

Duty Statement
Department of Managed Health Care

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| OFFICE: Office of Technology and Innovation | EFFECTIVE DATE: |
| CLASSIFICATION: Information Technology Specialist II | DATE APPROVED: 3/10/26 |
| POSITION: 409-541-1414-007 | TELEWORK DESIGNATION: Remote-Centered |
| WORKING TITLE: Senior Data Engineer | |

DEPARTMENT OBJECTIVE:

The mission of the Department of Managed Health Care (DMHC) is to ensure health plan members have access to equitable, high-quality, timely, and affordable health care within a stable health care delivery system. The DMHC accomplishes its mission by ensuring the health care system works for consumers. The Department protects the health care rights of 30.2 million Californians by regulating health care service plans, assisting consumers through a consumer Help Center, educating consumers on their rights and responsibilities and preserving the financial stability of the managed health care system.

PROGRAM OBJECTIVE:

The Office of Technology and Innovation (OTI) enables the DMHC to deliver essential services to the State of California through the use of information technology (IT). The systems OTI supports have become a valuable tool in the execution of DMHC’s business functions. OTI develops, maintains and supports multiple IT systems that include a vast variety of office automation tools, custom applications, public and internal web sites, low-code business intelligence tools, low-code application development tools, data analytics and the underlying IT infrastructure.

GENERAL DESCRIPTION:

Under the general supervision of the Chief Information Officer (CIO) and Manager of the Business Intelligence Division (BID)/Chief Data Officer (CDO), the Senior Data Engineer is primarily responsible for architecture, design and development of analytic databases, data pipelines, data integration, conceptual, logical and physical data modeling, data warehousing and data security to support DMHC’s data intensive applications, business intelligence, diagnostic, predictive, and prescriptive Analytics solutions.

The incumbent works as an integral member of the BID team, working under the direction of the BID Manager/CDO, to architect and develop enterprise data solutions including planning,

organizing, controlling, and managing on-premises and Azure cloud data and BI initiatives and solutions, data search and geospatial data analysis using ArcGIS for the DMHC. The incumbent is responsible for translating business requirements into technical requirements and design, for inclusion into the enterprise data architecture. The incumbent shall serve as a technical lead during the implementation of these requirements, including but not limited to architecture, design, development, testing, and deployment. This also includes the management of architecture and design artifacts to provide an overall technical vision and maintain the department's Data Architecture documentation. The incumbent is also primarily responsible for architecture and maintenance of the DMHC data warehouse environment and analytics platforms that include, but are not limited to, technologies and capabilities such as geo coding for spatial analysis within an ArcGIS enterprise platform, ingestion indexing, integration of data for integrated search using Elastic Search, business intelligence environment with on-premise SQL Server, Microsoft SQL Server Reporting Services (SSRS), SQL Server Integration Services (SSIS), Azure Data Factory (ADF), SQL Server Analysis Services (SSAS), Azure BI and Microsoft Power Platform, Azure SQL MI, Power BI, Azure Synapse, Azure blob storage, Azure data lake gen2, ETL/ELT processes, Data pipelines, Python programs and packages, internal, external and cloud data sources and data, server applications and associated architectures.

The incumbent works collaboratively with the BID Manager/CDO to establish and maintain the department's data governance structure; foster and promote a data-driven culture, encourage programs to share data and collaborate on program needs, and employ and analyze operational data to improve the performance of DMHC programs. The incumbent also works with the BID Manager/CDO to develop and implement modeling, analysis, inference, exploration, and outcomes-based utilization of the department's data assets; and in conjunction with the BID Manager/CDO to ensure that all activities and efforts align with DMHC Strategic Plan and IT Strategic Plan. The incumbent participates in the development and implementation of enterprise-wide data management policies, practices, and standards for the department.

