

## Gender-specific medicine and the need for resources

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Italy has the second highest public debt-to-GDP (gross domestic product) ratio in the EU (Greece leads the ranking), equal to 137%, versus an EU average of 78% and a Euro area average of 84%. Being this ratio higher than 60%, according to the European fiscal compact, Italy is expected to reduce it at an average rate of at least one twentieth of the exceeded percentage points per year, which amounts to about €70 billion per year. According to the most recent European Commission forecasts, Italian public spending is expected to reach 49.1% of the GDP (€885 billion) at the end of 2020. Consistent with the past, this ratio is higher than both the EU average (46.7%) and the Euro area average (47.1%). One characteristic of the Italian public spending is that it is biased against the elderly, which has attracted criticism from the European Commission itself, but not only.<sup>1,2</sup> Since the Italian healthcare system follows a Beveridge model, in which the universal healthcare coverage of the population is financed by the government through taxes, and since Italy is a country whose economy is stagnating, it seems very likely that public resources will be in short supply in the near future. This is going to be one of the main challenges for gender-specific medicine and the Italian healthcare sector as a whole.

In fact, trends in population ageing suggest that, in the near future, resources dedicated to healthcare will be needed more than ever. This is particularly true for females. The Italian population historically live longer than their peers in other European countries. Life expectancy at birth is about 80.9 years for males (versus a European average of 77.6) and 85.2 years for females (versus a European average of 83.1). The shares of the elderly (over 65) and the very elderly (over 80) populations are constantly growing, and they are expected to keep doing so in the future. In 2009, these were equal to 20.1% and 5.6%, respectively. Focusing on females only, the same shares were 22.7% and 7.2%, respectively. Ten years later, in 2019, these shares had grown up to 22.8% and 7.2% for the population as a whole,

and to 25.1% and 8.8% for the female population. Current ISTAT projections tell us that in 2029 they will reach 26.5% and 8.5% for the entire population, and 29% and 10.2% for the female population.<sup>3</sup> Females live and will keep living longer than their male peers. These projections are confirmed by the European Commission.<sup>4</sup>

That we can live longer is certainly good news. Nonetheless, living longer has consequences, among which there is a change in the needs to be met. Elderly people are those more likely to suffer from a chronic condition. Today, in Italy, 78% of the over-65s have at least one chronic condition. A higher proportion of people over 65 will very likely result in a higher number of chronic patients. It is not by chance that long-term care spending is expected to grow together with the percentage of population over 65 and over 80. For example, according to *The Ageing Report* by the European Commission,<sup>4</sup> over the next twenty years the Italian long-term spending as percentage of the GDP is expected to undergo a 0.5-1 percentage points growth, depending on different assumptions. Where will the money come from? For the aforementioned reasons, it is very unlikely that governments (and this is particularly true for the Italian one) will be able to cover and meet the changing needs of the population. Indeed, while it is easy to discern the social dynamics that will cause the increase in the demand for resources in the near future, it is very difficult to identify even one policy area where one might expect a decrease in the demand for the same resources. The expected short supply of the resources necessary to take care of chronic patients should be particularly worrisome for the female population: not only they live longer, but also, for example – according to the definitions given by ISTAT – disabled females with severe limitations in their everyday activities are 1.9 million versus 1.3 million males, and disabled females with non-severe limitations in their everyday activities are 5.5 million versus 4.2 million males.<sup>5</sup> The same results hold if we

\*Author's note: this editorial was written few weeks before the explosion of the coronavirus emergency. It might already appear old and related to a world that we no longer know. However, the problem presented in the editorial, that is the lack of resources in healthcare, was just exacerbated by the most recent events. Solutions are needed now more than ever.

compare men and women by age groups. In 2017, for example, about 21% of the female population aged  $\geq 55$  years and about 15% of their male counterparts reported severe long-term activity limitations. These proportions grow to 27% and 20%, respectively, for females and males aged  $\geq 65$  years. The same patterns can be observed in many other European countries.<sup>6</sup>

