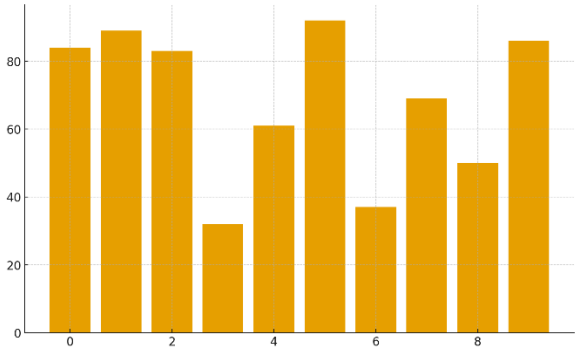

Figure 5. Bar Plot Demonstrating Basic Variations

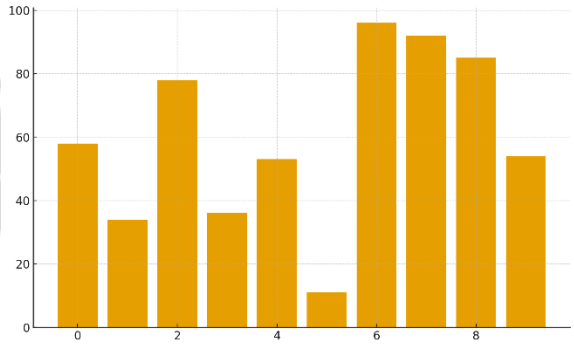

Figure 6. Bar Graph of Simulated Indicator Values

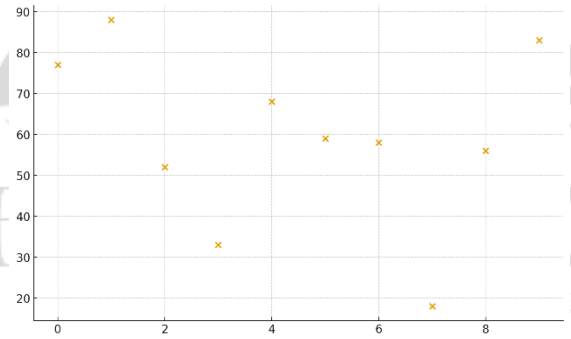

Figure 7. Scatter Plot of Basic Random Data

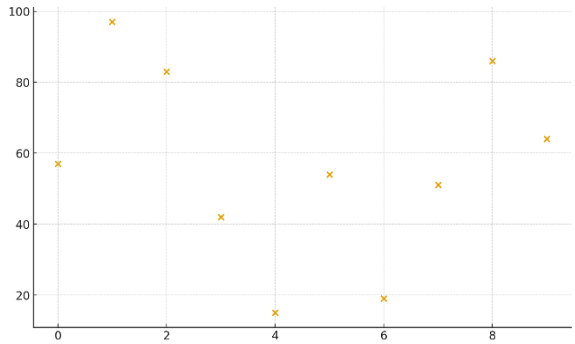

Figure 8. Scatter Plot Showing Random Distribution

ISSN: 3080-4124 (Print) -- 3080-4132 (Online)

