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Futures of elderly care in Iran: A protocol with scenario approach

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Abstract

Background: The number of people aged 60 and older is increasing faster than other age groups worldwide. Iran will experience a sharp aging population increase in the next decades, and this will pose new challenges to the healthcare system. Since providing high quality aged-care services would be the major concern of the policymakers, this question arises that what types of aged care services should be organized in the coming 10 years? This protocol has been designed to develop a set of scenarios for the future of elderly care in Iran.

Methods: In this study, intuitive logics approach and Global Business Network (GBN) model were used to develop scenarios for elderly care in Iran. In terms of perspective, the scenarios in this approach are normative, qualitative with respect to methodology and deductive in constructing the process of scenarios. The three phases of GBN model are as follows: 1) Orientation: Identifying strategic levels, stakeholders, participants and time horizon; 2) Exploration: Identifying the driving forces and key uncertainties; 3) Synthesis: Defining the scenario logics and constructing scenario storyline.

Results: Presently, two phases are completed and the results will be published in mid-2016.

Conclusion: This study delivers a comprehensive framework for taking appropriate actions in providing care for the elderly in the future. Moreover, policy makers should specify and provide the full range of services for the elderly, and in doing so, the scenarios and key findings of this study could be of valuable help.

Keywords: Future, Elderly-care, Scenario, Iran.

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Introduction

At the start of the third millennium, the phenomenon of aging population has been manifested as a major universal event more than ever (1,2). Although aging population is a natural and inevitable process that is occurring worldwide, its speed and extent varies across different countries (3). Industrialized countries have had many decades to adjust to the changes in the aging structure, while developing nations are experiencing a dramatic growth in the older population, as mortality and fertility rates have decreased (4). The UN predictions indicates that 8 out of every 10 older people will be living in developing countries (5). It is clear that the prevalence of chronic diseases and health problems increases sharply in the aging population, leading to an increase in the costs of medical care, long-term care and social services (6). Therefore, it can be claimed that providing high quality aged care services will soon be a major concern in less developed countries (7).

Similar to other developing countries, Iran is also experiencing an increase in its

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aging population (8). Based on the national and international census, 21.7% of Iran's population will be over 60 years of age in 2050 (9,10). WHO in 2015 report has stated, "*In the Islamic Republic of Iran in 2015, around 10% of the population is older than 60 years. In just 35 years' time, this will have increased to around 33% of the population*" (11). A combination of improving health status, declining birth rates, increasing life expectancy and implementation of population control policies lead to an increase in the older population (12). Currently, (2015), the life expectancy at birth in Iran is 69.32 years for men and 72.53 years for women (13). It is expected that with improvements in standards of living in forthcoming decades, life expectancy at birth, and the percentage of the population surviving will be more than ever (12).

An important question is whether the success story of longevity will be accompanied by raises in illness, dependency, frailty, vulnerability and more use of health services (14). Taking into account the decreases in mortality and increases in life expectancy on the one hand and risk factors for diseases on the other, three hypotheses have been proposed: Compression of morbidity; Expansion of morbidity: and Dynamic equilibrium (1). In compression of morbidity, it is claimed that the elderly will enjoy healthier lifestyle, effective treatment and minimum disability and therefore they enjoy their long life. This hypothesis leads to a less pressure on the health care system. This scenario has wide popularity because of its optimistic implications for the future aged care (15). In the expansion of morbidity scenario, which has been named the "failure of success", the elderly will have much poorer health; and as a result, they need more health services (14,16). The last hypothesis of dynamic equilibrium combines the elements of the two previous scenarios and implies that mortality reduction is accompanied with an increase in chronic diseases and disability. Based on this scenario, the rate of healthcare utilization will remain constant (17). The application of each of the above scenarios and types of elderly care will depend on how the population age. Apart from health factors, socio-economic changes also affect organization of the elderly care. Societal changes such as less tendency to marriage, voluntarily childless, higher rates of separation or divorce and increase in women's employment entail fewer options for elderly care (13,18).

Given the problems noted above, it seems that the future of elderly care will be a controversial issue and will be accompanied by uncertainty. It is of prime importance to consider a wide range of factors and uncertainties that affect elderly care rather than considering the healthcare issue alone. Therefore, we need an approach to deal with these uncertainties. Scenario planning, by exploring different aspects of the future, enables us to develop different pictures of the future and be prepared for it.

This protocol is an applied scenario planning to gain more insight into the need for different types of elderly care in Iran. The main questions are as follows:

1. What trends, driving forces and key uncertainties affect the future of elderly-care in Iran?
2. What are alternative scenarios concerning different types of elderly-care in Iran?

