Well-cared for older adults: technology with an emphasis on low-complexity care

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Abstract

Integrated care models aim to solve the problem of fragmented, poorly coordinated actions in current health systems. We propose these models be patient-centred, providing continuous, coordinated care with a focus on client needs. Greater knowledge of the patient history among health professionals leads to better outcomes. This is how contemporary, resolutive care models recommended by the leading national and international health agencies work. Current care models are rooted in a time when Brazil was a country with a younger population and acute diseases. The search for a higher quality, more efficient and economical care model is not just a Brazilian phenomenon. The entire world is debating the problem, recognizing the need for change and proposing improvements in their health systems. The same shift can be seen in Brazil. We advocate a logic that prioritizes low-intensity interventions and constant monitoring, with the doctor responsible for a portfolio of clients, accompanying them throughout the different care settings. The model presented proposes integrated medical treatment, a flow of educational actions, health promotion, disease prevention, delayed disease onset, and early care intervention. It is time to change and innovate. We must recognize that the older population develop chronic diseases that are uncurable. The role of the health professional is to delay and stabilize these diseases. Based on this analysis, we argue that care provision to the older population should be rethought, with increased emphasis on actions targeting disease prevention and health promotion. Also, the judicious application of technology for consultations, monitoring, preventive measures and care coordination is proposed. Care for the older population should focus on delivering low-complexity care, thereby minimizing wastefulness, ensuring rational use of health system resources, and valorising the professionals involved.

Keywords: Care. Older adult. Technology. Low-complexity.

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INTRODUCTION

The increase in life expectancy of the Brazilian population represents a major advancement. Live longer – grow old – has become a reality in the last few decades and is set to become even more so in the future. However, having the chance to live these years to the full, while maintaining functional capacity, health and quality of life, should also be a part of this triumph. Researchers have been exploring changes in the model of health service provision. Such reforms are both feasible and timely.

The health care of the older population can be restructured in the sector toward providing better care outcomes at a lower cost. To this end, all actors in the sector should recognize their role in taking a lead in achieving the necessary changes, as well as being open to innovation, by staging a return to simpler care practices and values that have been lost amid the current Brazilian national health system.

In today´s reality, living to 80 or 90 years and older has become relatively commonplace. Nevertheless, there are deep concerns over the current care model, since these additional years of life should not be marked by suffering, pain and high costs[1].

Incorporating the knowledge, theory and application of these instruments into routine practice is pivotal for this care logic to propagate in Brazil and for both public and private health sectors to offer improved care to the older population - the fastest growing age group worldwide. Failure to change the care model for older adults could have grim consequences for the future.

The objective of this study was to put forwards an innovative quality model. The existing outdated model can only serve to exacerbate the poor care and health crisis, particularly for older patients, the age strata associated with the greatest demand and cost. Endeavours should be made amid a perspective of imminent change, embraced by the proposed structure envisaging a scenario of better quality care for the older population.

Pillars of new structure

A key characteristic of older adults is their heterogeneity. The same population subgroup comprises both healthy, autonomous individuals and those who face difficulties performing basic activities of daily living, such as bathing and feeding unassisted.

The current health services delivered to this group are somewhat fragmented, entailing many consultations with specialists, and numerous drugs prescribed and exams and other procedures ordered. This situation leads to systems that are overstretched, expensive at all levels, and that fail to promote meaningful gains in quality of life. Hence, changing the health care model for this population calls for the devising of care concepts that can embrace the different health status of older adults, recognising their specificities and peculiarities, while also attenuating the financial impacts for society.

As a response to an aging population, more actions focused on health promotion and education, the prevention and delaying of disease and frailty, besides maintenance of independence and autonomy, should be implemented. Only then can older adults be assured better quality of life and the population as a whole enjoy greater well-being[2].

This article is grounded in both the national and international literature, consolidated institutional experiences, and critical analysis of the prevailing care structure for older adults in Brazil.

The model advocated proposes a reorganization of care which has been shown to by more effective and lower cost for the health system. In short, this implies taking the right steps, while centring on the most important element in the whole process: the patient.

Demographic transition

All of the demographic predictions about growth of the population group of older adults made in the 1980s have materialized. If anything, this increase was underestimated[1,4].

Increased longevity is a major triumph for mankind. Surviving into late-life used to be a rare privilege that, today, has become something of a norm in Brazil and likewise among many developing countries. There has been a substantial improvement in the health parameters of the population. This triumph, however, brings with it a major challenge: delivering care to this group and conferring quality to these extra years of life.

