Royal Devon University Healthcare NHS Foundation Trust

JOB DESCRIPTION

JOB DETAILS	
Job Title	Principal Clinical Scientist (Bioinformatics Operational/Research & Development)
Reports to	Principal Clinical Scientist (Team/Section Lead)
Band	Band 8a
Department/Directorate	Genomics Laboratory/Specialist Services

JOB PURPOSE

Responsible for the accurate and timely provision of highly specialist genomic tests.

Responsible for the day-to-day management of either the operational activities or research and development activities in their section, providing cover during periods of absence to ensure that there is management of both roles. They will work closely with the Team/Section Lead and Operational and Development Principal Clinical Scientists in other teams to develop and deliver the laboratory's repertoire of services and strategic objectives.

Provide expert scientific and managerial leadership with a very high level of scientific knowledge, skill and expertise in the clinical application of genomic testing, and the interpretation of findings in the clinical context.

Undertake and design research and development activities to improve the efficiency of existing diagnostic tests, identifying and implementing new technologies and processes to ensure the appropriate use of resources for the accurate and timely provision of highly complex genomic tests.

Responsible for supporting the development and delivery of specialist teaching, training and development of staff, students and healthcare professionals in the use of genomic testing.

Take a proactive role in maintaining high quality standards to ensure maintenance of the laboratory UKAS accreditation status, including service improvements for their area of responsibility, in line with local, regional, and national genomics strategies.

Responsible for the appropriate, efficient and safe use of resources within their area of responsibility.

The post holder will exercise considerable autonomy for their work and that of the service.

KEY RESULT AREAS/PRINCIPAL DUTIES AND RESPONSIBILITIES

Working with the Section Lead, Oversee the day-to-day operation of the section, including resource allocation and workflow management, to ensure timely and accurate diagnostic and scientific services.

Support the design and implement innovative research and development activities to improve efficiency of existing diagnostic tests.

Provide technical advice to clinical scientists in the interpretation of highly complex data from the bioinformatics pipeline. Apply expert knowledge of Next Generation Sequencing approaches, statistical techniques and bioinformatic tools in the processing and analysis of data.

Apply programming skills in a modern object orientated scripting language in the development of bioinformatics pipelines, ensuring compliance with regulatory requirements and best practice.

Apply knowledge of SQL database design, development, and administration to support laboratory services.

Participate in the development and maintenance of policies and procedure to ensure the safety of data in the Exeter Genomics Laboratory/SWGLH, working with relevant internal and external stakeholders, as appropriate.

Participate in and represent the laboratory at appropriate internally and externally at professional, managerial and training meetings as required.

Participate in workforce planning and recruitment, mentoring and developing staff by supporting CPD (Continuing Professional Development).

Manage staff within area of responsibility to ensure efficient service delivery.

Ensure compliance with local, national, and professional regulations and standards.

Identify opportunities for technological advancements and service improvements, develop and validate new diagnostic tests, methodologies, and protocols and lead on the implementation of innovative scientific techniques into routine practice.

