

Contribution of the pharmaceutical sector to Northern Ireland's economy

This analysis has been prepared by the Fraser of Allander Institute (FAI) at the University of Strathclyde. The technical analysis, methodology and writing of the results was undertaken independently by the FAI. This analysis was commissioned and supported by the Association of the British Pharmaceutical Industry (ABPI) Northern Ireland.

Overview

The pharmaceutical industry plays an important role in Northern Ireland's economy. It employs a significant number of people and has a track record of globally recognised research achievements to go with its valuable manufacturing base. The industry represents companies covering a range of activities, from research to manufacturing and sales. Northern Ireland's pharmaceutical sector has achieved strides in biomedical research, including developments in cancer, cardiovascular disease and cystic fibrosis research.

Only the manufacturing of pharmaceutical products is covered in the statistical definition of the pharmaceutical industry in the national accounts – which includes estimates of economic activity in an economy by industry – but the true industry coverage is wider than this suggests. For example, the pharmaceutical manufacturing industry in Northern Ireland contains around 20 firms but the number of firms engaging in pharmaceutical activity is greater.

The wider pharmaceutical industry

Our modelling includes a wider definition of the pharmaceutical industry – manufacturing of pharmaceuticals and pharmaceutical R&D – which is consistent with our [Scottish pharmaceutical report](#).

Additionally, our modelling includes a wider life sciences definition based on the [Scottish Government's Growth Sectors](#). These outline life sciences as discovery, R&D and manufacturing of therapeutics, medical devices, platform technologies and diagnostics as well as specialist suppliers who support the sector.

Between 2015 and 2017, Northern Ireland saw increases in employment of 6% in pharmaceutical manufacturing and wider pharmaceuticals and 14% in life sciences.

Table 1: Northern Ireland FTE* industry employment, 2015 - 2017

	2015	2017
Manufacturing of Pharmaceuticals	2,715	2,880
Wider Pharmaceuticals	2,785	2,960
Wider Life Sciences	4,715	5,365

*One FTE job is equivalent to one person working full-time for one year or two people working half the hours of a full-time worker for one year.

Source: BERD, BRES

SUMMARY

Contribution of the pharmaceutical sector to Northern Ireland's economy

Wider pharmaceutical industry



13,900
FTE jobs supported

£910 million
in GVA supported



Wider life sciences industry

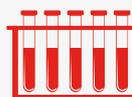


18,000
FTE jobs supported

Over £1.1 billion
in GVA supported



Table 1 outlines the **direct** employment supported by the pharmaceutical sector under three definitions in 2015 and 2017.



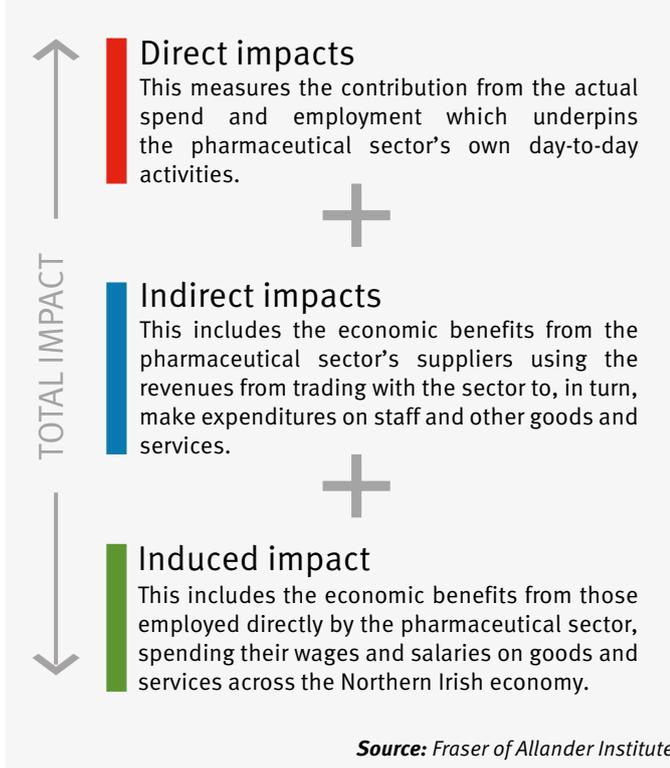
The following section estimates the **direct, indirect** and **induced** employment supported by the wider pharmaceuticals and wider life sciences sectors in 2016.