The health pillar, in essence, transcends the purely physical realm, to also encompass the area of mental health and social wellbeing, all recommended targets of public policy interventions. Nonetheless, the concept of activity encompasses continual participation of older individuals in cultural, social and economic spheres, along with community and civil life, beyond remaining an active part of the work force. Lastly, a system of social protection must be in place that provides a decent degree of socioeconomic security, without which health and participation of the population cannot be guaranteed.

In Brazil, the shift in the age breakdown, with a proportionally larger older population, is a relatively recent phenomenon. The Brazilian population has grown markedly over the past 70 years. Moreover, the increase in the aged population has been greater compared to other countries.

Presently, there is a fairly balanced contingent of children, young adults and older individuals making up the population. Demographic projections for 2030 estimate a decline in the young and general population. This trend is already evident from the preliminary data of the 2022 Brazilian census, conducted exceptionally owing to the COVID-19 pandemic, with results showing a decline in the Brazilian population. This pattern mirrors that of many other countries. China, for example, is set to see a significant decrease in its population, last year registering its first decline in over 60 years, soon to be overtaken by India in terms of overall population. According to the National Bureau of Statistics of China, the country´s population in December 2024 stood at 1.4 billion. During 2022, there were 9.56 million births versus 10.41 deaths registered, i.e. a net decrease in the population of 850,000. Based on United Nation projections, this demographic shrinkage was expected only in 2031.

This population decline occurring almost a decade early did not take place by chance. Akin to other countries, women have opted to invest in their careers as opposed to maternity, finding less resistance in a society accustomed to smaller families.

However, demographic statistics reveal the economy will be have to rely increasingly less on a young cheap workforce, a major factor driving China´s emergence, when the country began exporting larger volumes of consumer goods and manufactured products.

The Chinese story serves as a warning for Brazil where, as outlined, the 2022 census suggested lower-than-expected population growth, revealing that the period of demographic dividend—when there are more young than older people in the population—ended earlier than expected. Similarly to China, Brazil will also grow old before enjoying wealth – and will only achieve strong growth rates by boosting economic productivity.

These data indicate that the future of the 21st century will be a "grey" one, i.e., the percentage of this older group will reach unprecedented levels. The Brazilian case is no different, but the process of population aging is even more intense, with the proportion of older adults exceeding the global average. From a demographic standpoint, this is a crucial issue, since the high-income countries underwent more gradual growth over the course of the 20th century and, with their economic power, had more time to offer this population better structure and resources.

Brazil must take on the task of ensuring quality of life for its senior citizens who, as per the majority of Brazilians, have low education and poor social protection. Health-wise, this group has a high prevalence of multiple chronic diseases which require ongoing care, placing an economic burden on society due to growing demands. The older population, compared with other age groups, tend to have longer, more frequent, hospital stays. Thus, this situation has major economic, welfare and social repercussions.

Human aging should not be regarded as a burden. Social policies must be devised for this group. In the health field, care should be managed in a more contemporary and adequate way to safeguard this generational wealth of knowledge and experience without this becoming overly costly for the sector.

Recent projections by the Brazilian Institute of Geography and Statistics (IBGE) have estimated Brazil´s population at 207.8 million, a lower figure than expected based on data from the latest census (215 million). If the next census confirms this projection, the period of demographic dividend (defined by an increase in the economically active population aged 15-65 years) will have come to end in 2018-2021. The Brazilian population will continue to have a larger proportion of older adults until the balance is redressed around 2047 or earlier. Government officials and public managers must stop cultivating the image of Brazil as a "young country" with an ample workforce. Population aging poses numerous challenges. The country can no longer rely on a younger workforce. More must be produced with fewer workers. In economic terms, this boils down to one word: productivity.

This decrease in younger individuals in the population is already evident in the number of enrolments in primary school, which are decreasing at a rate of 400,000 per year. Brazil has yet to roll out reforms in the basic education system. Efforts to enhance education and training do not translate to innovation, productivity or wealth creation, pivotal for the country to develop. In parallel, it is necessary to re-skill older adults and promote "digital literacy" so that they can also carry on working.

Following the trend in Europe, fewer schools should be built, and the government must provide more support for networks of caregivers of older individuals, amid increasing burdens on the social security system. The future reality is stark. Preliminary efforts to address this issue should have already been set in motion by the public authority.

