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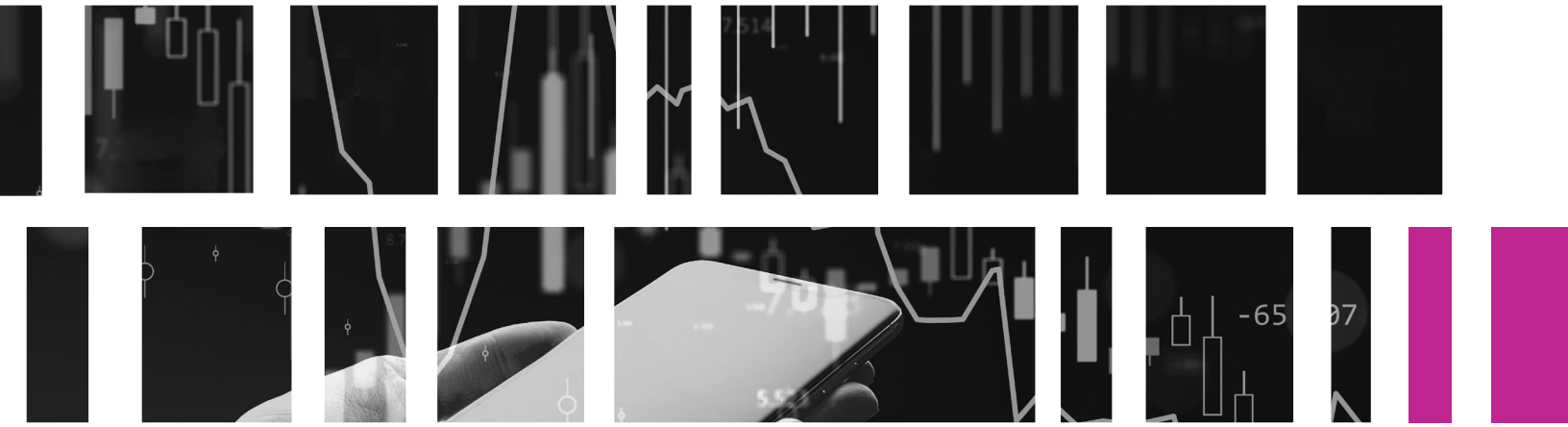

A WHITEPAPER FROM INSTITUTE@PRECISION

The Role of Societal Value Analyses in Supporting Access to Novel Pharmacotherapies in Asia-Pacific (APAC) Markets

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Executive Summary

Across the world, governments and health insurers want to understand the value that health technology innovation offers. In response to the question, "Over the life of a new treatment, what overall benefit is delivered to society?" a societal value analysis quantifies the total health benefit to society of a new treatment over its life cycle and converts that to monetary terms. Such an analysis offers a potentially high-impact message to payers and policy makers as a complement to conventional budget impact and cost-effectiveness analyses. This article discusses the relevance of societal value analyses in supporting access in Asia-Pacific (APAC) markets.

Introduction

Gary Becker (1930-2014) won the Nobel prize in Economics in 1992 for his work in describing the value of what has become known as "human capital" and how this relates to innovation in society. When applied to societal health and productivity, the essence of Becker's work is that societal investment in skills and knowledge creates the foundation for new ideas, and when this is accompanied by structural elements and incentives supporting forward looking decision making in sectors such as biomedical research, the result is healthcare innovation, i.e., new devices, diagnostics, and treatments that benefit the wider society.

Becker's insights took 20 years to assimilate into biopharma with the first major publication (Grabowski et al, 2012) looking at the value that lipid-lowering treatments delivered to society. In the subsequent 14 years, understanding how to value the benefit provided by healthcare innovation has been widely studied. This brief article will review the published literature on societal value studies and consider if and how this may be relevant to demonstrating the value of healthcare innovation to the Asia-Pacific region.

From a research methods perspective, a societal value analysis is simultaneously simple and complex. Essentially, a treatment can prolong life or improve the quality of life, which holds tremendous value for many people in society. The output is an estimate of the country- or population-level health benefit of a treatment, often expressed as the number of life years gained (LYG), monetized by attributing a value and utility to a year of life. With a societal value model, we can look at this value in different ways, thinking about what those years of life enable and who sees the benefit of that value.

