بسم الله الرحمن الرحيم

Reducing the Burden of Chronic Disease in the Elderly by Using Mobile Health: Follow-Up Nurse Project

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The world stands on the threshold of a demographic revolution called global aging.

CHINA'S ZHAO **WHAT HIS LEGACY REALLY MEANS** (P. 20)
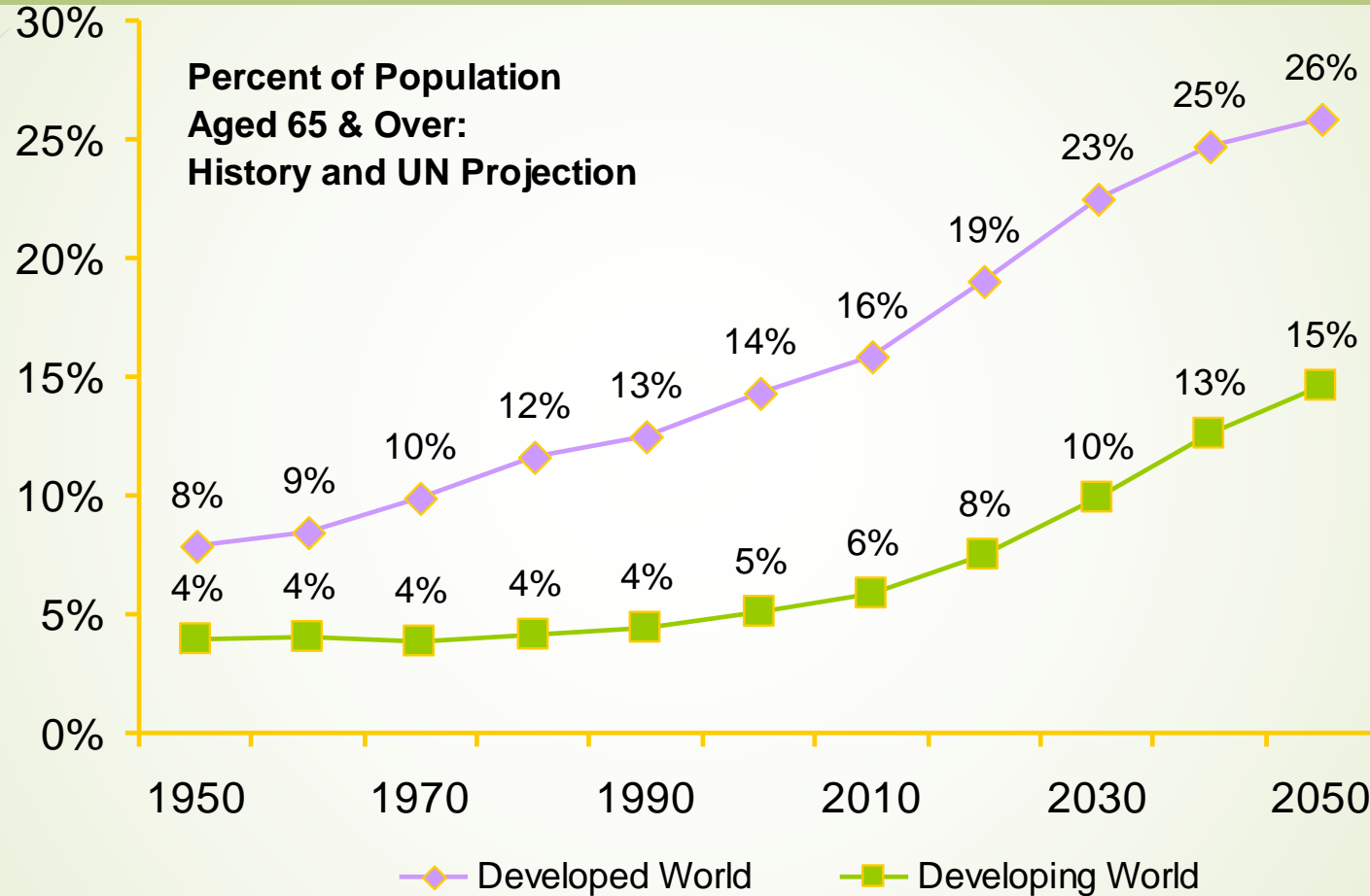
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BusinessWeek