The relationship between chronic disease and the care model is central to understanding the health challenges Brazil is facing. In Brazil, the leading cause of mortality and morbidity are chronic non-communicable diseases (NCDs), which typically develop slowly over long periods and have difficult-to-predict long-term effects. Neuropsychiatric disorders represent the largest proportion of these NCDs[4].

In a 2015 report, the World Health Organization (WHO) noted that, of the 38 million lives lost in 2012 due to NCDs, 16 million (42%) were premature and avoidable. As the costs of managing these diseases mounts worldwide, they account for an increasing chunk of public and private expenditures[5].

Chronic conditions traditionally include cardiovascular diseases, diabetes, asthma, chronic obstructive pulmonary diseases (COPD) and chronic degenerative diseases. With improved survival rates, this group of diseases now also includes many types of cancer, HIV/AIDS, neuropsychological disorders (such as depression, schizophrenia and dementia), arthroses and visual/auditory deficits. Most of these conditions have no cure but many can be prevented or controlled through early detection, by adopting healthy habits and diet, engaging in regular exercise, and accessing adequate timely treatment.

Many of these chronic diseases constitute a cluster of conditions, giving rise to numerous "chronic patients with complex health needs", characterized by a profile of chronic presentation. The most prevalent features differentiating this group include the presence of several concomitant chronic diseases, high use of urgent hospital services with several episodes requiring admission during the same given year, temporary or permanent reduction in personal autonomy, and polypharmacy. There may also be other associated factors, such as advanced age, living alone or with low family support and fall episodes, among others[6].

Various chronic conditions are linked to an aging society, but also to life-style choices, such as smoking, alcohol use, sexual behaviour, poor diet and low physical activity (sedentarism), besides genetic predisposition. The common feature these conditions share is the need for a complex long-term response coordinated by health professionals from a range of disciplines, with access to medications and equipment and social welfare,, as well as strategies encouraging treatment adherence. However, most health care and services are still geared up for dealing with acute episodes. Against this backdrop,

the management of chronic diseases is increasingly regarded as an important issue by managers and researchers worldwide who seek interventions and strategies to tackle these conditions. It is important to emphasize that improvements in the quality of life of the population are derived from a series of factors, including the technological advance seen in many fields of knowledge and in modern science. Although chronic diseases are essentially uncurable, much can be done to delay their onset or stabilize them.

The need for imminent change to the existing Brazilian care model has been prompted by the demographic transition and improved social and economic indicators in Brazil, relative to previous decades. These factors have contributed to an increase in the contingent of older adults, placing greater financial pressure on public and private healthcare systems. Naturally, any increase in the older population is accompanied by a higher prevalence of chronic disease and greater related costs. Rising demand for health services can ultimately lead to a lack of and/or shortage in resources.

However, most public health problems affecting the population can be prevented – including NCDs. This statement is borne out by the significant decline in mortality from cardiovascular and cerebrovascular diseases, the fall in incidence and deaths related to cervical cancer, and also the decrease in the prevalence of tobacco use and rates of lung cancer in men[7].

Indeed, the shortcoming of most care models is there disease-centred nature. Sadly, preventive actions are still regarded as a burden of additional costs and procedures. However, this preventive approach should be recognized as a strategy which, over the medium-to-long term, can reduce admissions and other much higher-cost procedures down the line[8].

All evidence points to the fact that biomedicine-based health systems will eventually run into sustainability problems. This fact suggests that programs targeting this group should be built based around integrated care, with an active role of health professionals and their team in managing not only the disease but the person, making judicious use of the available technology and of quality information and routine monitoring. Medical specialists, hospital, drugs, clinical tests and imaging scans are also an integral part of this optimal care model, but the approach should be centred on low-complexity interventions and follow-up of clients by their doctor[9].

A contemporary health care model for older individuals should incorporate a combined flow of education actions, avoidable disease prevention, disease onset delay, timely treatment, and rehabilitation of health problems[10]. In other words, an effective and efficient line of care for older adults must be underpinned by a coordinated informed network and boast an information technology system designed and tailored to this logic.

Why the gulf between discourse and practice? The time of the novelty and widely acknowledged cliches – even by those who do not practice them – is over. It is laudable to speak of the theoretical frameworks or policies promoting health aging – aimed at maintaining functional capacity and autonomy into late-life, as well as quality of life, consistent with the principles and guidelines of the Brazilian National Health System (SUS) focusing on disease prevention. Prominent national and international health bodies and societies have advocated this concept for many years[11,12]. However, the next step forward must now be taken[13].

We should be questioning why, if everyone is discussing the issue and the solutions have been put forward, has the situation stayed the same? Why has theory not become part of routine practice? Why have decision-makers not ushered in the change?

