

## ***Time's up: Why We Should Care that Men Die Firsts***

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### INTRODUCTION

For hundreds of years, mortality rates have been the single most relevant indicator of the public's health. Happily, the modern age has ushered in a life expectancy that could not have been imagined by our forebears. From the emergence of *Homo sapiens* as a species some tens of thousands of years ago to the early 1800s, human life expectancy barely budged. For most members of our fragile species, living for 30-40 years was the most we could hope for. Then the modern age introduced a number of public health measures such as vaccination, safer and healthier foods, and control of infectious diseases<sup>1</sup> and our life expectancy nearly doubled, with a six-year gain just since 1990.<sup>2</sup> Now most of us can count on living out what the Bible promised: threescore and ten to fourscore, i.e. 70-80 years<sup>3,4</sup>. If mortality rates are evidence of the public's health, the extension of the human lifespan by decades means the human species has broken through what had seemed an impenetrable ceiling. But a stubborn obstacle remains for nearly half the species: men die before women.

Keywords: gender, mortality, life expectancy, male, female, men, women

### ANALYSIS

Men die before women in every culture across the globe, but understanding why that pattern persists has proven difficult. The current focus in public health on the role of social determinants in health outcomes faces a compelling challenge with respect to the lifespan gap as the consistency of the data is striking: women significantly outlive men in every culture regardless of wealth, race, or geography, and have done so since the beginning of record-keeping. Higher mortality rates for males exist even in premature babies and in other primates<sup>5,6</sup>. Researchers state definitively that "a robust, often underappreciated, feature of human biology is that women live longer than men not just in technologically advanced, low-mortality countries such as those in Europe or North America, but across low-and high-mortality countries of the modern world as well as through history".<sup>7</sup> The example of Sweden is instructive: in 1800, life expectancy was 33 years for women and 31 years for men. In 2016, the advantage for women persists; women live on average 83.5 years while men live on average 79.5 years.<sup>8</sup> At both historical moments, women live approximately 5% longer than men. Women are not living longer because they are immune from certain diseases that afflict men: women die at lower rates than men from virtually all the most common causes of death, except for Alzheimer's disease.<sup>9</sup> Despite the definitive documentation of the longevity gap, there is no conclusive argument to explain its existence. Theories include that high numbers of men die in war, as victims of violence, or through risky behaviors; male genetics are more prone to malfunction; the larger size of

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most males accumulate more wear and tear, compounded by the higher amounts of testosterone and lower levels of estrogen; and finally, the “jogging heart” of a menstruating woman provides more cardiovascular benefit.<sup>10</sup> The bottom line is that we don’t know why men die before women, only that it is treated as an inevitable fact that they do. But is this fact an ethical concern? I argue that it is and that the bioethical principles of beneficence, non-maleficence and justice call for more attention and research into this issue.

Any consistently unequal health outcome demands ethical analysis. Just as unequal rates of tuberculosis and HIV infection in a population require bioethicists and public health advocates to question research priorities, the lifespan gap between men and women should sound ethical alarms. Underlying the fundamental bioethical principles of beneficence and non-maleficence is the understanding that more life is a basic good and less life is generally a harm. One may argue that the true measure of health is quality of life rather than quantity of life, and indeed every effort should be made to maintain a good quality of life for the time one is alive. But there is no quality of life if one is dead, and most people strive to stave off death as long as possible, even if that means a diminished quality of life. A commitment to the principles of beneficence and non-maleficence in our society therefore demands attention to the relatively reduced lifespan of men. The application of the bioethical principle of justice to this issue is also worthy of consideration. Admittedly, justice is usually interpreted to mean equal treatment to patients in similar situations rather than a guarantee of equal health outcomes, but certainly the principle of justice means that equal outcomes should be a goal. Fewer years of life is a burden that men around the world suffer and shortening the lifespan gap is a global health goal consistent with the principle of justice.

As discussed above, research has documented the reduced lifespan of men and generated a number of theories as to why men die before women, but very little research has been conducted with the express aim of reducing the lifespan gap (a review of [clinicaltrials.gov](http://clinicaltrials.gov) found no research on reducing the lifespan gap between the sexes).<sup>11,12</sup> This is unfortunate given that beneficence, non-maleficence and justice suggest that this problem should be taken more seriously. Admittedly, while I have not found a significant body of researchers attending to this issue, I also have not come across arguments against reducing the lifespan gap. Nevertheless, a number of counter-arguments could be raised.

