

**A4C Banding No: P3436**

### **Job Description**

<b>TITLE:</b>	Senior Data Engineer
<b>DEPARTMENT:</b>	Contracting, Performance, and Information
<b>LOCATION:</b>	Priestley Wharf
<b>PROFESSIONALLY ACCOUNTABLE TO:</b>	Senior Development Manager
<b>BAND:</b>	7
<b>HOURS:</b>	37.5

### **Job Purpose**

As a Senior Data Engineer, you will be responsible for the development and deployment of the Trust's data within the data warehouse environment, which consists of multiple SQL Server databases that capture data from the Trust's multiple data sources including Electronic Patient Record systems, Electronic Staff Records, Finance, and other disparate internal and external data sources. The post holder will work alongside other members of the Information and DevOps Team, to provide an appropriate platform to support the delivery of the information strategy required to deliver and underpin the Trust's Strategic and operational objectives.

As a Senior Data Engineer, you will be responsible for strategic design and development of the Trust's information data models and contribute extensively to the delivery of innovative data schemes to support the Business Intelligence function ensuring that information flows and datasets are available to support and improve healthcare delivery and enable the Trust to meet its corporate and clinical targets as well as the goals and targets established by outside agencies, e.g. commissioning and NHS digital.

### **Responsible for**

- No direct line management responsibility
- Management of bank or contractual staff as projects required

## **Budgetary responsibility**

- No budgetary responsibility

## **Main Duties**

- Working with other data engineers, the post holder will be responsible for the development and implementation of data models for operational, contractual, statistical and information aspects of the Trust; contributing to planning and formulation of strategies for Information.
- The post holder is responsible for the development and delivery of a comprehensive dataset framework incorporating all Trust systems within the data warehouse, for relational database modelling, master data management, application design with associated business rules.
- Be the technical lead on the delivery and development for the information service line agreement monitoring (SLAM) dataset framework, activity pricing models.
- To assist the Senior Development Manager with the strategic development of the Data Engineering function. Developing coherent strategies for continual development of the trust data models and underwriting of the Trust Information Strategy
- To take responsibility for the planning, creation, implementation, maintenance and on-going evolution of big data / data models / data marts / data cubes within the Trust's data warehouse, sourced from a wide variety of information systems including patient, staffing, financial and other disparate internal and external data sources
- To provide a key link between the Data Engineering team and the Contract team Commercial Department on all matters relating to the production of the datasets and framework to support Service Line Activity Monitoring (SLAM) and Patient Level Information Costing (PLICS) data, inclusive of a good understanding of the SLAM/PLICS algorithms and HRG groupers, to facilitate the provision of any associated contract monitoring and financial flows.
- To take responsibility for the maintenance and continued development of contract and commissioning datasets including SUS, CDS and CSDS files
- Working with and assisting Data Base Administrators (DBAs) ,to design and develop the structure, procedures and functions of the Trust's data warehouse data models. Including data security, responsibility for the administration of permissions to the Trust's data warehouse datasets.
- To enable, promote and support the effective use of data, information, knowledge and technology to support and improve healthcare delivery.

- To develop automated data loading (ETL) and validation processes, at the same time maintaining efficient data warehouse metadata structures.
- To develop and extend expertise in database design concepts and SQL server language, including T-SQL, ETL (SSIS and/or DTS), SSAS and SSRS.
- To ensure high quality data warehouse security, putting in place robust security measures to allow adequate access for the required users whilst protecting sensitive patient-identifiable data.
- Communicates analytical/statistical/contractual reports and issues to a wide range of internal and external staff (including commissioners), guiding them on data validation, assumptions and creations of datasets for Data Quality improvement plans (DQIPS) and contractual information; conveying the data relationships concepts clearly
- Develops and delivers formal, complex statistical presentations to large groups and senior stakeholders
- Developing coherent strategies for continual development of the trust data models and underwriting of the Trust Information Strategy
- To be the key link with the business Intelligence team, overseeing the management of the delivery of the datasets to support the BI team on operational and the OneVision reporting function, with timed release schedules. Ensuring data is robust, available and with well-designed data schemas to ensuring resilience and future proofing.
- Being the subject matter expert and working with the Senior Development Manager, assisting in writing and implementing policies and procedures for own work area and for developing changes to policies, in line with legislation, Trust and NHS policies and guidelines across the Trust, where appropriate including review and development of Information and Data Quality strategies.
- Oversee and management of commissioner datasets including Community Information Data Sets (CIDS), Aggregate contract monitoring (ACM), Commissioner Data set (CDS), Community data sets (CSDS) and enablement of the effective delivery of commissioner DQIP.
- Analyse, interpret and resolve highly complex statistical and contractual problems where there is no precedent and where other leading opinions may conflict.
- Approve new data models and information dataset provisions for the Contract Activity Working Group and act as information change control guardians on newly requested changes.