KEY WORKING RELATIONSHIPS

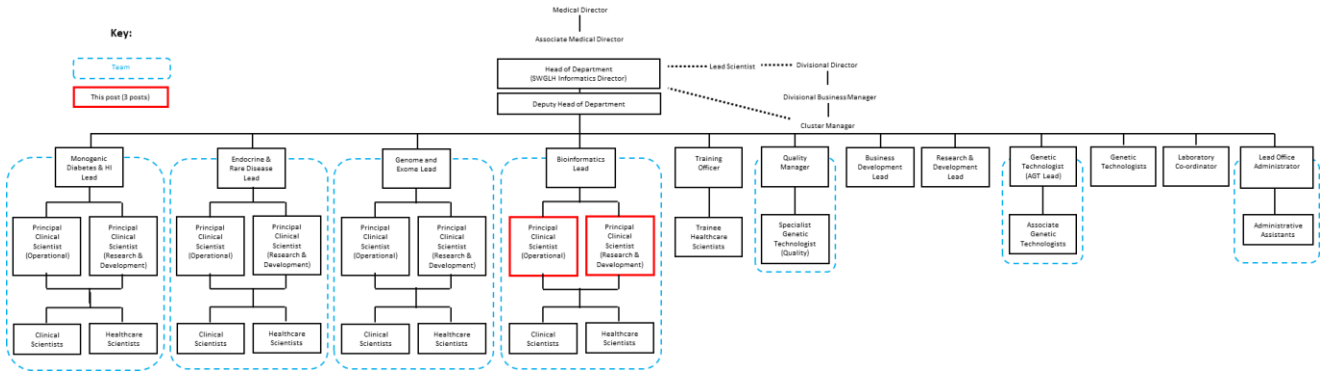
Areas of Responsibility: Responsible for overseeing the operational or development of services within their section of the laboratory, including their own work and the organisation of the work of others, working with a high degree of autonomy. The post holder is required to deal effectively with staff of all levels throughout the Trust and externally as and when they encounter on a day to day basis. This will include verbal, written and electronic media.

No. of Staff reporting to this role: >5

Of particular importance are working relationships with:

Internal to the Trust	External to the Trust
• Clinical Scientists • Healthcare Scientists • Bioinformaticians • Trainee Healthcare Scientists • Genetic Technologists • Associate Genetic Technologists • Administrative Assistants • Medical Staff • Other Healthcare professionals • Clinical research team members, Fellows and nurses	• Medical staff • Healthcare organisations • Company representatives • Clinical Scientists • Healthcare Scientists • Trainee Healthcare Scientists • Postdoctoral research fellows, PhD students and other trainees or students • Clinical research team members, Fellows and nurses • Other Healthcare professionals

ORGANISATIONAL CHART



FREEDOM TO ACT

Work autonomously and within professional and regulatory guidelines, to support the Section Lead with laboratory operations, service development, and research initiatives.

Exercise considerable autonomy for their work and that of the service, including freedom to act on their own initiative.

Provide expert guidance and advice to clinical teams, researchers, and external stakeholders, influencing decisions on genomics service delivery and patient care.

Always work within clearly defined accountability framework.

COMMUNICATION/RELATIONSHIP SKILLS

Maintain the highest level of patient confidentiality and comply with section 60 of the Health and Social Care Act.

Recognise and promote the importance of harmonious, collaborative, relationships and maintain an atmosphere conducive to this.

The post holder will frequently:

- Communicate specialist, highly complex data and information clearly and concisely to staff from multiple disciplines, ensuring any barriers to understanding are appropriately addressed.
- Communicate with colleagues to improve understanding of genomic variation in the human genome.
- Represent the Genomics department at regional and national meetings.
- Under the direction of the SWGLH Informatics Director and local IT departments ensure continued network support.
- Present highly specialist clinical, diagnostic and research findings at appropriate national and international conferences, meetings and seminars (both internal and external) and through publication in high quality journals.
- Present highly complex and sensitive information at the appropriate level of understanding for audiences with varying levels of genetic and genomic bioinformatics, clinical, scientific and technical knowledge including healthcare professionals, under- and postgraduate students, patients, visitors and the public.
- Participate at a high level in internal and external meetings and other learning activities (e.g. lab meetings, genomics weekly seminar series, departmental training sessions, interdepartmental meetings and conferences).
- Communicate with users and other laboratories (as appropriate) to request and receive sensitive and complex information necessary for accurate and timely reporting of results.
- Use tact and persuasive skills to motivate staff to support the delivery of the strategic objectives of the laboratory.
- Communicate with clinical, scientific and commercial stakeholders to support the development and delivery of the strategic objectives of the laboratory.

- Communicate with relevant teams within the Trust (e.g. Human Resources, Recruitment, Occupational Health) on staff-related matters.