Philipson et al (2005) offered the first societal value study of a pharmaceutical innovation published in a leading biomedical journal. The study extrapolated the anticipated health benefit from reducing viral load in people living with HIV/AIDS to a reduction in premature mortality. The health benefit was expressed in LYG and then monetized using estimated value of a statistical life year. An interesting twist on the Becker framework was to then look at the appropriation of the value that was retained by society vs. the biopharma innovator. Figure 1 explains this in lay terms.

Societal value in lay terms

1. Treatment of a disease can make a person live a longer and/or healthier life.
2. People value a longer and/or better life. So does society.
3. There are many different ways of valuing human life (such as the human capital approach, among others, which attributes monetary value to productivity gains associated with improved quality of life).
4. A societal value calculation quantifies the value of a longer and/or better life resulting from a new treatment by multiplying the extra number of days lived by the value of a day of life. This means a value of 'X' … more years of life times the value of that time, with adjustments made to the quality of those days. This is the overall value generated to society.
5. However, from 'X' the innovator (aka the pharma company) keeps some value in the form of retained profits, let's call that 'Y,' so the net value to society is 'X' minus 'Y' … let's call that 'Z.'

Figure 1: Explanation of Societal Value in Lay Terms

Multiple, similar studies followed Philipson and Jena (2005). Table 1 summarizes eight studies representing seven different disease states.

Study	Disease and treatment	Key finding	Societal: Innovator appropriation
Philipson and Jena (2005)	HIV/AIDS and the antiviral class of drugs	Aggregate value of improved survival experienced by all individuals infected with HIV by 2005 was nearly $400 billion.	95:5
Grabowski et al (2012)	Hyperlipidemia; HMG CoA reductase class	National survey data suggest that statin therapy reduced low-density lipoprotein levels by 18.8%, which translated into roughly 40,000 fewer deaths, 60,000 fewer hospitalizations for heart attacks, and 22,000 fewer hospitalizations for strokes in 2008.	76:24
Yin et al (2012)	Chronic myeloid leukemia (CML); TKI class (1st and 2nd generation TKI)	The TKI drug class in CML therapy has created more than $143 billion in social value.	90:10
Linthicum M et al (2016); Moreno G et al (2017)	Hepatitis C virus (HCV); the nucleotide analog NS5B polymerase inhibitor drug class	When applied to patients with HCV fibrosis from stages F0-F4, value estimates ranged from $500 billion to $824 billion.	Not stated
Philipson et al (2017)	Communicable infections in children; vaccines	Guideline-recommended vaccination of people born in the US in 2009 will save 1.2 million Quality Adjusted Life Years (QALYs), relative to no vaccination; estimated social value of $184.1 billion.	98:2

Kabiri M et al (2020)	Anti-obesity medicines (AOM) such as the GLP-1 class	For the 217 million Americans aged ≥25 years, AOM generate from $1.2 trillion to $2.5 trillion depending on uptake scenarios. Specific to Medicare and Medicaid, over 75 years, the values were estimated at $232 billion and $188 billion, respectively.	Not stated
Sullivan et al (2021)	Parkinson's disease; levodopa-carbidopa intestinal gel combination	In advanced Parkinson's disease, patients with improved mobility and function generated $2.6 billion in value to society.	Not stated

Table 1. Summary of Societal Value Analyses Conducted by Precision AQ Health Economics and Outcomes Research (HEOR)

Several themes emerge:

1. Societal value methods appear to be replicable across many different disease states and areas.
2. The disease states studied so far represent a broad array, from preventive care and chronic, non-fatal conditions to common and rare cancers.
3. Limiting estimates of innovation value solely to monetization of life years gained misses out on a considerable amount of value gained by society when sick individuals regain some health.
4. In studies that estimated the proportion of value retained by society from biopharmaceutical innovation, the appropriation kept by society ranged from 76% to 98%.

From the perspective of informing the price of a new drug in a specific market, a societal value study also offers the potential to demonstrate that the product price reflects a value in line with prior innovations that are widely regarded as offering a meaningful benefit to society, such as many of the treatments modeled in Table 1. Essentially, the societal value analysis is "reverse-engineered" at various price points for the new treatment to deliver a society: innovator appropriation ratio in the 80:20 to 90:10 range.

Application to Asia-Pacific markets

Healthcare resource constraints are ubiquitous; thus, any data to support the value of a new treatment is likely to be welcomed. Given the commitment to formal health technology assessment (HTA) processes across APAC, a societal value analysis offers an appealing message to payers and policy makers as a complement to conventional budget impact and cost-effectiveness analyses.

