

What do Statisticians & Statistical Programmers do?

Statisticians are responsible for designing trials and making sure that data are collected, analysed and interpreted correctly. Much time is spent working with people from different disciplines within a company, including international project teams, as well as externally (e.g. hospital physicians and government agencies).

A statistical programmer will be responsible for processing and summarising data collected throughout the medicine's development (e.g. data listings, graphs and tables). These summaries will form an integral part of the final documentation which will be required to show that the medicine is safe and effective, and consequently should be made available to patients. In addition to working closely with statisticians and other project team members, statistical programmers continually strive to improve existing processes and embrace new technology.

Further Opportunities

Statistics can be applied to many challenging areas. There are many opportunities to work within different therapeutic areas (e.g. antibiotics, cancer and heart conditions) and across different business environments (e.g. research & development, manufacturing and marketing).

Companies have different career structures allowing you to tailor your needs and further your abilities via technical and management assignments. You may start your career working on individual trials and later find yourself working on large clinical programmes which are made up of many trials.

There may be opportunities to travel abroad to collect information and discuss the design and results of trials. Opportunities also exist for temporary or permanent employment abroad.

Due to the high demand for trained statisticians and statistical programmers in the pharmaceutical industry, salaries and benefits are very competitive with statistical posts in other industries and with other professions.

Typical Qualifications

Statisticians and statistical programmers have a strong background in mathematics and in the use of computers. A common route taken by statisticians and statistical programmers is to study computing, mathematics or statistics at A-level/Highers and then to specialise in other mathematically based subjects. Many companies offer university students work experience with the aim of ensuring that high standards of training within the industry are maintained.

Whilst the level of statistical education required generally depends on the seniority of the position, most statisticians hold a B.Sc. (e.g. applied statistics or mathematics) and an M.Sc. (e.g. medical statistics). Some also hold a PhD in an area of medical statistics. Most statistical programmers hold at least a B.Sc in mathematics, statistics or computing.

Once you take a job within the industry you will find that companies are committed to ensuring that they further your technical capability and overall professional development via internal and external training courses.

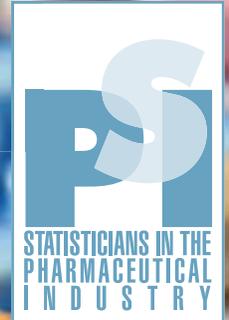
What Is PSI?

PSI was formed in 1977 for statisticians working within the pharmaceutical industry. Membership exceeds 1000 statisticians and statistical programmers from companies based in the UK and mainland Europe. PSI continues to grow at a steady but healthy rate.

Its major objectives are to provide a forum for regular discussion on matters relating to the practice of statistics and to promote professional standards of statistics in matters pertinent to the industry.

If you would like to find out more about statistical careers within the pharmaceutical industry then visit our website <http://www.psiweb.org> and click on the careers centre where you can download the 'Careers for Statisticians and Statistical Programmers within the Pharmaceutical Industry' booklet.

Statistics in the Pharmaceutical Industry



Career Opportunities for School Leavers and Graduates

Do you want to improve people's lives by helping to develop medicines through numeracy or computing skills?

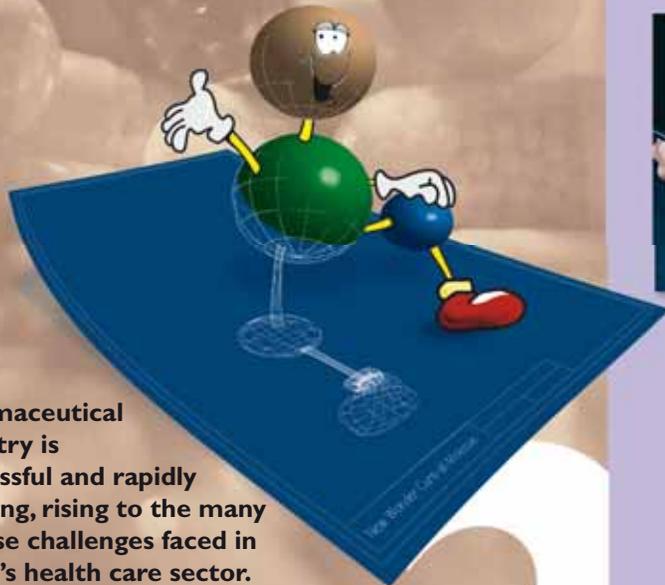
if yes, then please read on...

and visit our careers centre on the PSI website <http://www.psiweb.org>

What is the Pharmaceutical Industry?



The pharmaceutical industry aims to discover new medicines, improve upon existing medicines and treat conditions for which there is currently no known cure.



The pharmaceutical industry is successful and rapidly growing, rising to the many diverse challenges faced in today's health care sector.

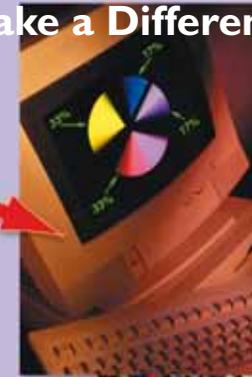
How does Statistics make a Difference?

This section takes you on a journey, showing how statistics is used to help evaluate whether a medicine is ready to be prescribed by a doctor or sold by a pharmacist. Throughout this journey, people using statistics (statisticians and statistical programmers) work very closely with other team members from a variety of backgrounds and across different countries.

During the pre-clinical and clinical stages, statistics is used in the development and manufacture of the medicine to make sure that it can be made consistently and within acceptable quality limits from the raw ingredients.



If the medicine is considered safe enough to be investigated further, a number of trials involving people are undertaken in the clinical stage. Within this broad area, statistics is used to design meaningful trials and analyse data to assess how the medicine works within the human body, to select the most promising medicinal dose, to investigate the effectiveness and safety of the medicine and also to understand the impact of standard medicines currently available on the market. Typically this stage takes a number of years to complete and if successful will provide enough evidence to allow the compound to be sold as a safe and effective medicine.



Scientists use computers and advanced technology in collaboration with statisticians to identify new chemical compounds that have the potential to become a new medicine.



Before allowing the medicine to be used on people, trials are performed in the pre-clinical stage. Statistics plays a vital role in these trials as many questions on the safety of the compound need to be answered by analysing and interpreting the data correctly.



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