## CONCLUSION

The paucity of research into closing the lifespan gap may be a result of legitimate concerns for other pressing global health problems. Many may argue that historically men have been the primary beneficiaries of much of medical research and that funding priorities for research are more appropriately directed toward women and children’s health than extending male lives. For example, although women live longer than men, women’s health globally is poorer throughout their lives<sup>13</sup>; therefore funding priorities directed toward improving women’s health rather than extending male lifespan is appropriate. Similarly, many might argue that reducing child mortality is a more pressing goal. Over 11 million children die each year, most from preventable causes.<sup>14</sup> These deaths at the beginning of life are particularly horrible because they represent lost lifetimes of productive, healthy lives, not just a few years at the end of life. While there are certainly compelling arguments for improving women’s health and reducing children’s mortality, that does not mean that the lifespan gap should be overlooked or accepted as inevitable. Finally, some, such as Daniel Callahan or Ezekiel Emmanuel, argue that the elderly will put an unsustainable strain on resources<sup>15,16</sup>. But such an argument starts down a treacherous, slippery slope: if people should not live as long as they can, why

not bring back smoking, or eliminate funding for treating diseases of the elderly such as Parkinson's or Alzheimer's? None of these arguments are persuasive for continuing to accept the lifespan gap as an unfortunate fact that men must stoically accept. It's time to move this global disparity up to the forefront of our concerns.

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<sup>1</sup> "Ten Great Public Health Achievements -- United States, 1900-1999," *Morbidity and Mortality Weekly Report*, Centers for Disease Control, April 02, 1999 / 48(12);241-243. <https://www.cdc.gov/mmwr/preview/mmwrhtml/00056796.htm>

<sup>2</sup> Lee Goldman, "Too Much of a Good Thing: How Four Key Survival Traits Are Now Killing Us," New York: Little, Brown & Company, 2015, 5.

<sup>3</sup> Psalm 90:10, KJV. Note that in areas that still suffer from extreme poverty, as in Sub-Saharan Africa, life expectancy remains low at between 40-50 years. This actually represents a drop in life expectancy from 30 years ago: UN index, 9 November 2006, <https://news.un.org/en/story/2006/11/199062-life-expectancy-sub-saharan-africa-lower-now-30-years-ago-un-index>

<sup>4</sup> Pijnenburg, Martien A. M., and Carlo Leget. "Who Wants to Live Forever? Three Arguments against Extending the Human Lifespan." *Journal of Medical Ethics*, vol. 33, no. 10, 2007, pp. 585-587., [www.jstor.org/stable/27719955](http://www.jstor.org/stable/27719955).

<sup>5</sup> Dongying Zhao, Lile Zou, Xiaoping Lei & Yongjun Zhang, "Gender Differences in Infant Mortality and Neonatal Morbidity in Mixed-Gender Twins," *Scientific Reports*, volume 7, Article number: 8736 (2017) doi:10.1038/s41598-017-08951-6

<sup>6</sup> Susan Alberts, "Lifespan equality in humans and other primates," University of Notre Dame, Amboseli Baboon Research Project, Published: November 23, 2016. <https://amboselibaboons.nd.edu/news/lifespan-equality-in-humans-and-other-primates/>

<sup>7</sup> Steven Austad, Andrzej Bartke, "Sex Differences in Longevity and in Responses to Anti-Aging Interventions: A Mini-Review," *Gerontology* 2016;62:40-46.

<sup>8</sup> David Robson, "Why Do Women Live Longer Than Men?" BBC, October 2, 2015. <http://www.bbc.com/future/story/20151001-why-women-live-longer-than-men>

<sup>9</sup> Austad, *Gerontology*.

<sup>10</sup> Robert Krulwich, "Why Men Die Younger Than Women: The 'Guys Are Fragile' Thesis," Robert Krulwich on Science, NPR, June 17, 2013. <https://www.npr.org/sections/krulwich/2013/06/17/192670490/why-men-die-younger-than-women-the-guys-are-fragile-thesis>

<sup>11</sup> A French study claimed to document a reduction in the lifespan gap (F Meslé, "Gender gap in life expectancy: the reasons for a reduction of female advantage," *Rev Epidemiol Sante Publique*. 2004 Sep;52(4):333-52.), a Chinese study on the subject concluded there was not enough data available to draw strong conclusions (Le, Yan et al. "The Changing Gender Differences in Life Expectancy in Chinese Cities 2005-2010." Ed. Irene Petersen. *PLoS ONE* 10.4 (2015): e0123320. PMC. Web. 24 Mar. 2018.)

<sup>12</sup> A notable exception is a 2016 Canadian study that affirmed the lifespan gap but noted that it seemed to be narrowing. Rosella LC, Calzavara A, Frank JW, et al, "Narrowing mortality gap between men and women over two decades: a registry-based study in Ontario, Canada," *BMJ Open* 2016;6:e012564. doi: 10.1136/bmjopen-2016-012564.

<sup>13</sup> Austad, *Gerontology*.

<sup>14</sup> UNICEF Millennium Development Goals, UNICEF/HQ99-0611/Pirozzi, <https://www.unicef.org/mdg/childmortality.html>

<sup>15</sup> Daniel Callahan, "On Living to 100 or More" The Hastings Center, April 6, 2016 <https://www.thehastingscenter.org/on-living-to-100-or-more/>; Ezekiel Emmanuel, "Why I Hope to Die at 75" October 2014, The Atlantic, <https://www.theatlantic.com/magazine/archive/2014/10/why-i-hope-to-die-at-75/379329/>

<sup>16</sup> Callahan, *The Hastings Center*.