Deputise for the Section Lead in his/her absence and represent the laboratory as required.

ANALYTICAL/JUDGEMENTAL SKILLS

Frequently apply expert knowledge of Next Generation Sequencing approaches and statistical techniques (e.g. R) in the manipulation and analysis of data.

Frequently apply knowledge of bioinformatic tools, resources and techniques applied to medical genetics.

Frequently apply programming skills in a modern object orientated scripting language (such as Python, Ruby, Scala, PERL etc) for pipeline development and ad hoc scripting.

Frequently apply extensive knowledge of SQL database design, development, and administration to support services within the SWGLH

Frequently evaluate results and data from the bioinformatics pipeline and the interrogation of the pipeline in response to complex findings and recommendations of options for alternative bioinformatics analysis where appropriate.

Exercise significant discretion and professional judgment in troubleshooting complex technical, bioinformatics, and quality control issues, escalating only when necessary.

Provide technical advice to clinical scientists in the interpretation of highly complex data from the bioinformatics pipeline.

Communicate the results of analyses to clinical colleagues, ensuring that the testing performed is clearly explained, and any barriers to understanding are appropriately addressed.

Interpret highly complex specialist genomic test results.

Frequently apply analytical skills and knowledge of NHS information and data requirements to the application of bioinformatics within a diagnostic laboratory setting.

PLANNING/ORGANISATIONAL SKILLS

Work in partnership with the Section Lead and other relevant stakeholders in delivering the overall strategic direction of their area of responsibility, encouraging their team to buy into the laboratory's vision.

Responsible for the planning and management of innovation and change in area of responsibility, working with key stakeholders, to ensure continued improvement of services.

Support the development and provision of IT systems to respond to local, regional, and national needs as part of the South West Genomic Laboratory Hub.

Use audit data to formulate and plan education for users of the service.

Ensure compliance with all requirements of the Data Protection Act and any other relevant regulations for data protection.

Participate in the national genomics working groups, where relevant, to inform and steer policy, practice, and training.

Responsible for planning own workload, working on own initiative and acting independently to support delivery of the strategic and operational objectives of the laboratory.

PATIENT/CLIENT CARE

Responsible for ensuring that the Bioinformatics service offered by the laboratory is of the highest standard by keeping up-to-take with the latest advances and developments in bioinformatics within and outside of the NHS.

Responsible for providing highly specialist advice and communicating highly complex data and results of analyses to relevant staff from multiple disciplines, including non-experts with very limited or no knowledge of bioinformatics.

Keep up to date with current knowledge in bioinformatics.

Provide specialist competence developed through continual professional development, reflective practice and maintain a skills portfolio relevant to the service specification.

Report any untoward incidents or complaints to the appropriate Technical or Scientific Lead within the appropriate timescales.

Prevent adverse effects on health and wellbeing.

POLICY/SERVICE DEVELOPMENT

Responsible for the development, critical review, interpretation and implementation of operational policies and practices within their area of responsibility, to ensure they are aligned to the needs of the organisation, remain fit for purpose and are sustainable.

Participate in the national/international genomics working groups, where relevant, to develop national polices and best practice guidelines to support high quality genomics services for patients in the NHS.

Propose and implement changes that impact on own and wider specialist area by actively participating in cross-departmental, Trust-wide and national training to support development and continuous improvement of best practice in all clinical aspects of genetic and genomic testing.

Working with the Section Lead, lead agreed projects to deliver organisational strategy, such as new technology implementation and transformation programmes, ensuring compliance with all relevant policies.

Develop and implement policies and service improvements for their area of responsibility in line with local, regional, and national genomics strategies.

Responsible for ensuring the bioinformatics pipelines and processes are compliant with all relevant regulatory standards (e.g. ISO15189) and accreditation bodies and that best practice guidelines and standards applicable to bioinformatics are adhered to.