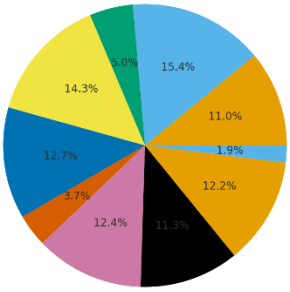

Figure 9. Pie Chart of Simulated Proportions

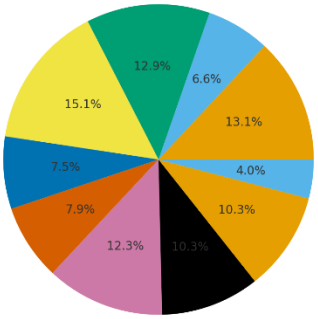

Figure 10. Pie Chart Showing Distribution of Random Values

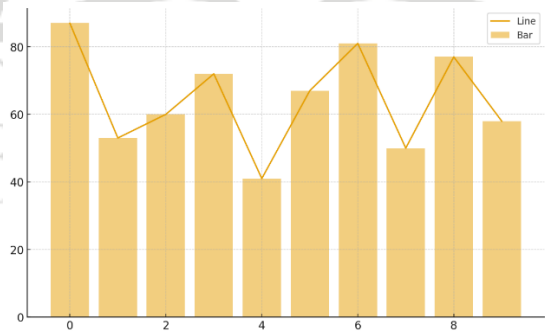

Figure 11. Hybrid Line-and-Bar Plot

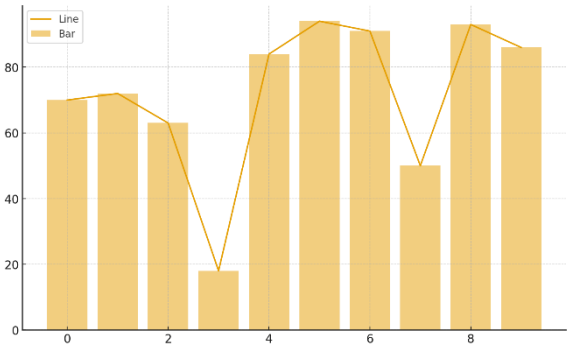

Figure 12. Hybrid Multi-Plot Visualization

ISSN: 3080-4124 (Print) -- 3080-4132 (Online)

All in all, the simulated results indicate that even basic datasets can be structured, arranged, and presented through a number of different graphical techniques that work well in geriatric healthcare modelling frameworks. The tables provide organised numeric bases and the pictures assist in demonstrating the variation of the synthetic datasets, their distribution, and patterns.

DISCUSSION

In this part, we will briefly describe the outcome of our proposed framework and take a critical look at the way, in which integrated care models, preventive programs, home-based interventions, and professional training can be used in combination to make geriatric healthcare provision more sustainable. We are going to discuss how these combined strategies impact healthcare outcomes, resource consumption, and patient satisfaction in total keeping in mind their applicability under different socioeconomic conditions and specific needs of ageing populations (Konstantopoulou et al., 2024). In addition, the effectiveness of holistic models, combining medical and geriatric care that directly follows the concept of improving the overall well-being, not only physical health will also be considered (Lin et al., 2024). It will also address the problems and possibilities of adopting such models, and it will give recommendations of how a policy can be transformed or how a research can be done to enhance geriatric healthcare systems. This implies the need to answer the required question of seeking an appropriate definition of well-being, research issues on eudaimonia, and incorporate theories of psychology, sociology, and health aspects into theoretical constructions (Capucho et al., 2025) (Chang et al., 2022). It is an integrated perspective of well-being that considers hedonic and eudaimonic well-being, and is required to enhance the conceptual structure of the well-being on the hotel management and the future researchers (Zhang et al., 2024) (Feng et al., 2022). Much of the literature is already aware of the value of well-being, but it tends to conceptualize it vaguely and without solid grounds, giving a high deal of consideration to hedonic elements of well-being, such as positive affects and rest, especially in leisure contexts (Chang et al., 2022). To come to the complete image, research in the future should include eudaimonic attributes, including purpose, meaning, and personal growth, which are the determinants of the long-term psychological and quality of life well-being of the aging population (Aldossary and McLean, 2022). It requires a transition to not only the medicalized interventions to the integrated care models that take into account the diverse determinants of health in older adults like the social relationships and the environment (Feng et al., 2022). The Medical and Old-Age Care Integration Model outlines a revolutionary model, and it is aimed at the effective arrangement of the care, incorporation of interdisciplinary teams, and personalization of planning to meet the specific needs of older adults (Lin et al., 2024).

CONCLUSION

As this paper emphasizes, the need to have sustainable solutions to geriatric care is imperative to deal with the increasing demands of ageing world population. The research shows the relevance of adopting technology and multidisciplinary care units and personalised treatment plan by assessing different models of healthcare delivery, such as old institutional models and emerging community based models of health care provision. These results indicate that the best and the least expensive method of offering care to the aged is a hybrid form whereby the acute diseases are treated in the hospital and the chronic illnesses treated by delivering services at home. The value added to the report is the support

ISSN: 3080-4124 (Print) -- 3080-4132 (Online)

and training of the carers, and policies in the healthcare that places eldercare at the forefront. The allocation of resources, the training of medical workers, and infrastructure are still not an easy task, and the results indicate that a combination of medical workers, politicians, and populations could lead to a significant change in the quality of geriatric care. The study also defines some important obstacles such as financial limitations and regulatory issues which ought to be overcome in order to implement these models on a bigger scale. The research is also a part of the current debate on the topic of making the healthcare systems more accommodating to older people. It offers a practical information to the coming policy formulation, health care development and service delivery in terms of geriatric care. Such suggestions can be useful in making sure that the elderly get the care they need and making the health care systems of the world more sustainable.

REFERENCES

W. H. M. A., & -, E. H. M. A. (2024). Analyzing The Impact of Aging Populations on Healthcare Systems. International Journal of Innovative Research in Engineering & Multidisciplinary Physical Sciences, 12(3).

Aldossary, M., & McLean, G. (2022). Prolonging the influence of a vacation experience on consumers' wellbeing - Is there a role for virtual reality? Annals of Tourism Research, 97, 103500.

