

**SKILLS FRAMEWORK FOR HEALTHCARE
TECHNICAL SKILLS AND COMPETENCIES (TSC) REFERENCE DOCUMENT**

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| TSC Category | Evidence-based Practice | | | | | |
| TSC | Analysis of Research Data | | | | | |
| TSC Description | Analyse research data, interpret results generated and link them to the research question or related findings in scientific literature | | | | | |
| TSC Proficiency Description | Level 1 | Level 2 | Level 3 | Level 4 | Level 5 | Level 6 |
| | | | HCE-DAT-3008-1.1 | HCE-DAT-4008-1.1 | HCE-DAT-5008-1.1 | HCE-DAT-6008-1.1 |
| | | | Apply statistical and analytics techniques to analyse research data and interpret results generated with guidance | Apply statistical and analytics techniques to analyse research data, interpret results generated and provide guidance to junior researchers | Drive the analysis of research data and the interpretation of results generated | Drive synergies in the analysis of data across research studies to derive new insights |
| Knowledge | | | <ul style="list-style-type: none"> • Different types of data and how they can be analysed • Techniques for qualitative and quantitative data analysis • Statistical theories and techniques • Statistical and data analytics software • Data transformation and preparation techniques | <ul style="list-style-type: none"> • Strengths and limitations of different statistical techniques • Data visualisation tools | <ul style="list-style-type: none"> • Functionalities and limitations of different statistical and data analytics software • Functionalities and limitations of different data visualisation tools • Features and limitations of different types of data • Features and limitations of different types of data transformation and preparation techniques • Strengths and limitations of different techniques for qualitative data analysis • Big data tools and relevant research potential | <ul style="list-style-type: none"> • Best practices or guidelines for ensuring quality of data analyses • Related research studies across the organisation, nationally or internationally and the data they have collected • Current capabilities of other professionals for data analyses |

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| <p>Abilities</p> | | | <ul style="list-style-type: none"> • Apply data transformation and preparation techniques to datasets with guidance • Summarise data using descriptive statistics, figures, graphs and tables with guidance • Apply appropriate statistical and analytics techniques to analyse quantitative data with guidance • Apply appropriate statistical and analytics techniques to analyse qualitative data with guidance • Determine significance and effect size of findings with guidance • Identify potential interpretations for obtained results with guidance • Review analysis of data to ensure accuracy under guidance • Interpret research findings under guidance | <ul style="list-style-type: none"> • Apply data transformation and preparation techniques to datasets • Summarise data using descriptive statistics, figures, graphs and tables • Apply appropriate statistical and analytics techniques to analyse quantitative data • Apply appropriate statistical and analytics techniques to analyse qualitative data • Determine significance and effect size of findings • Use visualisation software to create visualisations for presenting results • Identify potential interpretations for obtained results • Review analysis of data to ensure accuracy • Interpret research findings | <ul style="list-style-type: none"> • Evaluate available software and tools to determine appropriateness for analysing and visualising different datasets • Determine how data should be prepared to facilitate intended analyses • Evaluate adequacy of results in answering research hypotheses or questions • Determine most impactful visualisation of results • Articulate implications of results to topics or areas in one's field of research and how it adds to current knowledge • Relate findings to current literature • Train others in application of statistics, analytics, visualisations and research approaches • Determine important data to report to relevant stakeholders, including governing bodies • Collaborate with statisticians for data analyses, where necessary | <ul style="list-style-type: none"> • Drive consistency and quality in analyses of research data across the department • Identify opportunities for synergies in data analyses across research studies across organisations, nationally or internationally • Synthesise findings across multiple research studies to derive new insights into topics or areas in one's field of research or to the areas of interest to the organisation or funding agencies • Articulate implications of results in relation to areas of interest to the organisation or funding agencies • Advocate for application of statistics, analytics, visualisations and research approaches • Provide consultation of data analysis or interpretation for large scale or national projects |
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