- To provide expert advice, information, and support to the Performance Director, Head of Information, Senior development manager and Business Intelligence, Clinical Directors and other senior members of the Divisional teams.
- To oversee and manage local relationships with relevant information senior managers and colleagues within the Trust and with external suppliers to ensure the Trust data models meet requirements
- Act as an ambassador for Information and Business Intelligence department by developing and maintaining excellent working relationships with users across the organisation to deliver high quality information and business intelligence to achieve local requirements and national targets
- Use a wide range of communication skills to gain support with highly sensitive change issues, overcoming barriers to acceptance in a range of forums where communication maybe difficult or contentious. Forums will include the Trust Executive, senior staff, Unions, other stakeholders and agencies and, clinical staff
- Preparing highly complex strategic and technical Operational reports for the senior management team, Information Board, Electronic Patient Record (EPR) Board, Rebasing, Contracting Activity Working group, DTS Steering Group, and other Board level update reports as required.
- Regularly undertakes audits or research to support information and service development, e.g. audits of activity, waiting lists models, referral to treatment (RTT), clinical utilisation, data audits of data quality and develops new methodologies for the analysis and or interpretation of data.
- Ongoing requirement to act with minimum guidelines, setting standards for others, establishing how professional and administrative policies should be interpreted and implemented
- To provide training and demonstration and ensure provision and translation of complex analytical information to non-specialist users and provision of support in their understanding of the analysis
- Provision of technical support to business intelligence managers for the purpose of developing release schedules of required data items
- Ensure all documentation relating to own area is complete and fit for purpose and all releases are controlled.
- Lead in the development and maintenance of a culture of service provision and continuous improvement for own areas.

- Lead, manage and action the resolution of incidents, problems and requests in own area in an efficient and professional manner, whilst conforming to Trust and departmental standards, service agreements, policies, procedures and working practices, seeking further advice and information, when necessary.
- Attend Senior Management Team meetings and produce updates and reports for these meetings – feedback outcomes and updates to relevant team members.
- Participate in Information Governance and security as required and ensure appropriate governance and security in own area. Pro-actively participate in ensuring that Data Services delivered within the Trust reflect best practice with respect to organisational, NHS and legislative requirements and guidelines including IT Infrastructure Library (ITIL), General Data Protection Regulation, Information Standards, Information Security and compliance with NHS Information Governance

### **Management and Leadership Responsibilities**

1. Develop and empower all members of your team to perform to high standards and innovate.
2. Ensure supportive staff management arrangements are in place and carry out personal development reviews for direct reports. Ensure all staff in your team/s have annual PDR's resulting in specific objectives and effective personal development plans in line with the Knowledge and Skills Outline Framework.
3. Develop staff knowledge and skills to promote equality and diversity and address inequalities both in employment and service delivery. Ensure specific equality objective are included in PDR's.
4. Develop a culture that ensure that the standards of Improving Working Lives and Investors in People are achieved and maintained for all staff and that staff's perception about their working lives are measured and improvements made.

To undertake other duties commensurate with this grade of post in agreement with the relevant line manager.

To minimise the Trust's environmental impact wherever possible, including recycling, switching off lights, computers, monitors and equipment when not in use. Helping to reduce paper waste by minimising printing/copying and reducing water usage, reporting faults and heating/cooling concerns promptly and minimising travel. Where the role includes the ordering and use of supplies or equipment the post holder will consider the environmental impact of purchases.

Responsible for undertaking appraisal of identified staff, including identifying the learning and development needs of individuals in line with the Knowledge and Skills Outline Framework.

Responsible for leading in training and development of identified staff.

## **Key Relationships**

To establish effective working relation with the following:

- Trust Board Executive Directors
- Chief Finance Office / Strategy Director
- Performance Director
- Head of Information and Business Intelligence
- Senior Developer Manager
- Senior Programme Manager and PMO
- Information and Business Intelligence Service Manager
- Business Intelligence Managers
- Information
- Performance
- Contracting
- DTS
- Other Trust Directors & Senior Managers
- Trust Clinicians and Service Managers
- Other staff within the Trust
- Other NHS Organisations

## **Performance Management**

All employees have a responsibility to participate in regular appraisal with their manager and to identify performance standards of the post. As part of the appraisal process every employee is responsible for participating in identifying their own training and development need to meet their KSF outline.

## **Health & Safety at Work**

Attention is drawn to the responsibility of all employees to take reasonable care for the health & safety of themselves and other people who may be affected by their actions at work.

## **Equal Opportunities**

Birmingham Community Healthcare NHS Foundation Trust is committed to being an equal opportunities employer and welcomes applicants from people irrespective of age, gender, race and disability.