In order for the health sector to advance, particularly that involving older adults, one of the issues that must be tackled is distrust. Today´s society questions everything that is offered. With this level of no confidence, any proposed changes tend to be viewed with caution. Invariably, things which are multifactorial and constructed over many years are hard to transform. Changing a culture is no easy task.

Another stumbling block is care quality, which remains an under-valorised aspect. This is a hugely important issue which calls for greater awareness of health professionals and society alike. Some argue it would be too costly to apply tools for rating

care, accreditations and certifications, yet qualified services are more cost-effective, less wasteful and deliver better care outcomes for patients.

There is also generally-held notion that caring for older adults transcends health. Besides diagnosis and prescription, elements such as social participation, and both physical and mental activities, are crucial to maintain good functioning. However, difficulties remain in accepting these actions as an integral part of care, especially in private health systems. There is a tendency to separate "social" actions from "curative" actions.

Concerning the model for remunerating health professionals, why not include performance-related pay? Associating outcomes with the form of remuneration is a powerful tool incentivizing professionals to do the right thing. Hence, the change in the remuneration model based on this new care framework, focusing on results rather than volume, gives rise to a win-win type model, in which all stakeholders (professionals and healthcare providers) benefit, not least the patients themselves.

In order to put into practice all of the actions needed for healthy aging with quality of life, care for the older population needs to be rethought and redesigned, with an emphasis on older adults and their particularities. This will result in benefits, quality and sustainability, not only for the aged population, but for the Brazilian health system as a whole[7,14].

Nevertheless, for every year that goes by, the cost of health climbs while the quality-of-care declines. Such systems are unsustainable. It is high time, therefore, to put into practice what all advocate but fail to implement.

Aging and health

Health can be defined as a measure of the individual capacity to realize aspirations and satisfy needs, irrespective of age or the presence of diseases. Thus, the need for an efficient cost-effective comprehensive geriatric assessment has become increasingly pressing. The goals of this assessment are to enable early diagnosis of health problems and to plan support services, wherever and whenever needed, to allow individuals to continue to reside in their homes. Traditional history-taking, physical check-ups and differential diagnosis are insufficient to provide a comprehensive evaluation of the range of functions needed for daily living of older adults[15].

Health systems comprise several points of care that do not work in an integrated fashion. In general, entry into this uncoordinated network typically occurs when the client is at an advanced stage, where the "front door" tends to be the emergency department of the hospital. This model, besides being inadequate and anachronous, has a dire cost-benefit ratio, since it makes intensive use of highly expensive technology. Its failings, however, should not be blamed on the clients, but on the care model itself, which overloads the higher complexity levels due to a lack of care at primary levels. Home-based care may represent an alternative for some cases. Home care should not be seen as a fad, but as a more modern modality of care. However, the advent of the modern hospital is a relatively recent phenomenon in that, not long ago, care was traditionally administered within the home setting[16].

Epidemiological information translates to the ability to predict events, allowing early diagnosis (especially for chronic diseases), delaying the onset of these conditions and improving both quality of life and the therapeutic approach. Determining the health status of the aged population should consider the overall state of health, i.e., take into account a satisfactory level of functional independence, as opposed to merely the absence of disease. Thus, the notion of functioning can be construed as a paradigm for the health of older adults, representing one of the most important attributes of human aging, since it encompasses the interaction between physical and psycho-cognitive capacity to perform activities of daily living[10,17].

Well being and functioning go hand in hand. These factors represent the presence of autonomy (individual decision-making ability and control over one´s actions, establishing and acting on one´s own convictions), as well as independence (the ability to

carry out something by one´s own means), enabling the individual to take care of themselves and their life. It should be noted, however, that independence and autonomy, although closely related, are separate concepts[17].

Some people are physically dependent yet perfectly capable of deciding what activities they wish to engage in. Others, on the other hand, are physically able to perform certain everyday tasks, but not to choose how, when or where to carry these activities out[10].

Functional evaluation defines the correct stratification and allocation of the older patient into the line of care required, and also allows their care behaviour to be predicted. Functional autonomy is an important predictor of health of older adults, but systematically assessing the older population as a whole using long comprehensive scales is far from ideal. A variety of tools is available for organizing the doorway to the health system, validated and translated into Portuguese[18].