GLOBAL AGING

AVOS **SPECIAL REPORT** It's not just Europe–China and other emerging-market economies are aging fast, too. There are solutions, but it's time to act. BY PETE ENGARDIO AND CAROL MATLACK (P. 40)
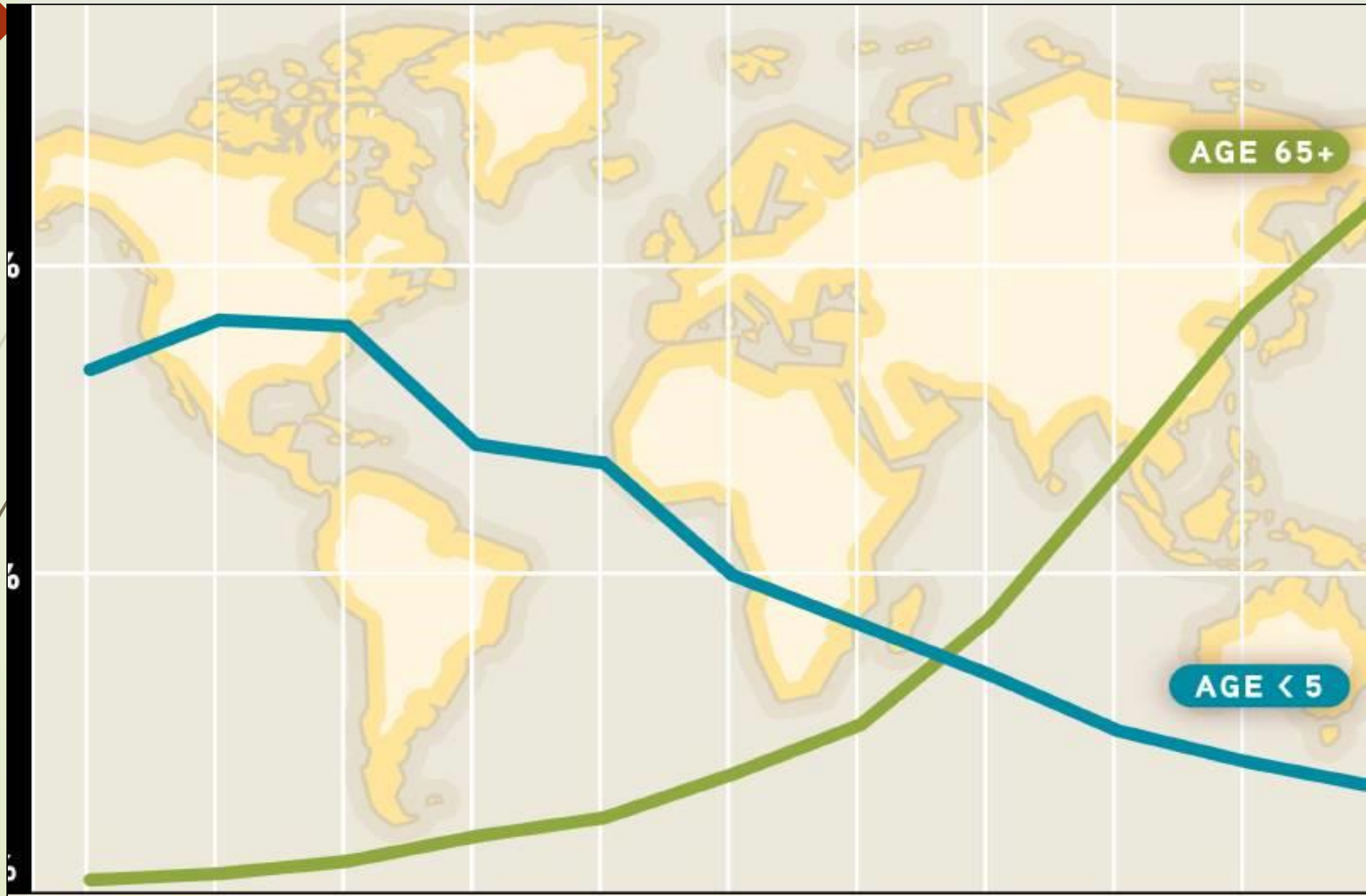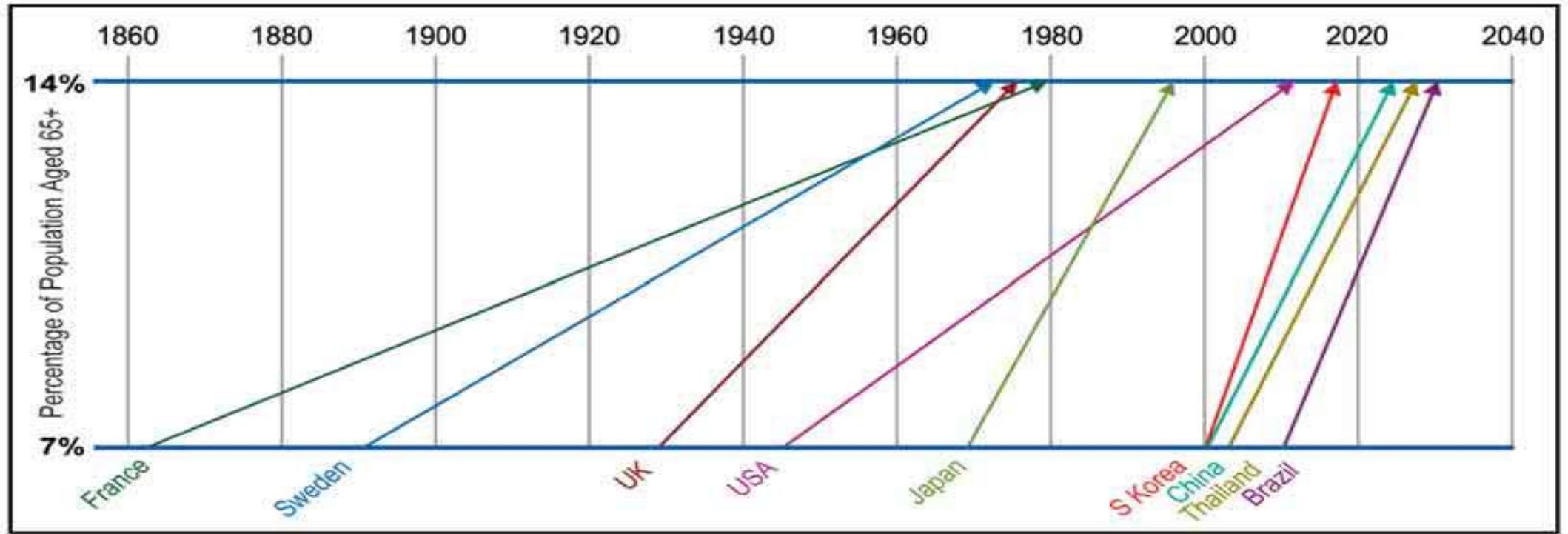
Trends in Global Ageing