The economic impact

This report examines the economic impact of ABPI Northern Ireland's activities on Gross Value Added (GVA) and full-time equivalent (FTE) employment in Northern Ireland. Gross Value Added (GVA) can be expressed generally as the difference between the revenue from sales and the cost of inputs. It is similar to Gross Domestic Product (GDP) but excludes taxes and subsidies on products.

Our model of Northern Ireland's economy estimates the spill-over impacts of the pharmaceutical industry on firms in their supply chain. These spill-over impacts include 'indirect effects' and 'induced effects'. See Diagram 1.

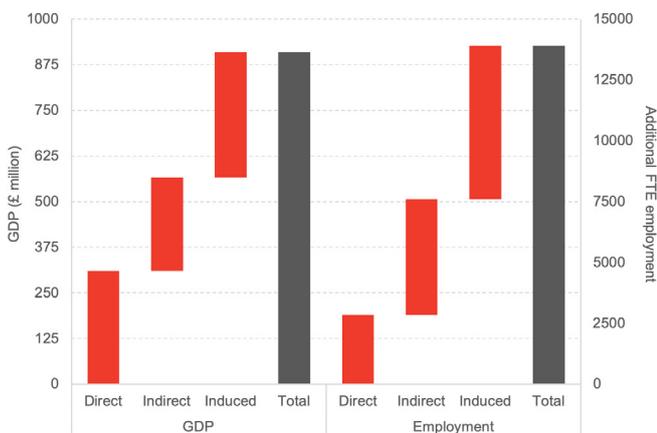
Diagram 1: Direct, indirect and induced impacts



We estimate that for the wider pharmaceutical industry:

- Firms within the wider pharmaceutical industry employ over 2,800 full-time equivalent (FTE) jobs and generate £310 million in GVA.
- Including spill-over effects (indirect and induced effects), the wider pharmaceutical industry supports around 13,900 FTE jobs and £910 million in GVA.
- For every 100 FTE employees working in the wider pharmaceutical industry, an additional 390 jobs are supported elsewhere in Northern Ireland's economy.

Chart 1: Contribution of the wider pharmaceutical sector to Northern Ireland's economy

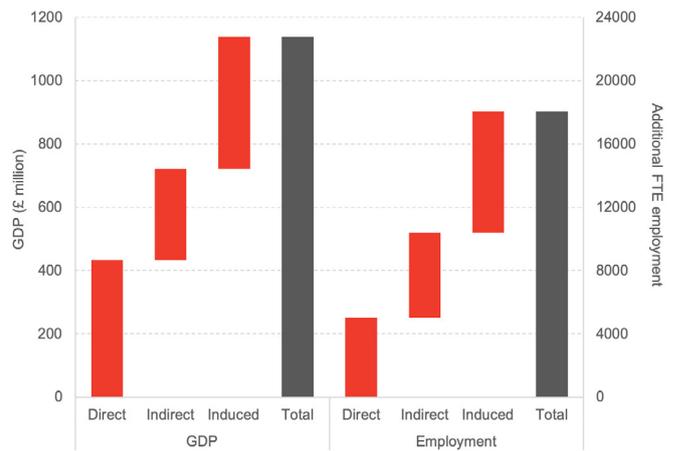


Source: Fraser of Allander Institute

We estimate that for the wider life sciences industry:

- Firms within the wider life sciences industry employ over 5,000 FTE jobs and generate £430 million in GVA.
- Including spill-over effects, the wider life sciences industry supports over 18,000 FTE jobs and over £1.1 billion in GVA.
- For every 100 FTE employees working in the wider life sciences industry, an additional 260 jobs are supported elsewhere in Northern Ireland's economy.

Chart 2: Contribution of the wider life sciences sector to Northern Ireland's economy



Source: Fraser of Allander Institute

Summary

These results tell us that the direct impacts of the wider pharmaceutical industry, i.e. the activities within only the wider pharmaceutical sector, supports 2,800 FTE jobs, generating £310 million in GVA.

Due to spill-over effects, the activities of suppliers and those employed throughout the supply chain, i.e. the indirect and induced effects, supports further jobs and economic growth across Northern Ireland. Therefore, in total, this sector supports 13,900 FTE jobs and £910 million in GVA.

For the life sciences sector, it directly supports 5,000 FTE jobs and generates £430 million in GVA just within the life sciences sector. Activities across the whole supply chain contribute to a total economic impact in Northern Ireland of 18,000 FTE jobs and £1.1 billion in GVA.

Coronavirus

The coronavirus outbreak represents the greatest public health crisis in a generation. Whilst the health risk for the families impacted is the most important concern, the pandemic will have a significant economic impact.