TYPICAL DUTIES:

Employee must be able to perform the following duties with or without reasonable accommodation.

| <u>PERCENTAGE</u> | <u>JOB DESCRIPTION</u> |
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Essential (E)/Marginal (M)

45% (E)

Data Engineering

Architect, plan, design, develop and maintain DMHC enterprise data platforms that include on-premises and Azure cloud data stores, data models, including but not limited to, data warehouse, data marts, data lakes, data models, reporting databases and transactional databases, to enable enterprise reporting and analytics in support of DMHC's data

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analytics requirements. Plan, design, create and maintain data pipelines, ETL/ELT processes, data pipelines, data integrations and data migrations. Troubleshoot and fix data and BI/analytics solutions throughout the data life cycle. Develop, maintain and troubleshoot reports, dashboards and data stories. Plan and Implement data security and access mechanisms. Develop and leverage Application Programming Interfaces (APIs) to support ingress and egress of data. Take inventory of data assets, perform gap analysis, develop data flow diagrams, and understand business needs for developing BI solutions. Consult with business and technical personnel. Review project deliverables to lead in the analysis, design, and development of solutions. Guide BID staff who are responsible to develop data analytic solutions, technical and end user data dictionaries and user guides. Participate in meetings, provide status reports and complete work assignments in an effective, accurate and timely manner. Maintain system uptime, secure highly sensitive data, and work under pressure to meet work demands. Provide high-level technical expertise, leadership, communication and mentoring support to the BID team members, technical staff and cross functional teams.

Work in a self-directed manner, and/or in concert with business analysts, to gather and analyze business requirements, system and program specifications, use/test cases data and reports. Be familiar with coding for solutions, systems and/or modules using various programming languages, tools and frameworks that include but are not limited to SQL, MS .Net and .Net Core, Microsoft Visual Studio.NET, HTML, CSS, Java, Java Script, Extensible Markup Language (XML), Python, web services, ArcGIS, Power BI, Synapse, and data APIs. Conduct unit, integration, system, and stress tests. Code deployment in all environments. Work collaboratively with the Quality Assurance team to maximize the performance of data analytics solutions.

15% (E)

Enterprise Data Architecture

Represent the BID as a member of the OTI Enterprise Architecture Committee, to develop an effective data architecture that ensures data quality, accessibility, and security that will enable informed decision-making and strategic business outcomes. Create and evolve technology roadmaps to define department data architectures and support data strategies. Ensure data solutions are performant, secure and follow reusable patterns. Develop and share best practices for data discovery, change management and deployment. Research, analyze and promote data standards across the organization. Partner with cross-functional teams to deliver roadmaps and enable data capabilities. Design and implement integrations with other data sources and architect data solutions. Work collaboratively with the CIO, Chief Technology Officer (CTO) and BID Manager/CDO to Identify *build vs. buy* strategies for data

technologies. Work collaboratively with the Infrastructure Services Division (ISD) and Database Administrators to monitor performance trends and improve processes. Mentor team members and define internal guidelines. Research and stay informed about new technologies.

15% (E)

Geo Spatial Analytics Development

Serve as the DMHC's subject matter expert on the ArcGIS geospatial analytics platform, and Microsoft PowerBI geo-spatial analysis capabilities. Design, develop, test and maintain existing and future geospatial analytic applications. Integrate geo-spatial solutions within software applications. Assist program staff in conducting spatial analysis using solutions developed with ArcGIS, PowerBI and Python libraries to identify patterns, trends, and relationships in geographic data. Manage and maintain geospatial databases to ensure data integrity and efficient data storage and retrieval. Create custom GIS software solutions and tools, including add-ins for ArcGIS or web-based widgets. Work with program stakeholders to understand their needs, provide technical support, and collaborate with other team members on geospatial projects. Generate reports and visualizations using geographic data, create maps and dashboards, and communicate findings to stakeholders. Keeping abreast of emerging technologies and trends in the geospatial field. Mentor and train junior BID staff to effectively leverage this technology to deliver solutions. Possess or acquire expert knowledge of ArcGIS API for JavaScript and other technologies. Familiarity with Docker, Kubernetes and CI/CD tools; AWS and other GIS technology platforms.