**Percent of Population
Aged 65 & Over:
History and UN Projection**

Developed World: 8%, 9%, 10%, 12%, 13%, 14%, 16%, 19%, 23%, 25%, 26%

Developing World: 4%, 4%, 4%, 4%, 4%, 5%, 6%, 8%, 10%, 13%, 15%

Years: 1950, 1970, 1990, 2010, 2030, 2050

◇ Developed World   ■ Developing World

Source: UN (2005)

The Speed of Population Aging

Feminization of aging

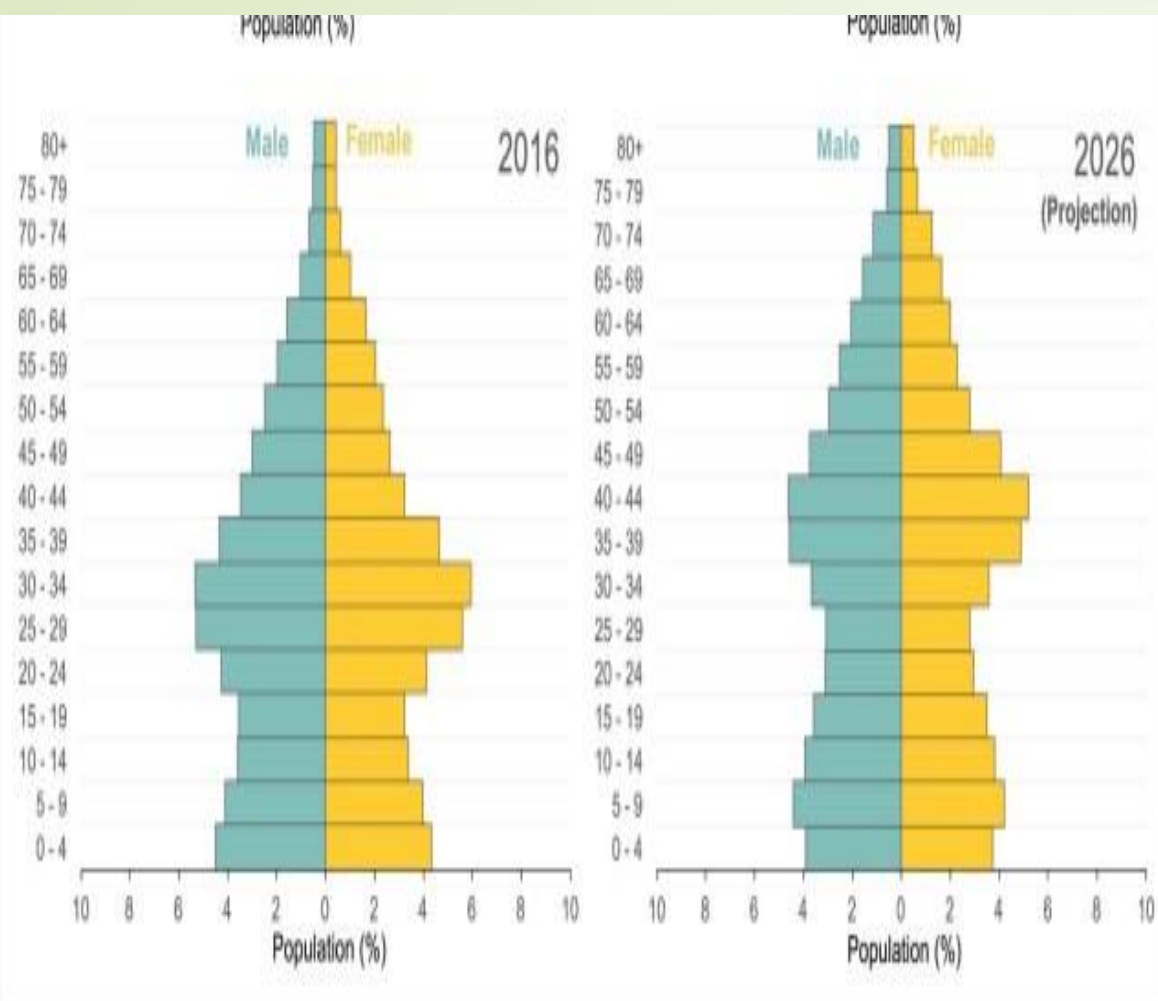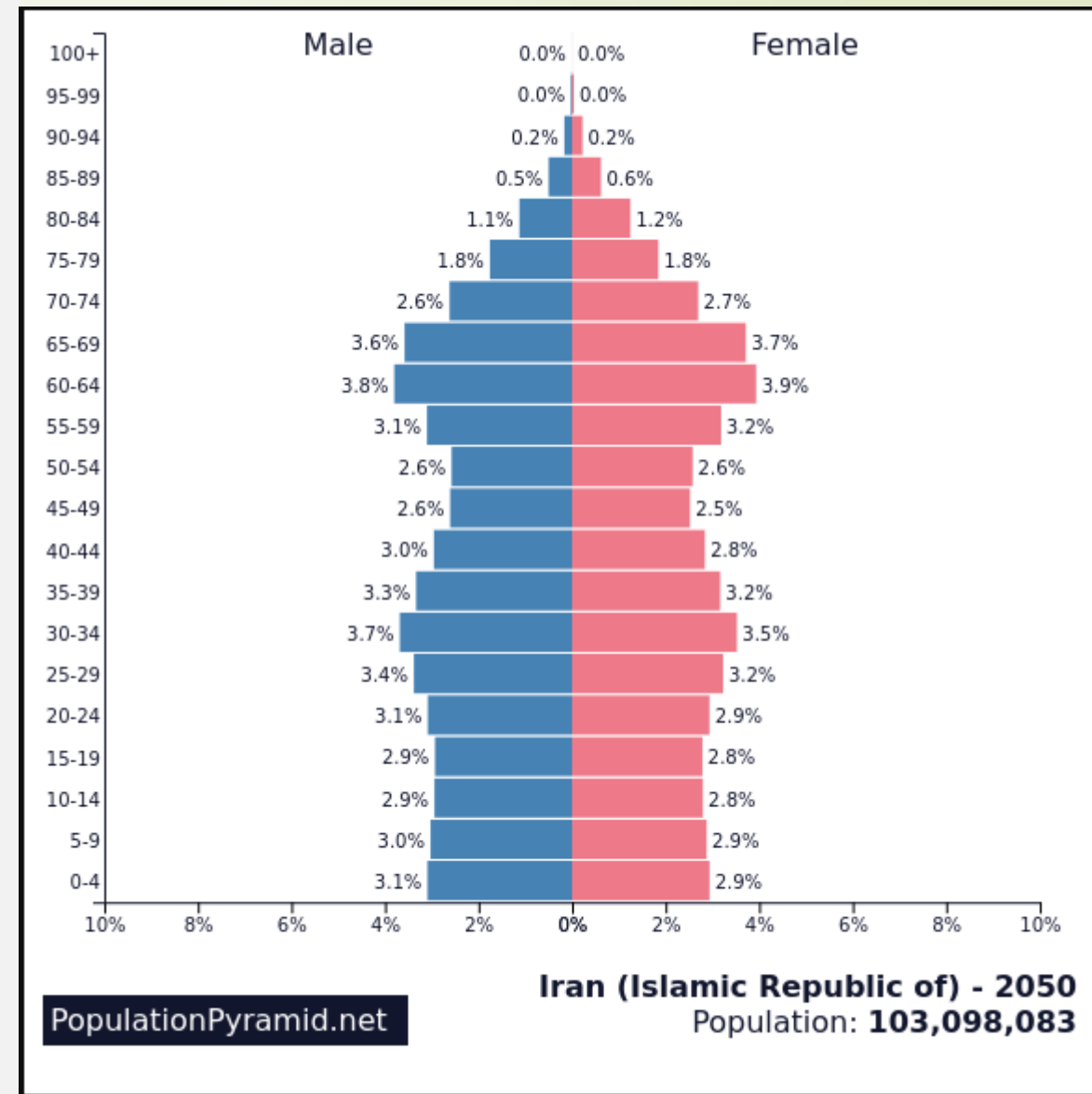Women live longer but in worse health : this is the 'gender paradox'