Participate in the organisation and monitoring of internal and external quality control procedures, including clinical audit, incident investigation and reporting, participation in relevant external quality assessment schemes, and taking responsibility for the implementation of any learning actions.

Take a proactive role in maintaining high quality standards to ensure maintenance of the laboratory UKAS accreditation status, ensuring that staff based in the section abide by all statutory requirements, codes of practice, health and safety regulations and operational policies of the department and to be aware of these measures as applied to other sections.

Actively promote a culture of innovation and change to ensure continued improvement of services.

Participate in department-wide internal audit and clinical audit programme to ensure continuous quality improvement.

Actively seek opportunities to support the development and delivery of departmental strategic objectives, working with key internal and external stakeholders.

Design and carry out appropriate user satisfaction surveys to ensure continuous quality improvement of services

Take a proactive role in establishing and maintaining high quality standards.

Adhere to professional best practice guidelines (including ACGS and EMQN).

Write, review, update and approve quality management documentation, including policies, departmental training documentation and SOPs (where appropriate).

Actively participate in both internal and external Quality Assurance schemes to ensure the highest standards of genomic testing.

Work to Trust Policies, Procedures and Standard Operating Procedures (SOP).

Contribute to and work within a safe working environment by adhering to statutory requirements, codes of practice, Health and Safety and COSHH regulations, protocols and policies of the laboratory.

Apply understanding of information security threats and countermeasures to support the development and maintenance of policies and procedures to ensure the safety of data in the laboratory, working with relevant internal and external stakeholders, as appropriate.

FINANCIAL/PHYSICAL RESOURCES

Responsible for the procurement and maintenance of stock and supplies for their area of work, including authorising invoices, to ensure continued uninterrupted service provision within their area of responsibility.

Responsible for resource allocation within their area of responsibility.

Responsible for the appropriate, efficient and safe use of resources within their area of responsibility.

Evaluate the cost effectiveness of new services and technologies when compared to existing services and recommend new investments where required.

Contribute to the development of business cases and funding proposals to support service improvements and strategic objectives.

Support the procurement, management, optimisation and maintenance of physical resources, including equipment, IT systems, bioinformatics, data management and storage systems, ensuring they are maintained, safe, and fit for purpose.

Identify and implement improvements for service efficiency and effectiveness in their area of responsibility.

Ensure compliance with UKAS accreditation and other relevant quality and safety standards in relation to laboratory assets and financial governance.

Ensure adherence to environmental sustainability initiatives in line with NHS Green Plans, reducing waste and promoting efficient use of resources.

HUMAN RESOURCES

Responsible for the line management of the staff within their area of responsibility.

Responsible for overseeing recruitment process for new scientists working within the section, including developing and writing job descriptions, short-listing applications, interviewing and organising their laboratory induction.

Foster and maintain collaborative relationships to ensure the delivery of high quality genomic testing services.

Participate in supervision and appraisal process, supporting staff to identify and undertake relevant activities to meet objectives set in their personal development plan.

Provide oversight for the development and delivery of training programmes for their area of responsibility.

Responsible for monitoring and managing staff, performance, capability issues and attendance (e.g. sickness absence) in accordance with Trust policies and imparting unwelcome news to staff (e.g. termination of fixed term contract) where necessary.

Responsible for maintaining an up-to-date knowledge-base while demonstrating advanced competencies through a personalised Continued Professional Development portfolio.

Abide by relevant codes of professional conduct (HCPC Standards of Proficiency).

Supervise staff, troubleshoot assays and work closely with colleagues to ensure tests are performed in a timely and accurate manner. The highest level of accuracy is required to minimise clinical risk (e.g. an erroneous result that results in an incorrect diagnosis or prediction of carrier status).

Undertake training to develop a range of knowledge and skills in order to deliver a high quality service.

In partnership with the local leads, support the education of the genomics workforce.

Participate in Continued Professional Development (CPD) in accordance with HCPC and RCPath guidelines (if appropriate).

