

The expanding role of the statistical programmer – our experience



Programming of Outputs:

1. Tables ,Listings and Figures

- familiarity with the complex functions available and use of programming
- software skills for electronic QC

2. Data cleaning reports

- be able to adapt programming expertise to different tools and platforms

3. Checks on data

- in-depth understanding of the data and the issues affecting it
 - good algorithm design skills
 - defensive programming

4. Restructuring study data to meet specific standards

- good knowledge of programming standards
- easily transfer programming standards across different clients or companies

Project management

- budget awareness and budget management
- resource planning and management
- timeline management
- match resource requirements with distribution of expertise
- Study tracking

Improvement of existing process

1. Finding innovative ways

- identifying areas of improvement not restricted to programming projects, adapt programming skills to areas such as analysing data collected by the business and checking budgets and metrics

2. Standard macros and templates

- resource management, balance programming of standard macros and templates with study work

3. Developing quicker and more efficient methods of validation

- strong decision making skills as more decisions are left to the discretion of the programmer
- good documentation skills to provide project overview for QC

Use of different software tools

1. Programming languages

- better understanding of less user friendly programming languages (e.g. R , python) to utilise their capabilities for different types of outputs
- better validation skills, for testing new features available that haven't yet been formally validated
- understanding of how different systems link and interact with each other

2. Operating systems

- knowledge of operating systems and the differences between them to facilitate migration (gradual replacement of PC based to server and cloud based systems)

- familiarity with how programming software and software tools behave on different systems

3. Version control software

- knowledge of different version control software to ensure traceability of programs

Documentation and traceability

1.Traceability

- planning and organisational skills to deal with more complex study designs
- documentation management skills to make sure the additional steps are thoroughly documented for reproducibility

2.Documentation

- good documentation skills to cope with increasing volumes of documentation
- knowledge of different document management systems for effective management of project documentation

Communication

- adapt communication skills to new technology
- successfully interact with multicultural teams
- management and coordination of tasks between different countries and time zones
- ability to build good work relations in a virtual environment

