Synthesis of the session "Population Ageing: An Interdisciplinary Reflection in Honour of Antonio Golini", by Graziella Caselli and Viviana Egidi

As part of the "Second General Meeting of the Age-It Programme: Aging Well in Aging Societies", which took place in Naples from 29 to 31 October 2025, a special session was organised on "**Population Ageing: An Interdisciplinary Reflection in Honour of Antonio Golini**".

The programme for the session included four presentations, each of which addressed themes that Antonio Golini had explored throughout his long and successful scientific career. As a thank you to all those who participated in the session, we would like to share the content of the four presentations with researchers from the Age-It programme and AISP members who were unable to attend the meeting in Naples.

The first presentation was on "**Mortality and Health. Data, Concepts and Methods in the Contribution of a Leading Demographer**" by Graziella Caselli and Viviana Egidi (Sapienza University, Rome) retraced the contributions of Antonio Golini to studies on mortality and health from the 1960s onwards. Golini moved beyond the traditional descriptive approach by focusing on the connections between health, mortality, and social and economic phenomena within a rapidly evolving context. In an era of limited statistical resources, he played a key role in establishing reliable databases on Italian population survival, paying particular attention to regional variations in mortality. His regional mortality tables provided a detailed picture of geographical and temporal variations in survival in the post-war period for the first time. Subsequently, he studied the effects of declining mortality in adulthood and old age, analysing population ageing, gender differences, and the phenomenon of male excess mortality. A distinctive feature of his thinking was his view of death as a process caused by disease rather than an event. This was a completely new approach for the field of demography at the time, leading him to investigate the relationship between the risk of falling ill and the risk of dying through theoretical and empirical analysis.

The second presentation "**Mobility, Labour and the Challenges of Aging: Antonio Golini's Contribution"** by Corrado Bonifazi and Giuseppe Gesano (IRPPS CNR), highlighted Antonio Golini's contributions to research on migration and the labour market, analysing its links with social and economic processes. This contribution takes a dual perspective: in the long term, it assesses trends and defines global strategies; in the short to medium term, it quantifies the consequences of demographic dynamics on social structures. With regard to migration, Golini has emphasised the demographic prerequisites and consequences for population size and structure following the country's transformations, from large-scale internal and international migration after the Second World War to immigration from abroad since the 1980s, which is also linked to population ageing. He has analysed how declining birth rates, decreasing mortality and migrations influence the working-age population and the labour force, emphasising the problems arising from the rapidity of these changes and the need to reform the pension system. Among his proposals, which were ahead of their time, he advocated "working more and for longer", whilst also valuing the diverse skills and experiences of people of different ages. He has also emphasised the significant consequences of an ageing labour

force and misalignment between supply and demand by age on the production system. Given its primacy in ageing, Italy has the potential to become "a laboratory for the world".

In the third presentation "**Towards a Synthesis of Territorial Dynamics: the Concept of Demographic Malaise",** Annalisa Busetta and Sara Basso (University of Palermo and ISTAT) traced the origins and evolution of the concept of demographic malaise in Antonio Golini's studies. This concept was conceived as an interpretative framework for understanding territorial demographic imbalances in Italy. It illustrates the transition from early studies that were generally focused on depopulation and its consequences in terms of population ageing and altered age-sex structures, to a broader, multidimensional approach that integrates demographic, social and economic indicators. Starting from the innovative definition proposed by Golini and Mussino in 1987, according to which demographic malaise results from low fertility and mortality generating distorted age structures, the paper focuses on the seminal 2000 study. This study used municipalities as units of analysis to highlight important intra-regional differences, which were then synthesised to identify seven types of municipality differing in degree of demographic vitality/malaise. This classification has been improved and integrated based on new data, defining new policy implications that highlight key areas of intervention to mitigate demographic malaise, such as balanced migration flows, increased female labour participation, productivity growth and coherent family policies. Finally, the paper discusses the legacy of this approach in the field of spatial demography, where recent studies have retained the municipality as both a unit of analysis and a multidimensional perspective while addressing new methodological challenges.

The final presentation on "**Geriatrics and Population Ageing"** was by Fabrizia Lattanzio (INRCA and IRCCS Aging Network). It explored the topic of ageing from a geriatric perspective, drawing on Antonio Golini's contributions to studies on ageing and health and updating them with the latest advances made in recent years. Central to the talk was the concept of *Geroscience*, a discipline that studies the biological processes of ageing and their biomarkers to understand how these contribute to the development of chronic diseases and the loss of functionality. A key role is attributed to *inflammaging*, the chronic low-grade inflammation typical of older age, considered a crucial mechanism underlying frailty and vulnerability in the elderly. The presentation identified different *ageing trajectories* — accelerated, normal, and successful — which determine varying timing and modalities in the onset of chronic diseases. It also introduced the concept of *intrinsic capacity*, defined as the sum of physical, cognitive, and psychological functions that shape an individual's resilience and autonomy. The presentation emphasized the need to move beyond the traditional disease-centered medical model toward a *comprehensive, personalized, and multidimensional approach*, placing quality of life, individual preferences, and the care context at the core of health management. Finally, she illustrated the vision of a *Precision Gero-Medicine*, based on the integration of multimodal data (genetic, epigenetic, clinical, and digital) and the use of Artificial Intelligence and Machine Learning to address the complexity of multimorbidity, thereby improving prevention, prognosis, and the personalization of care. The modern concepts of *Geroscience* and *Geromedicine* aptly reflect the ongoing and mutual cross-fertilization between the geriatric-gerontological and the demographic-epidemiological cultures.