Gender paradox

Figure 8. Iran's population age pyramids [5, 6]. The 2026 projection is based on the UN Population Division's instant-replacement scenario.

Iran (Islamic Republic of) - 2050
Population: **103,098,083**

PopulationPyramid.net

Gerontechnology

- "Gerontechnology" is defined as the application of mobile health (mHealth) technologies to elderly populations.

- Telematics has become one of the most important aspects of health improvement among people, especially the elderly and patients with chronic diseases and disabilities.

- In this regard, these groups of people have better access to optimal care as a result of Mobile Health (M-Health), regardless of geographical boundaries, individual limits, and organizational barriers.

Covid-19 pandemic and the restrictions

- In the past years, this technology has been used sporadically and periodically in Iran with the purpose of people's education and providing consultation or follow-up after discharge.

- With the spread of Covid-19 pandemic and the restrictions imposed on in-person visits, and on the other hand, recommending vulnerable people to stay at home and not to visit medical centers, these approaches are widely implemented in health policies in an organized manner.

- An example of such approaches is the communication of regulations for the establishment of telemedicine clinics and the launch of the follow-up nurse program.

Ongoing programs in the Nursing Deputy Minister of Health Using M-Health

- **Home Health Care**
- **Palliative Care**
- **Long Term & Hospice Care**
- **The Follow-up Nurse Project**

Upstream documents for the need to implement the nurse follow-up plan after discharge

- Sixth Development Plan

- Development of national programs as well as the need to increase the cost-effectiveness of care and reduce the burden of health costs in the law of the Fifth Development Plan

- Health Transformation Map Document Based on Advanced Islamic-Iranian Model

- Accreditation program, family medicine program guidelines

- Priority of Nursing Deputy Programs

- Achieving the principles of care, including increasing patient safety and increasing the effectiveness of clinical nursing care

- Giving responsibility of the working group for prevention and education of non-communicable diseases (under the National Committee) to the nursing deputy

The need to implement the project

Due to the following problems, it is necessary to implement the project:

- Non-adherence to treatment
- Lack of patient health literacy
- The ineffective role of the family
- Insufficient follow up system
- Insufficient motivation to continue treatment
- The complex nature of chronic disease
- Defects in patients' social security
- Failure to educate the patient

HOME HEALTH CARE

- Development and communication of standard packages of providing home-based medical, nursing and rehabilitation services in CHF, CVA & ICU, COPD, and COVID19.