## **Safeguarding**

It is the responsibility of all staff to safeguard and protect children and adults at risk at all times and staff must report any concerns as per Safeguarding Children and Safeguarding Adults policies, which are available on the Trust's intranet. Every member of staff must undertake regular mandatory safeguarding training at a level relevant to the role.

## **Smoking**

The Trust operates a No Smoking policy.

## **Mobility**

Whilst the postholder will be based at Priestley Warf this is a Trust wide appointment and travel around the Trust may be required.

## **Confidentiality**

Your attention is drawn to the confidential nature of information collected within the National Health Service. The unauthorised use or disclosures of patient or other personal information is regarded as gross misconduct and will be subject to the Trust's Disciplinary Procedure and, in the case of both computerised and paper-based information, could result in a prosecution for an offence or action for civil damages under the Data Protection Act 1998.

## **Sustainability**

The Trust attaches great importance to sustainability and Corporate Social Responsibility. It is therefore the responsibility of all members of staff to ensure that the Trust's resources are used efficiently with minimum wastage throughout their daily activities.

## **Dignity in Care**

Birmingham Community Healthcare NHS Foundation Trust (BCHC) is committed to providing dignity in care for all our patients and service users across the Trust.

All staff, workers, volunteers, students and individuals undertaking work experience/shadowing, irrespective of the role they specifically undertake, are required to adhere to BCHC's vision, values and professional standards. This also involves working with and alongside colleagues and partners, demonstrating a duty of candour (i.e. honesty and straightforwardness), openness and accountability in order to achieve high quality and the best possible care outcomes for our patients, service users and the local community.

## **Infection Prevention and Control**

The Trust is committed to minimising any risks of healthcare associated infection to patients, visitors and staff. All employees must attend Infection Prevention and Control training as required for their post. Employees must be familiar with and comply with Infection Prevention and Control policies available on the Intranet.

## **Job Description**

This job description will be subject to discussion and reviewed on an annual basis within the appraisal process.

**POST HOLDER'S SIGNATURE:**

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**DATE:**

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**A4C Banding No: P3436**

**PERSON SPECIFICATION**

<b>Title</b>	<b>Data Architect</b>	<b>Band</b>	<b>7</b>
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<b>Example key areas</b>	<b>Job requirements</b>	<b>W</b>	<b>How identified</b>	<b>Candidate score</b>	<b>Comments</b>
<b>Qualifications training</b> Level of education; Professional qualifications; Vocational training; Post basic qualifications; Training and learning programmes/courses	Educated to Masters level or equivalent	E	AF,I		
	IT Professional Qualification	E	AF, I		
	SQL Qualification, Microsoft data warehouse technologies or equivalent	E	AF, I		
	Project management qualification (PRINCE)	D	AF, I		



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NHS Foundation Trust

Example key areas	Job requirements	W	How identified	Candidate score	Comments
<b>Experience</b> Length and type of experience Level at which experience gained	Extensive experience of design & operation of large scale, complex data models & processing procedures	E	AF, I,P		
	Extensive experience of working within a health care Informatics environment with NHS information and Data Standards	D	AF, I,P		
	Extensive understanding of relational database theory and technology.	E	AF, I,P		
	Experience of developing new data warehouses or of extensive data warehouse re-development	D	AF, I,P		

<b>Skills/knowledge</b> Range and level of skills Depth and extent of knowledge	In depth and thorough knowledge of Microsoft data warehouse technologies	E	AF, I,P		
	Knowledge of statistical/numerical techniques and procedures.	E	AF, I,P		
	Good working knowledge of Data Warehouse technology and report writing, analysis methodologies.	E	AF, I,P		
	Competent in the use of Knowledge of Microsoft Analysis Services, SQL-T 2008,	E	AF, I,P		
	Knowledge of Sequel Server Integration Services (SSIS), Sequel Server Analysis Services (SSAS), Sequel Server Reporting Services (SSRS),	E	AF, I,P		
	Knowledge of Project Management	D	AF, I,P		



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Example key areas	Job requirements	W	How identified	Candidate score	Comments
	methodologies i.e PRINCE MSP. AGILE  Understanding of key business functions within the NHS  Proficient in the use of Microsoft applications, particularly Word And Excel,	D  E	AF, I,P  AF, I,P		
<b>Personal qualities</b>	Excellent communication skills, ability to build strong working relationships with all levels and groups of staff on complex information related issues Ability to be proactive and to think creatively  Self-motivating with a flexible approach to work	E  E  E	AF, I,P  AF, I,P  AF, I,P		



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Example key areas	Job requirements	W	How identified	Candidate score	Comments
	and ability to work independently				
<b>Other job requirements</b>	Willingness to maintain and update skills, including attendance at courses on & off-site	E	AF, I,P		
Overall Candidate score					

**W (Weighting)** - E = Essential D= Desirable

**How identified** = Application = AF; Interview = I; Test = T; Presentation = P.