Methods

Conceptual Framework

Over the years, there have been three varying approaches for developing scenarios, each of which derived out of different schools of thought (19,20). These approaches are as follows: 1) Intuitive logics; 2) French school; 3) Probabilistic modified trends (21). One of the best-known approaches, which has widely been cited and frequently used, is intuitive logics. Rand Corporation introduced this approach in the 1960s. Thereafter, Peter Schwartz in his book "The Art of the Long View" described the characteristics of this approach in detail (22). One of the overarching models of scenario development that belongs to this approach is "Global Business Net-

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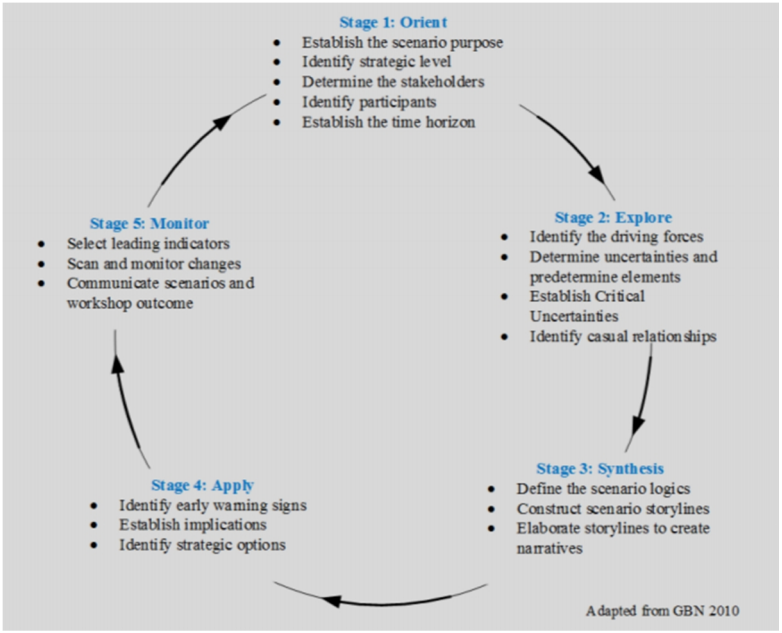

Fig. 1. Five-step Scenario Planning Process

work" (21). The GBN model consists of a five-step scenario process, which provides a systematic method to collect and synthesize information into scenarios. The process is illustrated in Fig. 1.

Study Design

In this study, the intuitive logics approach and GBN model were utilized to develop scenarios for elderly care in Iran. In terms of perspective, scenarios in this approach are normative; they are qualitative in terms of methodology; and are deductive with respect to scenario construction process.

Because this project focused on identifying multiple scenarios in the elderly care rather than strategy development, we slightly modified the original GBN approach and waived the "apply and monitor" phase (Fig. 2). The following sections provide a detailed description of the three phases of the scenario construction process applied in this project.

Phase One: Orientation

The aim of this phase was to clarify the scope of the project. A standardized tool entitled "Framing checklist" was developed to reach a conceptual consensus. The five following key questions should be an-

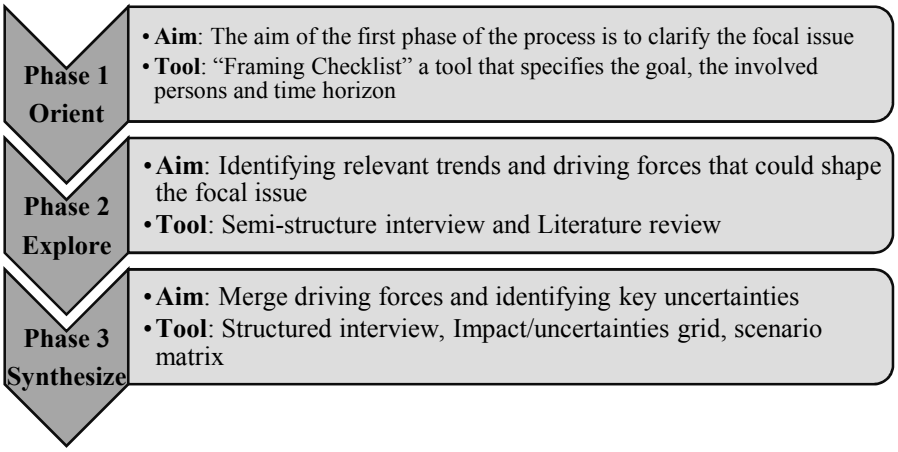

Fig. 2. The Three Phases of Scenario Development as Proposed in This Study

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Fig. 3. Framing Checklist

swered: 1) The purpose of the scenario; 2) Strategic level; 3) Key stakeholders; 4) Participants; 5) Time horizon. To clarify each of these items in detail, an orientation workshop was held for the research team (Fig. 3). Each step is briefly explained below:

The Goal of the Scenario Project: In this project, we defined the development of elderly care scenarios for Iranians as the goal of the scenario project.