Keep a record of own training and development, maintain a portfolio, working to sustain acquired competencies for the post.

Undertake any training required in order to maintain competency including mandatory training, (i.e. Fire, Manual Handling).

Demonstrate a professional and responsible manner at all times.

Take a flexible approach in supporting colleagues during times of caseload pressures.

INFORMATION RESOURCES

Work with the Section Lead to ensure a suitable IT and information governance infrastructure for the safe management of large data sets and standardisation of robust bioinformatics processes within the laboratory.

Implement improved bioinformatics and data management tools, ensuring compliance with Trust data security and governance policies.

Responsible for writing and maintaining accurate records of service improvements and their validation to comply with ISO15189 (UKAS) accreditation.

Maintain awareness of new developments and ensuring the data analytics capacity of the laboratory is using the most up-to date bioinformatics tools as appropriate.

Support generation of integrated reports and automatic reporting and issue of simple results.

Utilise knowledge and understanding of relational databases, spreadsheets and other data manipulation packages to exploit bioinformatics opportunities related to their use.

Provide an accurate, timely and unambiguous response to queries regarding patient referrals and ensure effective communication, both within the laboratory and with associated healthcare professionals, ensuring that all records of communication are stored and maintained in an appropriate manner.

RESEARCH AND DEVELOPMENT

Regularly undertake and design research and development activities to improve service provision and the efficiency of existing diagnostic tests, including checking and validation of new diagnostic equipment and services.

Oversee the day-to-day operations and/or research and development activities relating to area of responsibility, ensuring appropriate resource allocation and proactively incorporating plans to ensure resilience and continuation of the service.

Collaborate with clinicians and scientists to ensure that bioinformatics tools meet the requirements of the user and support new innovations and research developments

Undertake collaborative research and development on new bioinformatics applications to ensure that the laboratory remains at the forefront of scientific and technological advancements, e.g., the use of AI, as well as the development of bioinformatics for new technologies.

Participate in diagnostic and research projects and present the findings at scientific meetings and conferences, through talks, posters and publication in journals.

Supervise research and development projects.

PHYSICAL SKILLS

Using IT equipment and working with high levels of accuracy.

Ability to work in an efficient manner to enable timely completion of tasks.

Advanced keyboard skills to support programming.

PHYSICAL EFFORT

Using IT equipment on a daily basis whilst seated in a restricted position.

Occasionally expected to travel offsite to regional and national meetings.

MENTAL EFFORT

Frequent requirement to concentrate for long periods processing complex information.

Frequent interruptions to work patterns, with requirement to shift focus quickly in response to frequent urgent incoming requests from internal and external colleagues.

Frequent need to ensure that professional knowledge is continuously updated, and training undertaken if appropriate.

Frequent need to complete work to tight timescales to ensure that reporting times for samples are met.

Frequent working in dynamic and diverse multidisciplinary team conditions.

Significant time will be spent in meetings internal and external to the Trust, requiring high levels of concentration.

EMOTIONAL EFFORT

Frequent exposure to emotional or distressing circumstances relating to patient referral information.

Ability to cope with difficult staff issues, occasionally.

Ability to cope and deal with areas of conflict, occasionally.

WORKING CONDITIONS

Frequent daily contact with visual display unit (VDU).

OTHER RESPONSIBILITIES

Take part in regular performance appraisal.

Undertake any training required in order to maintain competency including mandatory training, e.g. Manual Handling

Contribute to and work within a safe working environment

You are expected to comply with Trust Infection Control Policies and conduct him/herself at all times in such a manner as to minimise the risk of healthcare associated infection

As an employee of the Trust, it is a contractual duty that you abide by any relevant code of professional conduct and/or practice applicable to you. A breach of this requirement may result in action being taken against you (in accordance with the Trust's disciplinary policy) up to and including dismissal.