Socioeconomic transformations and their consequent shifts in lifestyle in contemporary societies – with changes in eating habits, increased sedentarism, and stress, coupled with the rising life expectation of the population – contribute to a higher incidence of chronic illnesses, which today represent a serious public health problem[20]. The way forwards is to take the right steps, with focus centred on the most important element in the whole process: the patient[21]. Care should be organized in an integrated fashion and treatment coordinated throughout the care pathway in a network logic[10,19]. The model should be based on early identification of risks of frailty of the user. Once risk has been identified, the priority is to intervene before the onset of illness, thereby reducing the impact of chronic conditions on functioning. The idea is to monitor health, not disease, within a logic of continued follow-up, varying only in terms of level, intensity and intervention scenario[21].

It is important to attain better more financially economical care outcomes This requires everyone involved to understand the need for change and allow themselves to innovate in terms of care delivery, means of remuneration and assessment of the quality of the sector. This will result in benefits, quality and sustainability not only for this population group, but also for Brazilian health as a whole[9]. The effects of this change of model will be felt immediately by users. This transformation of the health system toward sustainability will become evident in the medium-term.

Care model

In international frameworks, the generalist physician or family doctor fully handles 85-95% of their patients, without the need for the intervention of specialists. In addition, this doctor can recruit health professionals with specific backgrounds (nutrition, physiotherapy, speech therapist etc.), but it is the generalist who recommends them and performs referral.

The British model, the National Health Service (NHS), is centred on the generalist doctor who has a high resolutive capacity, called the general practitioner (GP), a special doctor who earns a bigger salary than specialists and is highly valued by British society. General practitioners are considered the "true doctors", because they "know everything". A specialist is commonly seen as more limited, since they master only one field — or, jokingly, are said to master just a single organ. GPs forge stronger bonds with patients[25]. Universal access to these professionals is a guaranteed right, regardless of income or social level, akin to the Brazilian Unified Health System (SUS)[22]. When registering with a GP, British citizens receive free state medical care at health clinics manned by a team consisting of generalist physicians and nurses. Any treatment needed, if not extremely urgent or due to an accident, will be administered at the local clinic[23]. By contrast, under the North-American model, patients are referred to numerous specialists. These are two wealthy countries with a long tradition in medicine. They operate, however, different systems which produce very different results[24].

A recent study involving developed countries conducted by the Organization for Economic Co-operation and Development (OECD), showed the difference in health costs in the US compared with other wealthy countries with good quality care[24] –

where spending on health care, naturally, is higher than in developing countries[15,22].

Nevertheless, spending by North-Americans is far greater. In 2017, spending per capita reached US$ 10,224, or 28% higher than in Switzerland and over double that of the UK. These figures highlight that investing heavily in the treatment of diseases does not suffice.

In the Brazilian system, there is an excess of consultations by specialists, because the current care model follows the North-American logic, promoting fragmentation of care[25,26]. Achieving quality care requires greater awareness from health managers and society.

The model proposed here is structured around low-intensity levels of care, i.e., lower costs and consisting basically of care delivered by well-trained health professionals and involving epidemiological screening instruments, besides the use of monitoring technologies[29]. It is paramount, especially in today´s world, that information pertaining to clients and their electronic medical records are available on the cloud, accessible from computers or cell phones anytime and anywhere, so that physicians and other health professionals may monitor the client when necessary[27].

A concerted effort should be made to ensure that patients remain within the sphere of low-intensity levels of care, in a bid to maintain their quality of life and social participation. The target goal is to ensure over 90% of older adults enjoy this level of care[28].

Teams are based on a duo of professionals: a geriatric doctor and a gerontological nurse. This pair is responsible for the health of a portfolio of around 800 clients. Working weeks are set at 20 hours for doctors and 25 hours for nurses. The geriatrician performs clinical management; the nurse, specialized in Gerontology, acts as care manager, monitoring the health status of users and consolidating the role of contact person for support and of strengthening ties with the family of the older patient.

A brief functional evaluation is carried out on the first contact. This serves as a reference baseline for monitoring and as a parameter for following the therapy plan between different points in the system. The care manager is tasked with overseeing the transition of care between services and revaluates the patient´s functional capacity annually, or as and when necessary, encouraging their participation in the process. The care manager´s function is key to the model proposed and their involvement mirrors that of navigator in the North-American system, a role created to help guide frailer patients.

The function of navigator can be found in some providers/operators in the United States and their role is central in the present proposed framework. As defined by the American Medical Association, this professional is responsible for managing the care of users throughout the different levels of complexity of the health system, checking whether prescriptions and orientations are being followed[2].

