Long Term Drivers of Future Mortality – A Podcast Series - Chapter 6 - Healthcare

Mortality and Longevity

Podcast Transcript

June 2025

SUMMARY KEYWORDS

Healthcare Systems, Future Mortality, Preventative Care, Accessibility, Quality of Care, Chronic Diseases, Healthcare Models, Beveridge Model, Bismarck Model, National Health Insurance, Private Insurance, Technology Adoption, Healthcare Funding, Actuarial Considerations, Medical Advances

SPEAKERS

Al Klein, Erik Pickett, Rose Northon, Kara Clark

TRANSCRIPT

KARA CLARK 00:05

Welcome listeners to the research insights Podcast. I'm Kara Clark, Senior Practice Research Actuary at the Society of Actuaries Research Institute.

Thanks for joining us again for our podcast series focused on the paper Long Term Drivers of Future Mortality, authored by Yair Babad and Al Klein for the 2023 Living to 100 Symposium.

Today, we're exploring Chapter 6, Health Care. As always, I'm joined by two members of our Mortality & Longevity Steering Committee: Al Klein, one of the authors of the paper and Principal and Consulting Actuary at Milliman. Welcome Al!

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AL KLEIN 00:45

Thanks, Kara, and welcome to everyone from near and far.

KARA CLARK 00:49

And we also have Erik Pickett, Actuary and Chief Content Officer at Club Vita. Welcome, Erik!

ERIK PICKETT 00:55

Hello Hello! As always it's great to be here!

KARA CLARK 00:59

And just a quick reminder—if you'd like to read the paper, head to soa.org, click on the Research Institute tab, then under "Research by Topic," select Mortality & Longevity. You'll find a link to the full paper and to this podcast series. I will now hand it over to Al and Erik.

AL KLEIN 1:19

Thanks again, Kara. In this chapter, we are focusing on healthcare as a driver of future mortality. A healthcare system is more than just hospitals and doctors. In the chapter, it's described as all organizations, people, actions and resources whose primary intent is to promote, manage, maintain, restore and or improve the health of the target population. From health insurance to vaccination programs, from hospitals and doctors to well-being programs, from occupational health and safety legislation to at-home care for the sick or elderly. All these are elements that contribute to a healthcare system.

ERIK PICKETT 1:56

Exactly, and there are a number of different ways a healthcare system could be evaluated. A framework could include dimensions such as access, choice, affordability, efficiency, quality, dignity and equity. And there is a significant debate around which metrics are the most important. Should we prioritize access for everyone in the population, or a system capable of providing the very best quality care, and how should it all be paid for?

Underlying this debate is the question of what level of healthcare constitutes a fundamental human right and what should be considered a luxury commodity. Differing views on this and the best way to provide health care have led to a variety of different health care systems and funding models developing around the world.

AL KLEIN 2:44

The chapter explores a range of system types, each with their advantages and disadvantages. When assessing the impact of health care on future mortality, it will be important to consider what kind of healthcare system is in place, how effective it is for a specific population, and how this might change in the future.

ERIK PICKETT 3:03

And as populations age and the burden of chronic diseases grows, the definition of a successful healthcare system may well also need to evolve. Systems will need to support more complex long-term care needs and deliver not just life-saving interventions, but sustained quality of life for older adults.

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AL KLEIN 3:21

Exactly, and I think that last point is very important. Variability in access, funding and quality of care across geographies and socio-economic groups as layers of complexity that actuaries must consider when thinking about future mortality.

ERIK PICKETT 3:37

So, let's discuss the four healthcare models introduced in the chapter.

As the Brit on the panel. I'll start with the model used in the United Kingdom, the Beveridge, or Universal Government Funded National Health Service model.

This is a national single-player payer system where health care is available to all citizens, regardless of their income or employment status. It is funded by general taxation. The government, as a single payer, has considerable market power in the negotiation of the cost of services. At the same time, however, as a single provider, the government can ration access to services, thus creating potential for long waiting lists and service delays.

AL KLEIN 4:19

Next is the Bismarck Model, or universal insurance based social security health care system used in countries like Germany and the Netherlands. This is an insurance-based system funded by employer and employee contributions. However, people ineligible for private insurance are covered by the state, resulting in universal coverage. In addition, hospitals and physicians may not operate for profit, leading to a comparably more affordable system.

ERIK PICKETT 4:48

Third is the National Health Insurance Model like that used in Japan. It combines private delivery with a single-payer government-run insurance system that covers everybody. Patients are free to choose any doctor or hospital, but these are not run for profit. The system is paid for by taxation, but a single payer and no profit incentives for providers helps to control costs. The implementation of this system in Japan places a heavy emphasis on preventative care.

AL KLEIN 5:20

And lastly, the private nonuniversal insurance system used by the U.S., where health insurance is covered by the private insurance system and services are operated by private for-profit providers. In the U.S., insurance can be tied to employment or purchased individually or not at all. Access to Care can vary widely under the system, as can the quality of care provided and the cost to individuals using the system.

ERIK PICKETT 5:48

Now, each of these models presents different implications for morbidity and mortality, both now and in the future, including different levels of care, different levels of inequality and different philosophies regarding preventative versus treatment-based medicine. There is more detail in the chapter comparing health outcomes under these different models, and I thoroughly recommend having a read of that section.

