Levels of Public Investment in R&D of Expensive Cancer Drugs

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Funded by the Center for Health and Wellbeing through the International Internship Program (IIP)

Introduction
The pharmaceutical industry has historically justified exorbitant specialty drug prices by 1) pointing to the high cost of R&D. Other explanations include a 2) value-based pricing scheme. Prices are growing unsustainably and increasing inaccessibility. Salud por Derecho produced a report to undermine justification number 1.

Expanding on their research, my responsibilities included creating a profile of three blockbuster cancer drugs:
- Pembrolizumab
- Enzalutamide
- Trastuzumab Emtansine

Objectives and Responsibilities
To determine the level of public investment in R&D of three drugs by examining the funding sources for clinical trials (CTs). This had potential to combat the pharmaceutical companies’ justifications for high prices.

Beyond the research, at Salud por Derecho I:
- Sought understanding of Spanish healthcare system/drug pricing models
- Internalized the mission of the NGO to help achieve its goals
- Translated and edited key documents

Methodology
- Download and include all relevant CTs from European (EudraCT) and US (clinicaltrials.gov) databases.
- Apply exclusion/inclusion criteria
- Categorize each CT by: type of funder, purpose (commercial or not), CT phase, and number of patients
- Merge and analyze the databases to see aggregate statistics

Other angles of analysis involved tracking sales revenue for each of the three drugs since FDA approval/arriving on the market, patent expiry, and price discrepancies among countries. If interested, ask for more information on these aspects.

Results Distribution of CT Sponsors
Pembrolizumab (n = 796)
Trastuzumab Em. (n = 72)
Enzalutamide (n = 176)

- Industry
- Other + Industry
- Other (including NIH)

Reflections and Conclusions
- Significant public investment (PI) in the R&D (i.e. CTs) of cancer drugs.
- Number of CTs is a proxy for money invested; more transparency is needed for firmer conclusions/deeper analysis
- Pricing systems should account for PI in R&D of drugs in order for the public to see an ROI on such investments
- To achieve lower prices of drugs, perhaps greater PI in biomedical research is necessary.

Acknowledgements
I would like to thank all of the inspiring coworkers at Salud por Derecho, including but not limited to my supervisor Irene Bernal. Furthermore, I’m grateful for the Princeton IIP program and the CHW funding that afforded me the opportunity to work in Spain this summer.

Lastly, much of this research was conducted primarily by Irene and her team before my arrival to Salud por Derecho. My contribution involved repeating the methodology they designed on more cancer drugs.