A key attribute of the societal value analysis is that it is inherently understandable to multiple stakeholders. It captures aspects of health that are intuitive to understand because they capture the realities of illness and health. As many countries across the Asia-Pacific region are coming to terms with super-aged societies, understanding the benefit created by an innovation to broader society, not just the patient (including caregivers, the workforce, and future populations benefitting from reinvestment for future innovation), helps to contextualize and quantify important considerations. This makes a societal value analysis immediately appealing to decision-makers in large and small markets, including the Asia-Pacific region, needing to make budget trade-offs across a broad portfolio of treatment as well as spending into non-health domains. However, behind that simplicity can lie immeasurable sophistication and complexity.

Three Core Elements of a Societal Value Analysis Demand Close Attention

1. Quantifying the number of patients who benefit from the innovation

Issues to consider:

- Time period of interest, e.g., launch year to date
- Change in the size of that population over time due to indication expansions and market dynamics
- Likely utilization of innovation by the population and change over time in uptake
- Patient demographics, e.g., women or women and men; age, race, Social Determinants of Health (SDOH)
- Data source to answer each question, e.g., sales data, healthcare claims

2. Accounting for life cycle changes to the innovation and the market

Issues to consider:

- How might pricing be affected by the introduction of competitors or loss of exclusivity?
- How does indication expansion affect both the size of the benefit provided by the innovation and the pricing for the innovation?
- What discount rates should be applied to health outcomes?
- What is a reasonable time horizon to fully capture long-term benefits and life cycle changes?

3. Including relevant societal aspects of value

Issues to consider:

- Does the population affected by the disease rely on caregivers, either informal or formal?
- Is the affected population of working age or do they contribute to production in society through volunteerism or informal family care?
- Is this a more severe disease from a morbidity or mortality perspective?
- Does the innovation increase life-years, the quality of those years, or both?
- What estimates exist for relevant societal aspects of value?

Conclusion

A lay audience–friendly health economic analysis is a rare thing, both in frequency and in value. Thus, it is a potentially appealing tactic. The ability to apply this method to a wide range of diseases and treatments further adds appeal. Lastly, the ability to use a societal value analysis to inform defensible product pricing, benchmarked to prior treatments that are widely viewed as having tangible health and economic value, makes this a critical HEOR tactic to consider.

About Precision AQ

Drawing on deep oncology and radiopharmaceutical expertise, Precision AQ partners with sponsors to support commercialization and market access with data-driven engagement and evidence strategies, enabling patients to access critical therapies.

Authors

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Jacki is a Vice President at Precision AQ, where she manages a team of researchers across a wide variety of disciplines and projects. Jacki has expertise in literature based economic and epidemiological models demonstrating the benefit of innovative treatments to society, as well as extensive experience in policy-facing research in a diversity of therapeutic areas including oncology, hepatology, and psychiatry. She has also worked with interdisciplinary strategic advisory boards and steering committees to explore research gaps and regulatory hurdles in diabetes, cost-effectiveness research, and digital medicine.

Jacki has previously worked at the RAND Corporation assisting healthy policy researchers working on HIV and sex education, childhood obesity, and consumer satisfaction with hospitals. Jacki has additional research experience in food policy, neighborhood councils, homeland security, and small business pensions. She served as the managing editor and the co-editor-in-chief for the University of Southern California's Policy & Practice Journal. Jacki earned a dual Master's degree in public policy and planning from the University of Southern California and her bachelor's degree from Harvard University in History of Science.

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Marlon is a Senior Director at Precision AQ, with expertise in applied econometrics and mixed-methods research. Prior to joining Precision, he was a Senior Research Associate at the Milken Institute and an Assistant Policy Analyst / Doctoral Fellow at the RAND Corporation. He has conducted qualitative and quantitative analyses on a wide range of policy issues, including alcohol and crime control, innovation, technology and economic growth, skills development and workforce training, as well as financial decision-making and higher education finance. Dr. Graf holds a B.Sc. in business administration from the University of Mannheim (Germany), an MPP from the University of California, Los Angeles, and a PhD in policy analysis from the Pardee RAND Graduate School.

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Ross is a global health economics and market access leader with 35+ years of experience in HEOR, health policy, and pharmaceutical strategy. He drives innovation and cross-functional collaboration at Precision AQ—advancing access, shaping value strategies, and aligning global healthcare systems to deliver meaningful patient outcomes.

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