**Supplementary File C**

**SSurvey C1: Questions on competencies at Workshop II**

**SResult C2: Responses received on competencies**

#### SSurvey C1. Questions on competencies at Workshop II

1. Please consider which are the competencies that a HTA doer should develop and/or acquire. We have classified them according to the international building capacities standards in: concepts, procedures and attitudes.
2. Please consider those competencies that would be desirable to acquire but they are not crucial for a HTA doer.

**SResult C2: Responses received on competencies**

1. Please consider, which are the competencies that a HTA doer should develop and/or acquire. We have classified them according to the international building capacities standards in: concepts, procedures and attitudes.

**Concepts (Knowledge)**

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| Response |
| **Introduction (general)** |
| knowledge required to perform skill |
| have general knowledge about all the topics/fields of HTA and about the limitation of its methodologies |
| knowledge |
| understand HTA, |
| quality aspects of HTA |
| methodology (research human health) |
| management |
| framework building |
| Know the goals & missions of HTA |
| Balance between cost-effectiveness, innovation and economy |
| EBM |
| Decision theory |
| Disciplines relevant to technologies |
| Drug regulation |
| Health science |
| Public policy |
| Epidemiology |
| Understand value of consulting stakeholders |
| **Introduction (user/health system context)** |
| inputs to organization |
| understand target group and accessibility of information |
| Health care system and Health Policy are contextualised to local needs |
| do not use HTA reports for agendas (decision makers) |
| Difference between local and national pressures |
| legal and social awareness |
| health care system |
| Understanding of medical/health care system and delivery of care |
| **Scoping** |
| knowing that research questions need to be derived from policy question |
| possess theoretical knowledge and domains pertinent to the research question at hand |
| clarification of objectives |
| identify lack of expertise and involve external expert |
| patient and society as appropriate |
| **Evidence** |
| knowing which evidence is required to answer each research question |
| evidence quality vs potential biases |
| evidence |
| database search |
| **Evidence appraisal** |
| evidence levels/appraisal systems |
| understanding of systematic review processes/critical appraisal |
| **Clinical** |
| clinical (efficacy, effectiveness, safety) |
| trial design (clinical) |
| clinical design |
| clinical, safety aspects of HTA |
| Human health/health intervention |
| causality (effect, effect modification, confounding) |
| harm |
| Benefit |
| **Economics** |
| economic (cost, burden, budget impact) |
| value/price - CE |
| efficiency |
| economic constants |
| time |
| sensitivity analysis |
| economic concept |
| efficiency |
| Understanding of economic modelling |
| opportunity cost, health economics |
| **Ethical, legal, social and organizational issues** |
| Broad coverage of how social, legal, cultural etc come into HTA considerations |
| ethical awareness |
| ethical/social core concepts in relation |
| legal concepts |
| social value - affordability |
| Understanding of ethical/organizational/social factors impacting on delivery/access to health interventions |
| **Dissemination (Communications)** |
| communication |
| scientific communication including uncertainty |
| Understand best methods of communicating to policy makers and disseminating findings |
| **Statistics** |
| clinical significance - statistics |
| basic bio statistical concept |
| basic statistics |
| management of uncertainties |
| scientific communication including uncertainty |
| Understanding of uncertainty |