- Developing instructions and service standards for care provision to patients with mild COVID-19 at home, and making efforts for the insurance coverage of these services

- The participation of 561 home health nursing care and counseling centers with the aim of reducing hospital bed occupancy

- Participation in the development of guidelines for geriatric care

- The development and the communication of educational titles for home care centers

Palliative Care

- Oncology nurses training in Iran, and Jordan

- Develop, prepare and sign a memorandum of understanding with Shahid Beheshti & Shiraz Universities of Medical Sciences to implement a pilot project to set up an outpatient palliative care center

- Holding periodic and free educational workshops and webinars for oncology nurses in the country

- Development of service packages in outpatient palliative care centers for adult and pediatric cancer patients

LTC & Hospice Care

- Development of regulations for establishing LTC center

- Notification of regulations by the minister of health

- Follow up to develop standard packages for providing care and treatment services in these centers

- Follow-up to determine tariffs and insurance coverage of services in these centers

Follow-up nurse program

THE GOALS:

- The follow-up nurse program was developed with the aim of promoting self-care in patients and the elderly with chronic conditions after discharge from hospital, including :

- Cerebro-Vascular Accident (CVA)

- Heart Failure

- Chronic Obstructive Pulmonary Disease (COPD)

- Diabetes

- Cancer

This program is currently being implemented in seven centers affiliated to three universities of medical sciences in Iran, in order to evaluate its feasibility and effectiveness.

Nursing intervention

- The principles of this program are based on telenursing and periodic patient follow-ups would be performed by the follow-up nurse at regular intervals after discharge for one year, depending on the type and the severity of the disease.

- At each telephone follow-up, the patient's condition is assessed and, if needed, the necessary training is provided.

- Risk assessment is also done based on pre-designed charts and depending on which of the red, yellow or green zones is assigned to the patient's condition, remote recommendations are provided for continuing or changing the care protocol or referring the patient to the hospital.

Implementation steps

- Developing follow-up nursing executive instructions
- Designing the tools needed for the project
- Compilation of follow-up nurse job descriptions
- Signing a memorandum of understanding with the pilot universities
- Infrastructure required for running the project

Compilation of follow-up nurse job descriptions

- Provide the necessary training by the nurse caring for each patient, based on the manual and the patient's individual problems

- Training subjects including "Self-care", adherence to treatments, follow-up and safe use of medications

- Provide education to the patient's family / primary caregiver in case of problems such as cognitive and learning disorders in the patient

- Completion of the certificate confirming the effectiveness of the provided training and summary of the patient's documents

Continue

- Completing the special form for discharge and follow-up of the patient by the follow-up nurse based on the case summary and confirmation of the training provided

- Complete the forms required to receive care at home if the patient and family wish

- The follow-up nurse will contact the home care center and introduce the patient.

- Providing the services required by the patient after the discharge by the follow-up nurse

Infrastructure required

- Existence of fast and timely support of health system policy makers at the macro level

- Provide the necessary equipment and tools to follow up

- Provision of financial and human resources required for the project by the Ministry and the pilot universities

- Assist and facilitate the launch of the software required by the project to save time, costs and human resource management and easy and fast access to statistics and information through online reporting

The most important advantages of the program

- One of the advantages of the program is the connection of patient follow-up data to the hospital's HIS system

- and data on the patient's condition after discharge is systematically added to the previous and inpatient data.

The effectiveness indicators

- The effectiveness indicators of the program are designed as quantitative and qualitative indicators such as

- the number of contacts with patient

- following the treatment

- the cases of re-hospitalization

- unnecessary visits to ER

- and the satisfaction of service providers and seekers.

The indicators will be evaluated at least four times during the project.

Recommendation

- According to the Follow-up Nurse Project, it will be implemented for one year and after reviewing the effectiveness indicators of the program, the plan will be implemented for all non-communicable diseases with the highest burden of disease, in all medical sciences universities.

CONCLUSION

- The increasing population of the elderly with chronic diseases, as one of the vulnerable groups in need of health services, requires new care protocols through using technologies such as m-Health, one of which is the follow-up nurse program.

- Monitoring the effectiveness of this program and expanding it to cover other chronic diseases of the elderly can be a step towards promoting self-care for the elderly and fair and cost-effective access to health services.

Thanks for your attention