

# Intern Spotlight: Huibert-Jan Joosse

*November is 'Intern Spotlight Month' here at Health Action International, when we shine a light on the interns who make tremendous contributions to our team and the work we do with their fresh perspectives, new ideas, intellect and vivacious spirit. Each week throughout the month of November, we're introducing you to one of our interns from the past year who'll explain the research they conducted during their internship, as well as what they gained from it. This week, allow us to introduce you to Huibert-Jan Joosse, from the Netherlands.*

During his time at Health Action International (HAI), Huibert-Jan Joosse completed a report about the price of insulin in 78 different countries, as a requirement to obtain his Master's degree in Drug Innovation at Utrecht University. Huibert-Jan's research, supervised by Dr Marg Ewen, has been essential to HAI's ACCISS study.

## ***Why were you interested in your chosen topic?***

Medicine price and affordability has a strong influence on the daily life of many people worldwide. This is particularly true in most developing countries, where healthcare systems are often less capable of providing patients with affordable medicines. Often, patients are forced to pay for their medicines out-of-pocket, even in the public sector. In health systems where medicines are free in the public sector, medicines might not actually be available. Patients have no choice but turn to the private sector, which is often very expensive.

Insulin, for instance, has been around for almost a century, yet is still unaffordable and unavailable to many of the patients who need it just to survive. Unaffordability of insulin is caused by two factors; firstly, the insulin market is dominated by three manufacturers, and secondly, there has been a significant increase in use of more expensive analogue insulins. Analogue insulins are 'tweaked' versions of human insulin, which either acts quicker than, or lasts longer than human insulin, and are also thought to have fewer side-effects. They are often more expensive than human insulins. However, there is much debate if analogue insulins are actually cost-effective, or whether they are too expensive, considering the actual benefits.

## ***What did you discover in your research?***

As expected, we discovered that insulin prices were very high, to the point that it was often unaffordable. We estimated affordability based on how many days an unskilled government worker would need to work in order to purchase a month's supply of insulin. Insulin was considered to be unaffordable if it cost more than a full day's wage to buy a month's supply. The methodology was developed by my supervisor, Dr Marg Ewen, together with the World Health Organisation. We wanted to see if insulin was affordable for unskilled workers, such as the person that sweeps the floor at government offices, as well.

Looking at government procurement prices, insurance prices, and the price which patients had to pay, we also found that prices for analogue insulin were higher than for human

insulin. In the public sector where people had to pay, a month's supply of human insulin cost approximately two and half day's full wage. For analogue insulin, a month's supply cost more than a week's wage. In the private sector, insulin was even less affordable, with human insulin costing the equivalent of three and a half days' wages, and analogue insulin costing the equivalent of nine and a half days' wages.

### ***Which was your most interesting finding?***

According to our analysis, national governments could cut down their health expenditure significantly, if they chose to only procure human insulin, rather than procure both analogue and human insulin. The potential savings were massive. We estimated that Iran, for example, could save \$49 million every year. That being said, procurement prices did not explain the immense differences in insulin prices globally, which varied not only between, but also *within* income groups. I was very surprised to find such substantial differences in price between countries which otherwise had very similar incomes.

### ***Why did you want to do your internship at HAI, and what did you gain from it?***

I was working on cross-national drug utilization research as part of my masters' thesis, when I came across Dr Ewen's price and availability research during my literature review. It caught my eye, because her work seemed very real and relevant to me, something which I had not found in my earlier work, which involved sitting in a lab all day. Because I could really see the societal relevance of the ACCISS study, I decided to apply. At HAI, I learnt about pricing, about the relevance of good health systems, and what it is like to research medicine prices. I am eager to work more with medicine prices in the future, as there are so many issues left to address.

*An abstract from Huiber-Jan's research findings are presented below. You can also read his report [here](#). More information on HAI internships is*

*available [here](#).*

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*text="Abstract" font\_container="tag:h2|font\_size:27|text\_align:left|color:%232a5c75"*

*use\_theme\_fonts="yes"[/vc\_separator][vc\_column\_text]**Government procurement prices,***

***patient prices and reimbursement prices of insulin***

### **Background:**

As earlier studies showed that insulin was high priced and unaffordable, and to assess the current situation, a survey was undertaken to assess insulin prices i.e. government procurement prices, patient prices and affordability in the public and private sectors, and reimbursement prices.

### **Method:**

Procurement prices were obtained from national procurement officers in 26 countries and 2 organizations, patient prices were obtained for 44 countries via requests to various network members and via E-drug, and reimbursement prices were obtained from 28 publicly

accessible databases. Prices were standardised to 10ml 100IU/ml insulin.

**Results:**

For each price type, human insulins were lower priced than analogue insulins, and vials were lower priced than cartridges and pens. Median government procurement prices of human and analogue insulins were \$5.99 and \$34.20 respectively, patient prices were \$8.12 and \$40.87 (public sector) and \$16.65 and \$39.35 (private sector), and reimbursement prices were \$19.14 and \$27.90. However, across countries, wide price variations were seen even for the same product, e.g. the price for Humulin R in the private sector ranged from \$3.17 in Venezuela to \$49.89 in the Philippines. Insulin was unaffordable, even human insulin in the public sector, for those on low wages.

**Conclusion:**

The data shows that there is room for savings by governments, patients and insurers.

Unaffordability and high prices may be a result of price components in the supply chain, which is subject to further study.

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