**Procedures (Skills)**

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| Response |
| **Scoping** |
| - ability to define and scope question, |
| -PICOTS operationalization |
| - develop or adapt a clinical pathway/pathway of care to inform PICO |
| - procedures allowing relevant problem analysis |
| - understand context |
| Relevant methodology use and building |
| **Evidence** |
| - data analysis |
| - primary date collection - quantitative and qualitative |
| - evidence synthesis, incl systematic search and identification |
| - systematic and random error identification leading to quality of evidence |
| - literature search and review leads to meaningful report |
| - critical read, appraise information (methodology) |
| - literature systematic review and integration of information |
| - how to interpret ad use evidence (critical appraisal, SR, MA) |
| - ability to perform search, appraise, syntheses, report according to stakeholders' needs |
| gather requirement |
| - understanding and interpreting evidence (clinical, economic, other - social, ehtical, legal) |
| - identifying existing evidence (systematic lit search vs grey literature etc) |
| - apply specific tools to assess evidence completeness, RoB |
| - critical appraisal experience (whether in clinical epidemiology, ethics or economics) |
| - SR experience/synthesis/transparent reporting |
| - interpret synthesised information eg understand MA |
| - develop a search strategy |
| **Clinical** |
| Clinical issues |
| clinical development and regulations for pharma and medical devices |
| Medical practice |
| **Economics** |
| Budget impact, cost analysis and cost effectiveness (Develop tools to implement HTA output) |
| Economic modelling experience/develop a basic model |
| Health economics |
| Weighting and economics methodology |
| Sensitivity analyses |
| Costs of care and treatment incl indirect costs |
| Pharmcoeconomics/modelling - incl price |
| **Ethical issues** |
| Ethical analysis skills - identifying ethical issues |
| Ability to manage ethical dilemmas in HTA |
| **Project management** |
| Project management mindset ( vs pure academic research) |
| Follow structured or standardized procedure to do HTA |
| Project implementation |
| Program development |
| - use HTA resources smartly (policy- and decision-makers) |
| **Dissemination (communication)** |
| communicate information |
| - ability to explain outputs to stakeholders |
| -communicate key elements of an analysis including certainty |
| Reporting a dossier |
| **Writing** |
| - writing skills (compilation of a legible report that serves the use of it) |
| - how to write reports |
| - good writing skills |
| **Engagement** |
| coordination and mgmt of partners and stakeholders |
| - stakeholder management incl running committees and workshops |
| engage stakeholders |
| collaborate w/ other experts/teams |
| **Statistics** |
| Statistics |
| - statistical design and analysis |
| meta analyses |
| conduct relevant studies (modeling utility) |
| Other |
| Epidemiology |
| - able to think or try to think in other's shoes/position |
| - government policies |
| MCDA |
| Value-based analysis |
| IMPLEMENTATION |
| - application of the results in the health care system |

**Attitudes**

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| Response |
| Partnership, teamwork |
| sensitive to stakeholders' needs |
| - partnership, partnering with others |
| - team work |
| - stakeholder involvement |
| Open minded |
| - hearing and accepting different opinions |
| - open minded ( to learn from 1st-line practitioners |
| - willingness to listen to other content experts/team-based thinking |
| Unbiased |
| - impartiality/unbiased |
| - non-biased presentation of results |
| independence, objectivity |
| - scientific independence |
| Critical thinking |
| critical evaluation incl own work, ie understanding of commissions |
| - critical thinking |
| Systems view |
| - able to focus on the final goal of HTA and bigger picture |
| - develop a systems perspective to HTA |
| - understand mandate and interrelation with institutional culture e.g. flag ethical issues even if not predefined by end user in scope |
| Ethics |
| general research ethics eg. |
| - avoiding plagiarism |
| Systematic |
| - systematic thinking and constructive compound |
| - be systematic |
| Others |
| - be accurate |
| - communication skills |
| - keep learning |
| - think outside box |
| - inclusive |
| identifying components of HTA domains for a technology and their issues and applications |
| '- accurately reflecting decision problem |
| - public health perspective/working for the public good (service oriented - client focus) |
| - responsiveness |
| - timeliness |
| transparency |
| - user centric - practical use of HTA product |

**Additional comments**

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| Response | Theme |
| All team members should have understanding of core concepts but only certain individuals need to know how to do it. If the team members do align with a discipline, then they need a core competency in procedural aspects |  |
| CORE: (a) knowing methods  current methods bringing knowledge in health  (b) using materials  (i) searching in relevant way  (ii) reading |  |

2. Please consider those competencies that would be desirable to acquire but they are not crucial for a HTA doer.

**Concepts (Knowledge)**

|  |  |
| --- | --- |
| Response | Theme |
|  |  |
| Content expertise | General |
| Technology specific |  |
| Political and policy awareness |  |
| Healthcare system |  |
| Biostatistics |  |
| Adaptation tool | Scoping |
| Validation tools | Evidence |
| Treatment knowledge | Clinical |
| Disease | Clinical |
| Budget and cost awareness | Economics |
| Epistemology (ethics) | ELSOI |
| Legal aspects | ELSOI |
| Impact of HTA | Impact |

**Procedures (Skills)**

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| --- | --- |
| Response | Theme |
| Statistical analysis - software | Statistics |
| Adaptation of HTA | Scoping |
| Problem/case analysis | Scoping |
| Model building | Evidence |
| Systematic review/network meta-analysis | Evidence |
| Development of information retrieval processes | Evidence |
| Decision theory | Economics |
| Economic modelling - software | Economics |
| Management of projects | Management |
| Leadership | Leadership |
| Engagement of stakeholders | Stakeholder engagement/  Communication |

**Attitudes**

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| --- | --- |
| Response | Theme |
| independence | Independent work |
| Professional | Professional |
| Culture considerations | Open-minded |