Strategic Level: Since the aging population is a national concern, it was agreed to develop future scenarios at the national level. According to the UN estimation, 21.7% of Iran's population will be 60 years of age or older in the next decades.

Definition of Stakeholder: The aim of this step was to identify stakeholders that are involved in the aged care services. For this end, we decided to conduct a national documents analysis. Then, a qualitative document analysis was done to identify key stakeholders associated with the aging population. Data from June to May 2014 were collected through internet search. The search key terms were 'aging population, 'elder people, 'senior, 'adult, 'law', "right" and "politics". The inclusion criterion for the data was being produced in Iran between 1979 (The establishment of the Islamic Republic of Iran (Iranian Revolution) was in 1979) and 2014. The key stakeholders who were identified in national documents were as follows; The Ministry of Health and Medical Education; Medical Universities; the Ministry of Labor and Social Affairs; the State Welfare Organization of Iran; the Secretariat National Council for Elderly; the United Nation Population Fund in Iran; the Iranian Imam Khomeini Relief Foundation; the Iranian Islamic Parliament; the Islamic Studies Center of Parliament; Health Commission of the Parliament; Municipalities and Non-Profit organizations.

Participants: Participants were stakeholders that were identified in the previous step. The policymakers, faculty members and experts who had a direct role in aged care services were selected purposively from the macro, meso and micro levels. They participated in all phases of the scenario construction.

Time Horizon: We decided to focus on a time horizon ending in the year 2025 based on the time horizon of Iran 20 Year perspective document.

Phase Two: Exploration

The overall goal of the exploration phase was to identify a comprehensive list of trends, driving forces, variables and uncertainties that could affect and shape the elderly care. This phase comprised of a two-step survey process.

Step 1- Interview

In the first step, survey participants were asked open questions about the mental models and key factors that will shape the issue in the future. A qualitative semi-structured interview method was conducted to identify deriving forces in Iranian context (Interview guide 1 is attached in Appendix 1). The key informants including policymakers, faculty members and experts

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who had a direct role in providing aged care services were selected purposively from the macro (Ministry of Health, Welfare Organization, Health Commission of the Parliament, Academy of Medical Sciences of Islamic Republic of Iran, Municipality), meso (Medical Universities, Nonprofit Organizations) and micro (Healthcare Networks, Nursing Homes, Hospitals) levels with considering the maximum diversity (heterogeneity). A minimum of two- year activity or experience in aging sphere was the inclusion criterion for participation. All participants were informed about the project objectives, and consent forms were obtained prior to the interview; each interview lasted 15 to 70 minutes. Sampling continued until data saturation. The whole interview process was recorded. Then the interview was transcribed verbatim, and a code was extracted immediately through MaxQDA10 software. Three methods were used to assess validity: 1) Triangulation through document analysis, interviews and literature; 2) Participants were selected from three levels; 3) Data analysis was checked by two authors who were experts in qualitative research. Interviews were analyzed through framework analysis.

Step 2- Literature Review

The aim of this step was to conduct a comprehensive literature review on the factors affecting the future of aged care. It was achieved through an extensive search on Google, Google Trends, Google Scholar, AgeLine, HelpAge, Centre for Aging Population Studies, WHO, EMRO, UN, Rand, World Economic Forum, Institute for Alternative Futures, King's Fund, UNDP, United Nations Economic Commission for Europe, PubMed, ISI Web of Science, Scopus, Emerald, EMBASE, ScienceDirect, and so on. The Persian databases including Magiran, noormags, ensani, ISC, Scientific Information Database (SID), Irandoc and civilica were also used. An obvious search strategy was developed to find related papers about trends affecting aged care.

Keywords included were 'trends', 'aging population', 'global aging', 'aged care', 'future of aging population', 'foresight of elderly care', and 'scenarios of aging population'. The search process was conducted under the supervision of a librarian.