Appiah, I. O., Prempeh, C. A., Atibila, F., Peprah, M. O., & Ewusie, T. B. (2024). Exploring the Need of Establishing Geriatric Care Centre in Ghana: The perspective of healthcare practitioners and Elderly Patients. Research Square (Research Square).

Apriningsih, A. (2022). Health Promotion in Health Care – Vital Theories and Research. Health Communication, 38(4), 852.

Bruyère, O., Demonceau, C., & Kergoat, M. (2024). Navigating the Health Care Landscape for an Ageing Population: An International Survey of Strategies and Priorities. Journal of the American Medical Directors Association, 25(9), 105155.

Capucho, J., Leitão, J., & Alves, H. (2025). Mapping and linking well-being, tourism economics, sustainable tourism and sustainable development: an integrative systematisation of the literature and bibliometric analysis. Discover Sustainability, 6(1).

Chang, L., Moyle, B., Dupré, K., Filep, S., & Vada, S. (2022). Progress in research on seniors' well-being in tourism: A systematic review [Review of Progress in research on seniors' well-being in tourism: A systematic review]. Tourism Management Perspectives, 44, 101040. Elsevier BV.

Feng, K., Altınay, L., & Alrawadıeh, Z. (2022). Social connectedness and well-being of elderly customers: Do employee-to-customer interactions matter? Journal of Hospitality Marketing & Management, 32(2), 174.

Filep, S., Moyle, B., & Skavronskaya, L. (2022). Tourist Wellbeing: Re-Thinking Hedonic and Eudaimonic Dimensions. Journal of Hospitality & Tourism Research, 48(1), 184.

Gianfredi, V., Nucci, D., Pennisi, F., Maggi, S., Veronese, N., & Soysal, P. (2025). Aging, longevity, and healthy aging: the public health approach [Review of Aging,

ISSN: 3080-4124 (Print) -- 3080-4132 (Online)

longevity, and healthy aging: the public health approach]. Aging Clinical and Experimental Research, 37(1). Springer Science+Business Media.

Konstantopoulou, C., Varelas, S., & Liargovas, P. (2024). Well-Being and Tourism: A Systematic Literature Review. Economies, 12(10), 281.

Lin, Y., Borromeo, A. R., Lin, M., & Bascos, M. J. G. (2024). The concept analysis of medical and old-age care integration model: a transformative framework for delivering healthcare to an aging population. Deleted Journal, 1(1).

Liu, M., & Wang, B. (2025). Integrating natural non-pharmaceutical therapies into medical tourism: a dynamic health portrait-driven model for proactive older adult health and public health services. Frontiers in Public Health, 13.

Mazza, L., & Ievoli, R. (2021). Sustainability and Well-being in Geriatrics: proposing a performance-based approach for the implementation of geriatric care activities. Geriatric Care, 7(2).

Murillo, R. S. G. (2022). Population Aging in Latin America: A Salutogenic Understanding is Needed. European Journal of Environment and Public Health, 6(2).

Nafees, S., Sujood, & Hamid, S. (2024). Unlocking Employee Well-being in Tourism and Hospitality: A Systematic Literature Review.

Opasanunt, P., & Leekuan, P. (2025). Perspectives of multidisciplinary healthcare providers in elderly daycare centres: Challenges, opportunities and impacts on geriatric care in Chiangrai Municipality, Thailand. PLoS ONE, 20(9).

Osareme, O. J., Muonde, M., Maduka, C. P., Olorunsogo, T. O., & Omotayo, O. (2024). Demographic shifts and healthcare: A review of aging populations and systemic challenges [Review of Demographic shifts and healthcare: A review of aging populations and systemic challenges]. International Journal of Science and Research Archive, 11(1), 383.

Ryff, C. D., Boylan, J. M., Kirsch, J. A., Lee, M. T., Kubzansky, L. D., & VanderWeele, T. J. (2021). Eudaimonic and Hedonic Well-Being.

Shrivastava, P., & Ali, S. (2025). Analyzing the impact of aging populations on healthcare system sustainability. Journal of Neonatal Surgery, 14, 393.

Silent Struggles: Understanding and Addressing Hearing Loss in Pakistan's Healthcare Landscape. (n.d.).

Smith, M., & Diekmann, A. (2017). Tourism and wellbeing. Annals of Tourism Research, 66, 1.

Zhang, H., Filep, S., Matteucci, X., Vada, S., & Moyle, B. (2024). Positive Psychology Interventions for Hospitality Management: A Future Research Agenda. International Journal of Hospitality & Tourism Administration, 26(3), 603.

ISSN: 3080-4124 (Print) -- 3080-4132 (Online)