Now that we've set out some of the frameworks for classifying and evaluating healthcare systems, let's look at some of the specific functions of those systems.

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One way healthcare influences mortality is through improved treatments and medical cures. Advances in things like cancer therapies, diabetes management and cardiovascular interventions could all significantly extend life.

AL KLEIN 6:34

But the benefits of these advances depend on timely adoption and accessibility. Some innovations may reach urban, high-income populations first, while availability to others is often slower.

ERIK PICKETT 6:46

Yeah, and that lag in distribution can drive inequality and outcomes - even within countries. So, actuaries need to be aware not only of the emergence of new treatments, but also their availability under different healthcare systems and their rate of uptake.

AL KLEIN 7:02

Prevention is another vital aspect. This includes health education, early detection programs, screenings and immunizations.

ERIK PICKETT 7:12

A strong focus on prevention can reduce the burden of diseases before it even starts. Think about vaccines, colonoscopies or smoking cessation initiatives. These don't just lower the cost to the systems, they improve healthy life expectancy.

AL KLEIN 7:27

Speaking about preventions, among Ben Franklin's many quotes, he once said that “an ounce of prevention is worth a pound of cure.” Now, when he said this, he probably wasn't thinking about how I might use his adage. But if prevention is this important, actuaries should probably monitor how investments in preventive health vary across regions and systems and their impact over time.

ERIK PICKETT 7:51

Thanks, Al! And well, now let's talk about access - possibly the biggest driver of variation of outcomes. It's not enough to have the technology or services if people can't reach or afford them.

AL KLEIN 8:02

Absolutely, Erik. In the U.S., insurance status and affluence levels are key factors. There are many people across the country who are underinsured, or who have no coverage at all. Even among those with coverage, rising deductibles and co pays can create significant financial barriers to care, or delayed care, which can cause worse outcomes.

ERIK PICKETT 8:25

And in the UK, access can be limited by supply. Waiting lists can be long for treatment of chronic, non-life-threatening conditions and recently, under investment in the system has led to people finding it very difficult to be seen by primary care physicians.

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AL KLEIN 8:40

I'm also aware of similar long waits in Canada. Geographic access also matters. Rural and underserved populations often face provider shortages and hospital closures, which can influence preventive and emergency care. Also, with longer travel times, these individuals may delay their care until it's more serious, which results in more difficult to treat conditions, often with worse outcomes, as just mentioned. And globally, infrastructure gaps and workforce shortages pose ongoing challenges.

ERIK PICKETT 9:14

Exactly. So, actuaries need to think not just about who's insured, but how effective their coverage is and how accessible the care really is in practice.

Before we round off this chapter, one issue I think worth mentioning is technology. Technological innovation has the potential to help systems struggling for funding implement care in a more efficient and accessible manner. We've seen major advancements in diagnostics, treatments and data sharing tools and these can drastically improve survival rates and disease management - if they're widely adopted.

AL KLEIN 9:49

That is a big "if"! Technology adoption often lags in certain areas, and disparities and implementation can drive uneven mortality improvements. Electronic medical records, telemedicine and AI-based diagnostics all have promise - but systematic integration takes time. Also, some technological advances are extremely costly, also leading to less frequent usage.

ERIK PICKETT 10:14

Actuaries should be monitoring both the development and the distribution of these innovations. Who benefits, how fast, and where are the gaps?

So Al, moving on to the impact summary table, what did you and Yair conclude about the projected impact of healthcare on future mortality?

AL KLEIN 10:31

Thanks, Erik. In the table at the end of the chapter, we looked at the key components of:

- Treatment and cure
- Prevention,
- Access and
- Quality

We were modestly optimistic about progress in health care and saw potential for positive impacts in all of these areas. However, with advances in health care requiring major resources, the health care models in place and the funds available to them will affect how this will ultimately materialize.

ERIK PICKETT 10:59

Thanks, Al. So, to sum it all up:

- Then healthcare is a critical driver of future mortality.

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- There are many different models for providing healthcare to a population, each with distinct advantages and disadvantages.
- Actuaries will need to consider the systems in place and how they serve the populations they are modeling in terms of different dimensions, such as access, affordability, quality and equity.
- It is important to consider how treatments and cures will develop over time for a given system, but also how preventative health care is being implemented.
- And accessibility of health care is a key factor for projecting future health outcomes but also be aware of the limitations on care for any given health model.

AL KLEIN 11:41

And finally, actuaries must keep a keen eye on how these systems evolve over time. I think that covers the key points in this chapter. Back to you, Kara to introduce the next chapter and close us out.

KARA CLARK 11:55

That wraps up our discussion on health care as a driver of future mortality. Thanks Al and Erik for another insightful conversation.

Join us next time as we explore chapter 7, focusing on medical advances and their implications for mortality projections.

And as always, we welcome your feedback! Email us at Research-ML@soa.org to share your thoughts on this series or suggest future topics.

I'm Kara Clark for the Society of Actuaries Research Institute. Thanks for listening!

ROSE NORTHON 15:20

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