Inclusion and exclusion criteria were defined based on the following three items: First, the publication had to include social, economic, political, technological and ecological trends. Second, the publication had to be related to the aging population; finally, the literature had to be published in Farsi and English from 2000 and 2015. Furthermore, publication in specialized clinical fields such as genetics and cell were the exclusion criteria for this study. The data collected from studies were analysed based on SEEPT (Social, Economic, Ecologic, Technological and Political) analysis.

Phase Three: Synthesis

The aim of this phase was to produce a small number of driving forces and uncertainties, which were identified during the exploration phase and scenario construction. This phase was divided into two tasks.

Scenario Framework: In this step, all factors, which were identified and clustered in the previous phase, were synthesized in terms of uncertainty degree and impact rate. For this purpose, structured interviews were conducted. Participants were asked to rank and prioritize each driving force in terms of importance and uncertainty on a scale of one (low/weak) to ten (high/strong). In the next step, without manipulating the results, the key factors were placed on a grid based on their score. This grid is called "impact/uncertainty grid" and has two dimensions of x- axis, which is uncertainty, and y-axis which is potential impact (Fig. 4). The factors with a weak impact and low uncertainty were positioned at the bottom of the grid. These factors are called "secondary elements", which could be ignored in the scenario construction process, as they have a weak impact on the futures of the elderly care. Factors placed on the upper left are considered as "trends or predetermined factors", which have a

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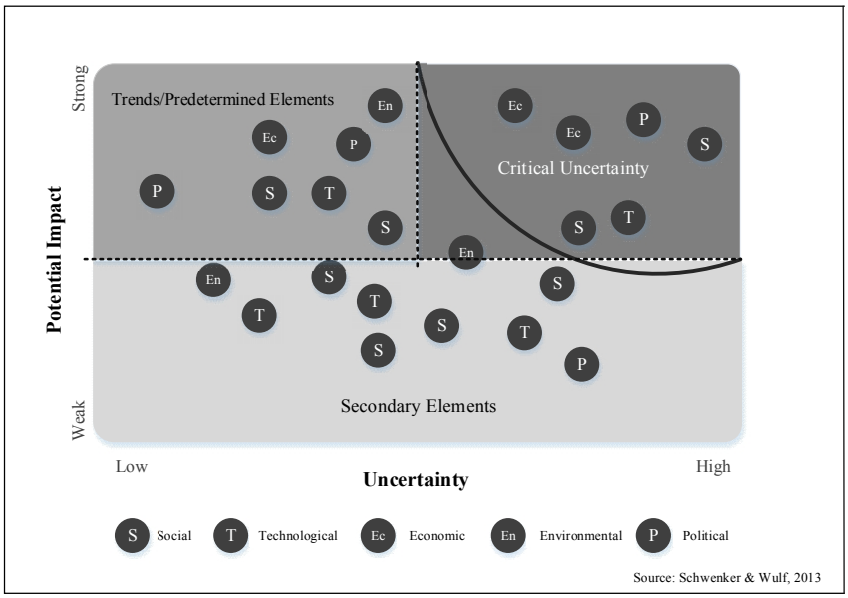

Fig. 4. Impact/uncertainties grid

strong potential impact, but are somewhat predictable. Finally, the upper right of the grid encompass the factors with a powerful impact and high uncertainty, which are referred to as "critical uncertainty". These factors are difficult to manage and are the basis of scenario construction in the subsequent step. When critical uncertainties are more than two factors, they should be clustered into two meta-categories based on their similarity to each category.

Scenario Building: The overall goal of this step was to develop four different scenarios. The standardized tool for this step is "scenario matrix". The two critical uncertainties, which were identified in the previous step, are the basis of the matrix, which are called "Scenario dimensions", each of which is positioned in spectrum from extremely positive to extremely negative onto X and Y axes of the matrix. Thus, four quadrants will be formed (Fig. 5). Each quadrant represents a distinct scenario with a concise name, which should be explained in more detail. To write the stories behind the scenarios, a chain of cause and effect needs is developed. Accordingly, a list of key forces, factors and trends identified in phase two is used to develop a coherent storyline for each scenario.