The impact on Northern Ireland's pharmaceutical industry is as yet unclear.

In the short-term, maintaining supply chains will be a challenge, particularly with the uncertainty around the UK's departure from the Single Market and Customs Union in January 2021.

As inventories have been depleted during the Coronavirus crisis, sourcing the raw materials required to scale up output is a pressing issue for Northern Ireland's pharmaceutical industry.

In the long-term, re-shoring the manufacture of important pharmaceutical products is likely to become a common feature of the global pharmaceutical industry as a result of the Coronavirus crisis. This could present Northern Ireland with significant opportunities to grow the output and jobs supported by the pharmaceutical and life sciences industries, as well as the associated research opportunities.

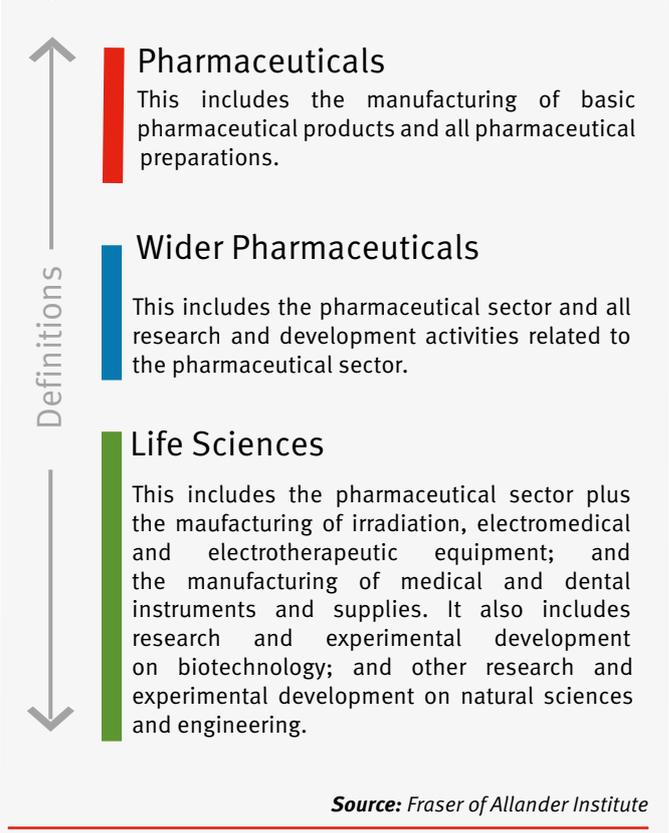
Methodology

The results in this report are estimated using a model built on Northern Ireland's Input-Output (IO) tables for the latest year, 2016. These tables outline the flow of goods and services in the economy for a given year. Unfortunately, the impact of coronavirus on the 2020 IO tables will not be known until they are published in the future.

Using the IO tables, we estimate the direct, indirect and induced effects of hypothetically removing Northern Ireland's wider pharmaceutical industry from the economy.

The wider pharmaceutical industry includes manufacturing of pharmaceuticals as well as pharmaceutical business R&D. The wider life sciences sector included additional industries, following the [Scottish Government's Growth Sectors](#), and was constructed using employee shares of each industry. See Diagram 2

Diagram 2: Northern Ireland Sector Definitions



Conclusions

With both the current economic crisis resulting from a global pandemic and the ever looming end of year exit from the EU, there remains uncertainty within the pharmaceuticals sector in Northern Ireland.

It is unclear how exactly the economy will bounce back, and in particular, what the new face of the economy may mean for pharmaceuticals.

Given the results of the modelling within this report, it is estimated that pharmaceuticals help to directly support 2,800 FTE jobs in the wider pharmaceuticals sector and 5,000 FTE jobs in the life sciences sector. Both the wider pharmaceuticals and life sciences sector also help to support 13,900 and 18,000 FTE jobs respectively across the wider economy.

In addition to FTE jobs, pharmaceuticals also helps to generate £310m in GVA in the wider pharmaceuticals sector, with outside activities generating a further £910m across the remainder of the economy. Similarly, the life sciences supports £430m in GVA and, including spill-over effects, is estimated to support a total of £1.1bn in GVA across the whole Northern Ireland economy.

These results suggest that there is an opportunity for the pharmaceuticals sector in Northern Ireland to become a key driving force in the incoming economic recovery.

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This report is supported by [ABPI Northern Ireland](#). The ABPI represents innovative, research-based biopharmaceutical companies in the United Kingdom. ABPI Northern Ireland represents the interests of these companies in Northern Ireland.


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