10% (E)

Azure BI Administration and Data Infrastructure Management

Administration of DMHC's BI tools and solutions including but not limited to Power BI, data warehouse, data marts, data lake, reporting databases, Synapse, Azure Data Factory, etc. Oversee BID staff responsible for installation, configuration and maintenance of database systems and data stores. Ensure that the database systems, data models, data stores, reports, dashboards and other BI solutions are optimized for performance and scalability. Work with vendors, business users and DMHC management to evaluate, demonstrate and procure data, BI and analytics tools and solutions.

10% (E)

Data Governance, Master Data Management, Enterprise Search

Work collaboratively with the BID Manager/CDO to create and implement data management processes and procedures to efficiently and cost-effectively collect, store and use data. Work with DMHC management, stakeholders, data stewards and data owners to set technical direction for the overall master data management program, define component architectures, review detailed designs for accuracy and overall compliance to defined architecture across the complete data lifecycle. Support object

identification and manage data elements, specify policies and business rules for master data creation and maintenance, description of hierarchies, taxonomies, or other relationships important to organizing or classifying objects, and assign data stewardship responsibility to appropriate individuals and organizations within DMHC offices and programs. Identify areas for data quality improvements and assist in resolving data quality problems through the appropriate choice of error detection and correction, process control, improvement, or design strategies. Act as a data literacy champion utilizing key performance indicators and data dictionary and educate peers and stakeholders. Conduct analytics workgroups, workshops, and meetings to expand the use and adoption of the enterprise data analytics platform and help DMHC become a more insight driven enterprise.

Setup, configure and support Elastic Search, DMHC's enterprise data search solution. Based on requirements and Index new datasets and add existing data sets to the enterprise data search. Train and mentor other BID staff to assume responsibility for managing Elastic Search solutions.

5%(M)

Participate as needed in stakeholder meetings, strategic planning sessions, meetings, security incident responses, California Health and Human Services Agency committees, sub-committees, workgroups, and other activities as assigned by the CIO and/or BID Manager/CDO. Collaborate and coordinate with other offices, stakeholders, data owners and vendors. Work collaboratively with the Infrastructure Services Division (ISD) staff to coordinate and plan backup and recovery of analytic data and reporting repositories, and databases; participate in Disaster Recovery and Technology Recovery planning, testing, and execution. Perform special assignments and other related duties as required. Leverage excellent communication and interpersonal skills to be a positive leader within BID, DMHC, CalHHS Agency and to other collaborative partners.

SUPERVISION EXERCISED OVER OTHERS:

Does not supervise others.

KNOWLEDGE, ABILITIES AND ANALYTICAL/SUPERVISORY REQUIREMENTS:

The employee should be familiar with DMHC mission, goals, organizational structure and major work programs. The employee must also have a demonstrated positive attitude and a commitment to conduct business in a professional manner in dealing with the public and department clients and provide quality customer service to all customers, and be able to deal tactfully, professionally and confidentially with all internal and external customers and contacts. In addition, the employee must:

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Have the ability to reason logically and use analytical techniques to solve difficult problems; research, understand, interpret and articulate applicable laws, rules and regulations; analyze and apply legal principles and precedents to particular sets of facts; provide clear, concise, and effective written documentation and oral presentation.

In addition, all knowledge and abilities of the Information Technology Specialist I classification; and

Knowledge of: Emerging technologies and their applications to business processes; business or systems process analysis, design, testing, and implementation techniques; techniques for assessing skills and education needs to support training, planning and development; business continuity and technology recovery principles and processes; principles and practices related to the design and implementation of information technology systems; information technology systems and data auditing; the department's security and risk management policies, requirements, and acceptable level of risk; application and implementation of information systems to meet organizational requirements; project management lifecycle including the State of California project management standards, methodologies, tools, and processes; software quality assurance and quality control principles, methods, tools, and techniques; research and information technology best practice methods and processes to identify current and emerging trends in technology and risk management processes; and state and federal privacy laws, policies, and standards.