Besides the geriatrician and nurse, the multidisciplinary team consists of a physiotherapist, psychologist, social worker, speech-language therapist, nutritionist, physical educator and workshop leaders (professionals engaged in integrative dynamic activities linked to the program). In the event that user care needs are identified at other levels of care, referrals are made to specialists but always via the generalist doctor.

It is important to point out that the model does not retain specialists, with some exceptions, such as when there is a large contingent of frail individuals at a clinic. In this case, six specialized areas related to the model are recommended, because these are part of the annual evaluations, or aiding the generalist doctor, given their specificity, demand and high prevalence. These specialties are in areas in which annual preventive and control exams are conducted, namely: Cardiology, Gynaecology, Uro-proctology, Dermatology, Speech-Language therapy, Ophthalmology and Otorhinolaryngology. It should be noted that, of this list of specialists, otolaryngologists need not be a qualified doctor, but rather a speech-language therapist.

Consultation with the specialists listed is only possible upon request by the patient´s GP. Thus, if the client requires care of a given specialist, the

other specialties will not be involved. The same reasoning applies to hospital admission. Doctors and nurses are in charge of contacting the physician of the hospital, to be briefed on the case, ideally in an effort to ensure best care with shortest hospital stay. Information on all procedures is fundamental to allow monitoring of the client.

One of main factors for controlling costs of the program is follow up at each level of care. This ensures there are no gaps in patient care when the case is referred to the care network, and when tertiary care or treatment in a hospital setting are required[29]. The transition across care levels is overseen by the management team, which strives to maintain a smooth flow of information, liaising with assisting professionals and seeking to adhere to the principle of management predominantly by the geriatrician-nurse dyad.

The control of hospitalization takes place via a flow to aid the client, ensuring that the health professionals assigned to the case are aware of the patient´s clinical and therapeutic history, as well as the understanding that the individual has frequent follow-up and is set to return to their health team when the clinical condition has been controlled[30].

In the event of hospitalization, patient monitoring is performed daily on 2 fronts. For the first, the nurse keeps in touch with the family to provide support, clarification or to identify needs (pertaining to patient or family). The other front involves the prevention manager who provides liaison between the outpatient clinic and hospital, performing daily follow-up with the attending hospital physician. In hospitals which have internists, this contact is facilitated and direct. In other hospitals, support is provided by medical auditors or by the care team.

Thus, when the older adult needs to be admitted to hospital, this takes place more quickly, avoiding unnecessary procedures or admission to intensive care, ensuring post-discharge transfer to low-intensity level care settings, without the need to consult several specialists. This all culminates in higher quality care, with a significant cost saving and positive impact on the medical loss ratio[31].

Technology features

A high-quality information system and lightweight technology is essential in helping to win the confidence of clients. Without using technology, this project cannot go forwards and thus competence is needed to use it to the full.

For example: the client, upon reaching the front-door of the health centre, may undergo facial recognition which automatically brings up their medical record at the reception desk. When receiving the client, the receptionist addresses them by name, enquires after the family and checks the list of medicines they are using.

Another important feature is the availability of a cell phone app containing individualized information and reminders for appointments and prescribed actions. The app can, among other functions, request the client to take a photo of their breakfast and forward this to the nutritionist[38], who can then check whether the meal is balanced, contains the adequate amount of dietary fibre etc.

Although extremely simple, these actions confer great trust, making the client feel protected and valued from day one.

The information system, which commences with registration of the client, is one of the pillars of the program. The entire care journey will be monitored at each level, checking the effectiveness of actions and contributing to decision-making and follow-up. This entails a unique electronic record that is longitudinal and multi-professional, and accompanies the client from initial reception, providing an integral assessment of the individual.

The pandemic situation and associated lockdowns posed a number of challenges to medical practices. Under the proposed model, contact with the client can be increased, since, besides face-to-face meetings, consultations via telemedicine are also incorporated[32]. The aim is not to replace encounters in person, but to introduce flexibility and convenience for scheduling times and days for consultations, given that neither the doctor (or nurse) nor the patient need travel to attend the session.

The use of the latest technology provides closer contact of the health team with the client and family members. With a platform specifically designed for this care, the contact of gerontologists will be increased, enabling numerous individual or group-based actions involving a nutritionist, psychologist or physiotherapist, with counselling and broader contact with clients.

Besides the interdisciplinary team which delivers care directly, the model boasts a team of doctors and nurses working virtually. This deploys the GerontoLine relationship channel, which guarantees users full-time coverage 24/7. In passive mode, this receives calls from clients for guidance; in active mode, the team contacts patients on a regular basis keeping them on the care radar. Favouring this interaction, the professionals coordinating care (online) have access to the key information help in each patient´s medical history.