You must also take responsibility for your workplace health and wellbeing:

- When required, gain support from Occupational Health, Human Resources or other sources.
- Familiarise yourself with the health and wellbeing support available from policies and/or Occupational Health.
- Follow the Trust's health and wellbeing vision of healthy body, healthy mind, healthy you.
- Undertake a Display Screen Equipment assessment (DES) if appropriate to role.

APPLICABLE TO MANAGERS ONLY

Leading the team effectively and supporting their wellbeing by:

- Championing health and wellbeing.
- Encouraging and support staff engagement in delivery of the service.
- Encouraging staff to comment on development and delivery of the service.
- Ensuring during 1:1's / supervision with employees you always check how they are.

GENERAL

This is a description of the job as it is now. We periodically examine employees' job descriptions and update them to ensure that they reflect the job as it is then being performed, or to incorporate any changes being proposed. This procedure is conducted by the manager in consultation with the jobholder. You will, therefore, be expected to participate fully in such discussions. We aim to reach agreement on reasonable changes, but if agreement is not possible, we reserve the right to insist on changes to your job description after consultation with you.

Everyone within the Trust has a responsibility for, and is committed to, safeguarding and promoting the welfare of vulnerable adults, children and young people and for ensuring that they are protected from harm, ensuring that the Trusts Child Protection and Safeguarding Adult policies and procedures are promoted and adhered to by all members of staff.

At the Royal Devon, we are committed to reducing our carbon emissions and minimising the impact of healthcare on the environment, as outlined in our Green Plan available on our website. We actively promote sustainable practices and encourage colleagues to explore and implement greener ways of working within their roles.

PERSON SPECIFICATION

Job Title	Principal Clinical Scientist (Bioinformatics Occupational/Research and Development)

Requirements	Essential	Desirable
QUALIFICATION/ SPECIAL TRAINING		
MSc or equivalent in a relevant subject, or equivalent relevant experience	✓	
HCPC registration as a Clinical Scientist in Clinical Bioinformatics	✓	
KNOWLEDGE/SKILLS		
Knowledge of Next Generation Sequencing approaches and statistical techniques used in manipulation of large data analysis	✓	
Programming skills in a language suitable for statistical analysis (for example R)		✓
Good programming skills in a modern object orientated scripting language (such as Python, Ruby, Scala, PERL etc) suitable for pipeline development and ad hoc scripting	✓	
Extensive knowledge of SQL database design, development and administration	✓	
Knowledge and experience of developing and maintaining Laboratory Information Management (LIM) Systems (for example StarLIMS)		✓
Excellent IT skills	✓	
Knowledge of bioinformatic tools, resources and techniques applied to medical genetics	✓	
Excellent skills in programming, mathematical modelling, database construction and an in-depth understanding of how to apply these skills into an operational setting.	✓	
Advanced skills in using and understanding large databases and complex spreadsheets including being an expert user of Microsoft Office suite of products and other software packages.	✓	
Advanced skills in accessing computerised system data via query tools/ languages and in understanding the data held, their interrelationships and their appropriateness and fitness for use.	✓	
Possess effective communication and facilitation skills and be able to summarise complex information and present this to mixed audiences.	✓	
Be self-motivated and organised and have an appreciation of current and emerging bioinformatics and genomic technologies with the ability to communicate a range of IT issues to a non-technical audience and wider stakeholders.	✓	
Ability to work largely without supervision, providing specialist advice to the organisation, working to tight and often changing timescales is essential.	✓	
Demonstrate excellent communications at all levels, both within and external to the NHS and be able to demonstrate good people management skills in order to manage and direct the support teams under their control.	✓	
Must be capable of establishing and maintaining good working relationships with all levels within the Trust and local health community.	✓	
Awareness of budget control and financial procedures gained through a mixture of both practical application and theoretical knowledge.	✓	
High level analytical skills and the ability to draw qualitative and quantitative data from a wide range of sources and present in a clear and concise manner.	✓	