Ability to: Recognize and apply technology trends and industry best practices; assess training needs related to the application of technology; interpret audit findings and results; implement information assurance principles and organizational requirements to protect confidentiality, integrity, availability, authenticity, and non-repudiation of information and data; apply principles and methods for planning or managing the implementation, update, or integration of information systems components; apply the principles, methods, techniques, and tools for developing scheduling, coordinating, and managing projects and resources, including integration, scope, time, cost, quality, human resources, communications, and risk and procurement management; monitor and evaluate the effectiveness of the applied change management activities; keep informed on technology trends and industry best practices and recommend appropriate solutions; foster a team environment through leadership and conflict management; effectively negotiate with project stakeholders, suppliers, or sponsors to achieve project objectives; and analyze the effectiveness of the backup and recovery of data, programs, and services.

CONSEQUENCE OF ERROR/RESPONSIBILITY FOR DECISIONS:

The employee may have access to very sensitive and confidential information. Careless, accidental or intentional disclosure of information to unauthorized persons can have far-reaching effects, which may result in civil or criminal action against those involved.

PHYSICAL, MENTAL AND EMOTIONAL REQUIREMENTS:

Employees may be required to sit for long periods of time using a keyboard and video display terminal or traveling in a vehicle to other locations; must be able to organize and prioritize their work under deadline situations and adapt behavior and work methods in response to new information, changing conditions or unexpected obstacles; will be involved with sustained mental activity needed for analysis, reasoning and problem solving; must be able to develop and maintain cooperative working relationships, recognize emotionally charged issues, problems or difficult situations and respond appropriately, tactfully and professionally; and must be able to work independently. The employee must be able to create/proactively support a work environment that encourages creative thinking and innovation; understand the importance of good customer services and be willing to develop productive partnerships with managers, supervisors, other employees, and, as required, control agencies and other departments.

WORK ENVIRONMENT:

The DMHC utilizes a hybrid telework model to provide all employees with an avenue to telework while ensuring business and operational needs are met.

Remote-Centered employees are expected to maintain a safe and distraction free work environment at the approved alternate work location. Remote-Centered employees agree to adhere to the state telework policy, the DMHC's telework policy, and conditions cited in the Telework Agreement (STD 200).

Office-Centered employees are expected to maintain a dedicated workstation at a DMHC official worksite. Office-Centered employees are expected to work in a climate-controlled office or cubicle under artificial lighting.

POSITION REQUIREMENTS:

This position requires the incumbent maintain consistent and regular attendance; communicate effectively (orally and in writing if both appropriate) in dealing with the public and/or other employees; develop and maintain knowledge and skill related to specific tasks, methodologies, materials, tools and equipment; complete assignments in a timely and efficient manner; and, adhere to departmental policies and procedures regarding attendance, leave, and conduct.

Note: Any business travel reimbursements will be done in accordance with the approved applicable Memorandum of Understanding (MOU).

ADDITIONAL REQUIREMENTS:

This position is required under the DMHC's Conflict of Interest Code to complete and file a Form 700 within 30 days of appointment and annually thereafter.

SIGNATURES:

The statements contained in this duty statement reflect details as necessary to describe the principal functions of this job. It should not be considered an all-inclusive listing of work requirements. Individuals may perform other duties as assigned, including work in

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other functional areas to cover absence of relief, to equalize peak work periods or otherwise to balance the workload.

Employee: I have read and understand the duties listed above and can perform them with/without Reasonable Accommodation (RA). *(If you believe you may require Reasonable Accommodation, please discuss this with the hiring supervisor. If you are unsure whether you require Reasonable Accommodation, inform the hiring supervisor, who will discuss your questions and/or concerns with the RA Coordinator.)*

Supervisor: I have discussed the duties with and provided a copy of this duty statement to the employee named above.

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| EMPLOYEE NAME (PRINT) | | SUPERVISOR NAME (PRINT) | |
| Employee's Signature | Date | Supervisor's Signature | Date |