GerontoLine is different from call centres, commonplace in traditional health services and which typically operate with poorly-trained traditional staff who have a reputation for overuse of clumsy "gerund phrases" and offer no support if the client´s question or query falls outside the script. With GerontoLine, which is available 24 hours a day, 7 days a week, the call is answered by trained health professionals who have access to the patient´s records and, thus, have everything at their disposal to resolve problems[33]. Should an ambulance need calling in the middle of the night, this professional handles the whole referral process. In the event of a call during the early hours, this attendant will send a message out to the doctor, explaining the reason for contacting them. Hence, first thing in the morning, the doctor can take the first measures necessary. In other words, the patient and their family members feel protected, since they know that if needed, there is a qualified telephone service available to them.

In order for the GerontoLine to work smoothly, a comprehensive patient record is required[34], which documents not only clinical issues, but also behavioural, social and family aspects, where a global view of client needs is necessary for this model. Another benefit is the epidemiological assessment instruments which are applied at the first consultation, and repeated annually thereafter, or sooner if a special need arises.

With the steady growth in the older population, some education programs focused on leisure have been developed. The first Brazilian experience of education for middle-aged and older adults was implemented by the Social Service of Commerce (SESC) in the form of community groups. These groups emerged in the 1960s running programs centred around leisure activities. These were welfarist in nature in as far as they did not offer the tools needed for people to regain the desired autonomy. From the 1980s, universities began to provide educational programs for the older population and for professionals wishing to study aging-related issues, predominantly offering education, health and leisure[35,36].

Similar centres had also been set up by health maintenance organizations following the release by the National Agency of Supplemental Health (ANS) of the Care Plan for Older Adults in Supplemental Health. The document sets out incentives to foster a change in the care logic, providing opportunities for health promotion for older adults. A resolution was also enacted which encourages health plan beneficiaries to take part in active aging programs, in exchange for discounts on their monthly fee[38].

Under the proposed model, setting up community centres is in line with the National Health Policy for Older Adults. The primary goal is to recuperate, maintain or promote autonomy and independence of older individuals, as well as foster active healthy aging, with encouragement to participate and boost social interaction.

These centres offer a range of activities which contribute to healthy aging, development of autonomy and social interaction, strengthening of family ties, community involvement and prevention of situations of social risk for individuals aged ≥ 60 years[39]. The programs, besides offering physical exercise, feature cognitive training, nutritional programs, telephone services, computing, home security, fall prevention, urinary/faecal continence, immunizations and financial management. Care with mobility of older adults, fall prevention and balance in workshops for

psychomotricity, strength training, advice on choice of footwear and podology service, are all important because they help maintain independence[14].

Aging requires adaptation. New learnings serve as a resource for maintaining functioning and flexibility of older adults[30].. Art, cultural and recreational activities are traditionally associated with community centres for these individuals and represent important sources of pleasure: general knowledge, languages, information technology, composing texts and reading, patchwork art, ballroom dancing, music, card games, dominoes, chess, meditation and sightseeing trips.

Community centres can provide legal aid services, a caregiver agency and help for the housebound (e.g. support for ADLs, remote assistance and meal deliveries). To this end, investment in courses for training caregivers and in communication in the care network are essential. Also, regularly frequenting workshops allows the older person to experience a routine, which also benefits the caregiver who is freed up to engage in other activities. An annual or six-month "contract" for this group to attend workshops, as they see fit and subject to the availability of coordinators, facilitates management.

Care venues

The older age group is both increasing and becoming older, baby-boomers are reaching the "third age". Life expectancy continues to rise. This is accompanied by a growth in the care technology pertaining to this stage of life, which can now span 40 years. Community centres need to both increase in number and recognition. Solutions are mixed: individual and singular, but also collective.

For a long period, the crèche institution evoked a certain distrust, being associated with an orphanage, a place where children were abandoned[35]. Institutions which care for older people for some hours of the day, such as community centres may also conjure connotations of old people´s homes, nowadays referred to as long-term care facilities, and sometimes identified as places where older individuals are left and abandoned.

Today, there is prevailing consensus on the importance of socialization of young children. Similarly, the important role of community centres in preventing social isolation of older people is clear. There is a tendency for older individuals to have fewer social contacts and relationships. Frequenting the institution also provides routine and rhythm, conferring structure to their everyday lives. Sociability networks of older people can occur in different settings, such as squares, beaches, clubs and religious activities, or in collective entities such as community centers[36].