Ability to demonstrate sound judgement in the absence of clear guidelines or precedent, seeking advice as necessary from more senior management when appropriate.	✓	
Ability to communicate clearly and effectively to a wide range of audiences, internal and external staff, ensuring their queries are understood and an appropriate response is given relating to what information or services can be provided.	✓	
Ability to resolve extremely complicated problems using advanced problem-solving skills to assess and determine the most effective solutions.	✓	
EXPERIENCE		
Experience of developing and implementing bioinformatic tools and resources.	✓	
Experience in IT, applications, developments, processes, and organisation.	✓	
Experience of molecular genetics, diagnostic genomics services or similar.		
Experience of clinical or administrative process improvement.	✓	
An understanding of risk management, and the processes surrounding it.	✓	
Evidence of writing business cases that appraise options and propose a preferred solution.	✓	
Ability to analyse and resolve complex problems to successful conclusion.	✓	
Proven experience of successful project management	✓	
PERSONAL ATTRIBUTES		
Able to work on own initiative and organise workload, making adjustments to deal with priorities.	✓	
Ability to work with key stakeholders to develop plans.	✓	
Good analytical and technical skills including experience of using Microsoft products (in particular project management tools) to a high level of proficiency.	✓	
Excellent planning and organisational skills, detail-orientated, able to recognise and solve complex problems quickly.	✓	
Strong interpersonal and communication skills.	✓	
An ability to summarise complex technical information and present this to non-technical audiences and key stakeholders.		✓
Ability to facilitate meetings and workshops and undertake presentations to varying levels of the organisations.	✓	
Demonstrate flexibility, and adapt positively, to sustain performance when the situation changes, workload increases or priorities shift	✓	
Ability to cope with uncertainty and change.	✓	
Be able to manage competing demands from managerial and staff perspectives across different services and geographical sites and be able to work under pressure to meet demands.	✓	
Ability to negotiate with and to agree deadlines etc. with internal and external staff	✓	
Excellent people relationship skills including communication and organisational skills to maximise the contribution of colleagues.	✓	
Friendly, trustworthy and ability to work as a team member	✓	
Self-motivated with a proactive approach to work	✓	
Excellent communication skills (ability to write clear and concise e-mails, presentations and phone conversations)	✓	
OTHER REQUIRMENTS		
Positive commitment to uphold diversity and equality policies approved by the Trust	✓	
Flexibility in approach towards working hours	✓	
Ability to travel to other locations as required.	✓	

WORKING CONDITIONS/HAZARDS		FREQUENCY (Rare/ Occasional/ Moderate/ Frequent) R	O	M	F
Hazards/ Risks requiring Immunisation Screening					
Laboratory specimens	N				
Contact with patients	N				
Exposure Prone Procedures	N				
Blood/body fluids	N				
Laboratory specimens	N				
Hazard/Risks requiring Respiratory Health Surveillance					
Solvents (e.g. toluene, xylene, white spirit, acetone, formaldehyde and ethyl acetate)	N				
Respiratory sensitisers (e.g isocyanates)	N				
Chlorine based cleaning solutions (e.g. Chlorclean, Actichlor, Tristel)	N				
Animals	N				
Cytotoxic drugs	N				
Risks requiring Other Health Surveillance					
Radiation (>6mSv)	N				
Laser (Class 3R, 3B, 4)	N				
Dusty environment (>4mg/m3)	N				
Noise (over 80dBA)	N				
Hand held vibration tools (=>2.5 m/s2)	N				
Other General Hazards/ Risks					
VDU use (> 1 hour daily)	Y				X
Heavy manual handling (>10kg)	N				
Driving	Y		X		
Food handling	N				
Night working	N				
Electrical work	N				
Physical Effort	N				
Mental Effort	Y				X
Emotional Effort	Y	X			
Working in isolation	N				
Challenging behaviour	Y	X			