In our modern democracies, when dealing with healthcare we always need to consider a tension between three principles: universal access, exemption from payment, and sustainability.<sup>7</sup> It seems very likely that this tension will reach unprecedented levels in the near future. Data on ageing trends suggests that the female population might be the one to feel it more. In Italy, so far, longer waiting lists have been the main tool used to limit the demand for healthcare services. In view of the ageing trends and the likely increase in the demand for healthcare services, trying instead to bring in fresh resources might be a wiser reaction. If these cannot come from the government, a feasible option seems to arise from private insurances. Successful experiences made abroad can be very enlightening in this respect. The Netherlands case – where a healthcare private insurance is mandatory for all citizens, public resources cover the premiums for the poorer people, and insurance companies compete on the market in order to satisfy the patients' needs – has already produced good outcomes, and seems to be particularly promising.<sup>8</sup>

Besides the ageing trends, the need to find new resources becomes even more urgent in light of the opportunities coming from technological innovation and precision medicine, namely the branch of medicine focusing on the heterogeneity of specific medical treatment effects on specific patients, based on lifestyle and genetic and environmental factors. Starting from the observation that there is significant evidence that both sex and gender impact on a disease, a report by the Boston Foundation argues that precision medicine provides an excellent opportunity to prioritize gender to accelerate innovation with the aim to prevent and treat diseases.<sup>9</sup> In a nutshell, gender-specific medicine is the very first step of precision medicine. While in the long run precision medicine may decrease healthcare spending due to a lower waste of resources on ineffective treatments for specific categories of patients, in the short run – like any other innovation – it will require resources to be invested in research and development. The scarcity of resources is going to be a pressing issue, that will need to be addressed if we want to seize the opportunity represented by precision and gender-specific medicine. Pretending there is no resource issue is a threat to any good healthcare outcomes for the Italian population, and for Italian women in particular.

## References

1. Lorenzani D, Reitano VE. Italy's spending maze runner. An analysis of the structure and evolution of public expenditure in Italy (No. 023) [Internet]. Directorate General Economic and Financial Affairs (DG ECFIN), European Commission; 2015. Available from: [https://ec.europa.eu/info/publications/economy-finance/italys-spending-maze-runner-analysis-structure-and-evolution-public-expenditure-italy\\_en](https://ec.europa.eu/info/publications/economy-finance/italys-spending-maze-runner-analysis-structure-and-evolution-public-expenditure-italy_en)
2. Vanhuysse P. Intergenerational justice and public policy in Europe. European Social Observatory (OSE) Paper Series, Opinion Paper No. 16 [Internet]. 2014. Available from: <https://ssrn.com/abstract=2416916>
3. Istituto Nazionale di Statistica. Previsioni della popolazione. Anni 2018-2065 [Internet]. Available from: [http://dati.istat.it/Index.aspx?DataSetCode=DCIS\\_PREVDEM1](http://dati.istat.it/Index.aspx?DataSetCode=DCIS_PREVDEM1)
4. European Commission. The 2018 ageing report. Economic and budgetary projections for the 28 EU Member States (2016-2070) [Internet]. Institutional Paper 079. May 2018. Brussels. Available from: [https://ec.europa.eu/info/publications/economy-finance/2018-ageing-report-economic-and-budgetary-projections-eu-member-states-2016-2070\\_en](https://ec.europa.eu/info/publications/economy-finance/2018-ageing-report-economic-and-budgetary-projections-eu-member-states-2016-2070_en)
5. Istituto Nazionale di Statistica. Disabilità in cifre [Internet]. Available from: <http://dati.disabilitaincifre.it/dawinciMD.jsp>
6. Scherbov S, Weber D. Future trends in the prevalence of severe activity limitations among older adults in Europe: a cross-national population study using EU-SILC. *BMJ open*. 2017;7(9):e017654.
7. Kling A (2009). *La sanità in bancarotta. Perché ripensare i sistemi sanitari*. Torino: IBL Libri; 2009.
8. Belardinelli P, Mingardi A (2016). All'avanguardia nella riforma dello stato sociale. La sanità olandese. In: Istituto Bruni Leoni, editor. *Il caso olandese. Lezioni per l'Italia*. Torino: IBL Libri; 2016 pp. 11-58.
9. Johnson PA, Fitzgerald T, Glynn A, Salganicoff A, Wood SF, Goldstein JM. Precision medicine: how sex and gender drive innovation. A Report of the Mary Horrigan Connors Center for Women's Health & Gender Biology at Brigham and Women's Hospital, 2016 [Internet]. Available from: <https://www.brighamandwomens.org/assets/BWH/womens-health/pdfs/precision-medicine-how-gender-drives-innovation-2016.pdf>

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