Institutions that host older residents, albeit short or long-term, may be part of an external network, forming venues of interaction. Receiving external family members and older adults for activities together with the older residents, provides the interaction and workings of a support network[1,15]. This can be exemplified by a German experience which promoted, within the same building, a community centre running daily activities for older people, health services (outpatient clinics and day-care hospital), care for housebound individuals and a long-term care facility. Preventing disability and recouping autonomy through rehabilitation programs – all or a combination of these forms of care under the same roof – are actions which widen the range of possibilities. The pre-old, young-old and oldest-old all experience similar situations which often precede different stages of limitations in functioning. Resources and solutions also multiply, in as much as autonomy and independence also change during this phase[38].

Care centres may provide a range of care for children, individuals with temporary or permanent disability and older individuals, with or without autonomy and independence. Crèches, when opening their doors to older visitors for activities together with the children, provide interaction and allow affective ties to form between generations. The conveying of values, life stories told in photos, recipes or songs and sharing meals together, for example, value the older generation, conferring a place of importance and acting as a motivator. Fostering ties and the ability to pay attention to one another, is a natural consequence of these shared activities.

Birthplace of the model

An example of the model presented was developed within the Center for Human Aging of the State University of Rio de Janeiro (NucEH/UERJ), an institution set up 32 years ago that has gained national recognition as one of the most important health programs for middle-aged and older adults. This initiative has also garnered international awards and been endorsed by the World Health Organization. The NucEH is a centre for studies, education, debates, research and assistance addressing issues inherent to aging, which has contributed to a change in mindset of Brazilian society regarding its attitudes to older generations.

An innovative quality care system must be built, because the prevailing outdated care model, unless replaced, will only exacerbate the current poor service and healthcare crisis, particularly for older adults, the age group placing the greatest demand and cost on the system.

DATA AVAILABILITY

Data usage not reported. No research data generated or used.

CONCLUSION

In recent years, I have been dedicated to researching the integral care of older adults and refinement of care models. In the capacity of Director of the Center for Human Aging – NucEH/UERJ, and in my role as Editor of the Revista Brasileira de Geriatria e Gerontologia (RBGG-Brazilian Journal of Geriatrics and Gerontology), I have witnessed the desire (and need) to consolidate the structuring of the care model for older adults.

I often receive comments of praise, yet, these are invariably tempered by the remark: "what you write is so obvious that maybe this is why it´s so hard to put these ideas into practice¨. I tend to agree.

And it is precisely because I realize these reforms are increasingly imperative with each passing year that, I remain adamant in bringing this matter to the attention of academics and opinion leaders in the health sector, because a further dose of medicine is sorely required which, it is hoped, will be able to remedy the present ailing care model.

Population aging is accompanied by new demands, and challenges the traditional care model. Advancements in technology, science and medicine offer those who embrace the modern tools for maintaining health, the chance to enjoy life for longer. The social and economic transformations of the last few decades, their consequent shifts in behaviour of contemporary society – changes in eating habits, increased levels of sedentarism and stress – and growing life expectancy of the population, have contributed to higher rates of chronic diseases, posing a major public health problem. The health needs of the 60+ cannot be satisfactorily met until it is recognized that this stratum of society requires specific care. This makes overhauling the current health model imperative.

Scrutiny of the national health budget reveals that the vast bulk of funds is dedicated to hospitals and equipment for performing complementary exams. Society and health professionals alike, as a general rule, adhere to a logic grounded in hospital institutions, with a mind-set of only treating diseases as opposed to preventing them.

The ideal care model for the older population should be centred on identifying potential risks. Monitoring health instead of disease will direct investment toward early prevention, resulting in a better chance of rehabilitation and reduced impact on functioning.

As a response to the older population, more actions focused on health promotion and education, the prevention and delaying of disease and frailty, besides maintenance of independence and autonomy, should be implemented. Lastly, increasing longevity alone does not suffice. As outlined above, it is vital that these additional years can be lived out with quality, dignity and wellbeing.

In sum, with concerted efforts, excellence in care for the older population can be achieved and made sustainable, transforming care not just for this segment, but for the health system as a whole.

A novel approach to health care that promotes quality of life for users – albeit under the SUS or via the private sector – will entail the use of qualified well-prepared professionals, integrated care, and judicious deployment of information technology. This is the shape that contemporary resolutive models advocated by leading national and international health organs should take. And this is what we wish to see in the near future.

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