

## Profile

### James Vaupel: an innovator in the demography of ageing

James W Vaupel's career has always been about transcending the limits of his field, demography. As the founding Director of the Max Planck Institute for Demographic Research in Rostock, Germany, Vaupel has helped to revolutionise the statistically bound field by taking a multidisciplinary approach that incorporates both human and non-human biology, mathematics, genetics, and public policy. His findings, which have often provoked debate, have changed perceptions about the demography of ageing.

"I see myself as a kind of biologist more than anything else, maybe as a kind of mathematical biologist", says Vaupel, who studied mathematical statistics and then business at Harvard University and went on to get his PhD there in public policy. Although he has no formal medical training, Vaupel has had to verse himself in a broad array of health sciences and public policy fields, from epidemiology to economics. Vaupel's interest in demography began in the mid-1970s, when three of his close relatives all died at a relatively young age in the same year. He started studying mortality, which led him to teach himself demography. He became fascinated by a science that was focused on helping governments produce policies that would save lives. "He was certainly the first demographer to use non-humans to create a database, and to begin to use experimental studies in labs, rather than populations", says Richard Suzman, the Director for the Behavioral and Social Research Program at the National Institute on Aging at the US National Institutes of Health. "The approach was totally innovative, novel, and revolutionary", Suzman adds.

Crossing boundaries has long been a part of the work of Vaupel, a native of New York who divides his time between Rostock and Denmark, where he does research at the Medical School of the University of Southern Denmark. His previous postings include Duke University, where he continues to hold a part-time post as Director of the Center on The Demography of Aging, and the University of Minnesota, as well as the International Institute for Applied Systems Analysis in Laxenburg, Austria. The notion of transcending frontiers even includes the decision to locate the institute in Rostock with its easy access to Scandinavia, Russia, and the Baltics. Apparently this border-crossing strategy has paid off: a recent external evaluation named Vaupel's institute the leading demographic research institution in the world.

The Max Planck Institute for Demographic Research, founded in 1996, now has 200 employees. Vaupel, the founder, leads the institute with Executive Director Joshua Goldstein. Vaupel's researchers focus on survival and longevity. One area they are investigating is the effects of German reunification. When the country was divided, east Germans had substantially higher mortality than their

western counterparts, but after reunification this increased mortality fell rapidly and is now close to that of people in the west. This finding was particularly surprising because it even extended to people in their 80s and 90s. There are various factors at play, explains Vaupel. East Germans get much bigger pensions now, have more access to medical care, are eating better food, and live in communities with improved infrastructure. But, says Vaupel, they are still trying to figure out the central question: "Which is more important, money or medicine? We don't know yet." Other questions Vaupel's team are investigating include: which is a more important factor for health in old age, childhood or current conditions; and why do men die earlier than women, even though they are healthier, or at least think they are?

Some of Vaupel's most important work has found that people in the developed world are living significantly longer than in the past, with life expectancies going up by a steady 2.5 years per decade since 1840. So although there are emerging problems such as obesity, advances in medicine, public health, education, and other improvements "are far exceeding the new problems that are arising", says Vaupel. His research has shown that the effects of ageing are not inevitable and are being postponed. "The ongoing delay of mortality and disability and morbidity has been discovered and confirmed by demographers", says Vaupel. The commonly held assumption that nothing can be done about the effects of ageing is "just completely totally wrong", he adds. Although populations are ageing, older people are living longer and more productive lives. "I see the postponement of debility as one of the crowning achievements of civilization", says Vaupel.

Vaupel's institute works with researchers worldwide, doing joint projects with the University of Peking, Duke University, and the University of Southern Denmark, among others. He also runs an interdisciplinary network called MaxNetAging. This collaboration between 18 Max Planck Institutes focuses on ageing and allows historians, psychologists, biologists, and colleagues from other disciplines to work with demographers. "Demography sits halfway between the social sciences and the biological sciences", explains Vaupel. "And we're able to make contributions to both." This interdisciplinary approach is part of another of the institute's projects: to make demographic knowledge widely available to students, the public, and policy makers in a form that is accessible to other fields of study. "Demography rests on a mathematical foundation but is of great interest to the public, so we're also able to make contributions to public discussions that are based on cogent analysis," says Vaupel.

*Samuel Loewenberg*



See [Review](#) page 1196