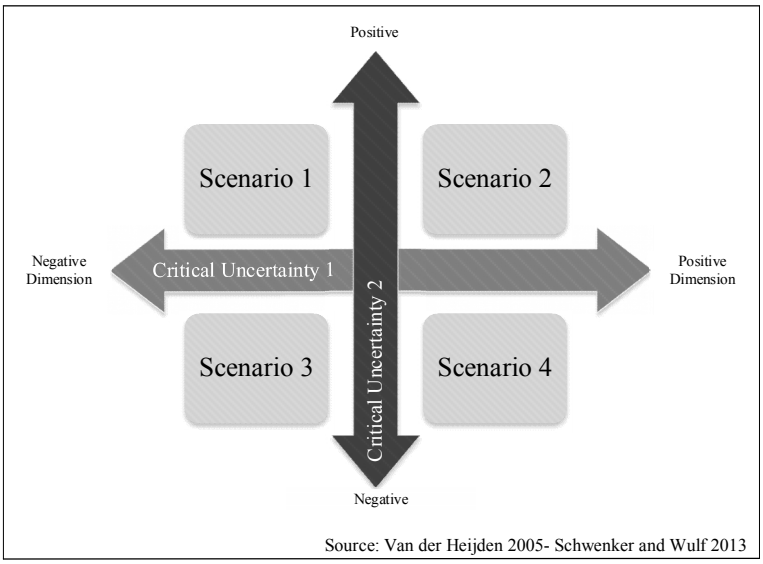

Fig. 5. Scenario Matrix

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Results

At the time of the submission, orientation and explanation phases of the study were completed, but the stages of the synthesis phase are still underway.

Discussion

Scenarios as one of the most widely used tools of foresight provide a comprehensive decision-making framework that aids policymakers to adopt faster to major changes (23). Scenario planning with synthesizing mental models and events lies in the environment, providing pictures or stories about the possible futures and help us prepare for unforeseen events (24). These plausible futures are based on a set of consistent and coherent assumptions about key relationships and driving forces that are basically formed to be compatible (25). The intuitive logic approach in scenarios allows the relevant stakeholders to engage in the process and it enables the policy makers to be aware of convolutions and uncertainties, which they may encounter in the future. The essence of intuitive logic approach is to identify contextual environment such as social, technological, economic, ecological and political (STEEP forces) and internal factors (21,26).

If the scenario process is limited solely to internal environment and does not scan the external environment, there may be a danger of ignoring critical uncertainties that could have a powerful impact on the future development. To escape this defect, the combination of stakeholders with maximum diversity would be required. Therefore, this approach allows integrating and aligning mental models and environmental factors to challenge current assumptions. The greatest potential of our approach lies in the fact that it provides multiple and diverse scenarios rather than a one-dimensional scenario; and thus, with its holistic view, this approach enables the policymakers to better deal with the uncertain environmental conditions.

This project reveals the potential capabilities of scenario development in establishing and maintaining the future of elderly care services. Using the findings and assumptions of the related literature and holding discussions with experts in Geriatrics, Gerontology, Health management and Health policy making, four contextual scenarios were extracted. The scenarios presented in this research were supported by deep literature review and insight thinking of the stakeholders at three levels. These scenarios introduce a new perspective on how the socioeconomic, ecological, technological and political and manager's mental models can shape the future of the elderly care. Four robust, flexible and accessible scenarios of elderly healthcare services should be formulated; significant scenarios can be used to enhance strategy formulation. The outcome of scenario construction in this project can be summarized in four components: Firstly, by conducting scenario exercises, which is a multidisciplinary examination, we are able to combine diverse information to determine priority intervention for aged people. Secondly, making strong health and social policy decisions helps us explore, anticipate and assess a possible and desirable future, and we can act faster in dealing with volatility and uncertainties. Thirdly, specific tools should be provided to empower the policy-makers in the sphere of foresight practice, who have a critique view in developing strategies. Finally, by considering various aspects of the future, the speed of decision-making can be increased. These four contributions make a strong and efficient basis for improving related strategies through managing uncertainties and interactions between internal and external environments.

Conclusion

Despite the increase in the aging population and the importance of aged care and support, this issue is not the government's priority. This protocol intended to encourage the policy makers to consider and plan for the long term so that pessimistic futures do not happen and optimistic ones could have a better chance of unfolding. Un-

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doubtedly, appropriate policy decision-making today could provide an assurance that the elders would live in better conditions and be supported by a balanced and integrated provision of care in the future. We hope that the results of this study could stimulate a policy dialogue on the future of the aging population and would result in taking effective measures that lead us to a more promising future.

Ethical Consideration

Ethical approval for this protocol was obtained from the Ethics Committee of IUMS with no: 105-2953. The research team has considered the followings to collect data and conduct interviews with the participants: Obtaining permission from the university to enter into the research setting; informing the participants about the objectives of the study; respecting voluntary participation in the study, Obtaining permission to record the interviews.

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Conflicts of Interest

All authors have declared that no conflicts of interests exist.

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