

**Report of an Independent Expert Review
of the Health Economics Research Unit
2017**

Background

1. The Health Economics Research Unit (HERU) at the University of Aberdeen receives core-funding from the Scottish Government's Chief Scientist Office (CSO) for a centre of excellence in applied health economics research that is relevant to the development of effective health service or public health practices and policies in Scotland. It is also expected to provide an authoritative source of health economics advice and training, and to attract significant additional funding to support its mission.
2. Core-funding is provided under a contractual agreement between the Unit and CSO. The current contract between CSO and HERU sets out the following aims for the Unit: *"to develop and encourage the application of appropriate economic methods to improve health and health care in Scotland. More specifically, the aims are to:*
 - *Research into economic approaches to health and health care at standards of international excellence;*
 - *Develop and apply economic techniques to improve health care and population health in Scotland;*
 - *Make available to the health service a body of expertise in health economics;*
 - *Build and sustain capacity in the economics of health."*
3. The contract also specifies that the Unit Director will be responsible for:
 - *"Developing and delivering a high quality research programme which is relevant to improving health in Scotland and to the needs of the NHS and that fulfils the specific remit of the Unit.*
 - *Fostering links with other research groups and academics, and with the NHS and other organisations concerned with health improvement both within and beyond Scotland.*
 - *Governance arrangements within the Unit including personnel management, research management, financial controls, provision of regular information to CSO and the documentation, oral presentations and all the administration for the Chief Scientist Review.*
 - *Implementing the recommendations of the 2010 Chief Scientist Review."*
4. CSO convenes an independent expert panel to review the quality, relevance, importance and impact of Unit's work and future plans and to provide advice to CSO to inform decisions about contract renewal. This is the report of the Review Panel.

Review process

5. In 2016, CSO convened an independent panel to conduct the review, which included members with expertise in health economics research, experience of the use of health economics evidence within the context of the Scottish Government and NHS Scotland,

and public interest representation. The membership of the Panel is at Annex 1. The Panel was tasked with providing advice to CSO under the terms of reference at Annex 2.

6. The review was conducted based on a comprehensive written report provided by the Unit and information presented during the course of a two day meeting that took place at the University of Aberdeen on 28 and 29 March 2017. The Panel also participated in teleconference discussions before the review meeting to consider the agenda for the meeting and whether there were gaps in the information provided in the report that should be addressed during the meeting. Following the teleconference discussions, the Unit was asked to provide additional information on the onward careers of health economists trained by the Unit, and views on the need for health economics research relating to health and social care integration. The review meeting included a series of presentations from the Unit Director and senior staff covering the Unit's research, knowledge exchange, teaching, training and engagement activities and future plans for these, and, along with a senior representative from the University of Aberdeen, the relationship with the host institution. The Panel also received a series of presentations from early career researchers and PhD students from the Unit. There was also time for private discussions in order for the Panel to form views and address the terms of reference. An outline of the content of the written report and the review meeting agenda are at Annexes 3 and 4, respectively.
7. Following the review meeting, additional information was provided at the request of the Panel about the financial flows between the Unit and host institution, particularly around the income generated by the Unit from additional grant awards, teaching and training activities, the additional activities the income generated had supported, and the nature and level of financial support from the host institution to the Unit.
8. A report was drafted of the Panel's deliberations taking into account the terms of reference for the review. This was considered by the Panel, revised to address comments, and provided to the Unit Director in order to correct any factual misunderstandings or inaccuracies. The final report was agreed by the Panel Chair and submitted to the Head of CSO and the Director of the Unit.

Findings and conclusions

Recommendations from the last review

9. The Panel concluded that the Unit had responded to all of the recommendations of the previous review, which had been conducted in 2010. This had included refocusing the research portfolio around four cross-cutting themes each led by a member of the senior team and establishing closer collaborative links within the University of Aberdeen, in particular the Health Services Research Unit within the Institute of Applied Health

Sciences, and the Economics Department, as well as with other groups outside the University.

10. The Panel commended the Unit on the appointment of a dedicated Director of Teaching and the thoughtful strategic approach taken to capacity building, which would provide a good platform and opportunities for further development (see later recommendations).
11. It was clear the Unit had also taken opportunities to extend international reach with the EU-funded MUNROS project led by the Unit a notable example. While opportunities for international collaboration provide significant academic benefits and opportunities for grant income, the Panel considered it important these opportunities should continue to complement and not distract from the Unit's mission.

Quality, relevance and impact of past research and plans for future research

12. Overall, the Panel considered that the Unit had continued to produce very high quality science across all of the four research themes as evidenced by the number of publications, many in influential journals. The research themes were of clear relevance to health and care policy and practices and there were examples of significant influence and impact on policy and practice, including the use of the Unit's research in: NHS resource allocations; health technology assessment reports; supporting public health policies on tobacco and alcohol use; as well as in the stakeholder feedback report and the impact profiles of the University of Aberdeen's return to the 2014 Research Excellence Framework.
13. It was clear to the Panel that the Unit had considered how to align research to address Scottish Government health and care policy interests and NHS challenges and had taken important steps to develop closer engagement with key interests to understand these needs. However, the Panel agreed that the Unit, in collaboration with relevant stakeholders, should give continuing thought to how deeper engagement might be established, recognising that such close engagement is difficult to achieve and maintain. This will help the Unit to disseminate and to translate its research and to align its research plans towards addressing the most important researchable priorities that can lead to high impact academic and policy-informing findings (see later recommendations).
14. The Panel reviewed the research outputs and plans for future research in each of the four themes.

Workforce and organisation of care

15. The Panel agreed that the research conducted within this theme was of very high quality with relevance to particular areas of Scottish Government health policies including aspects of key strategy documents such as the National Clinical Strategy and the Health and Social Care Delivery Plan.
16. The Panel was supportive of the plans for future research and suggested that while research to date had understandably focussed on doctor and nursing professionals, since they constitute a large proportion of the NHS workforce, the scope could potentially be broadened to include allied health professional groups and multi-disciplinary teams given their importance within the workforce. Research to understand the influence of UK-EU and Scotland-England cross-border flows of healthcare professionals following Brexit as well as on potential strategies to intervene could prove very important.
17. The Panel considered that the scope of the theme could also encompass the new workforce and organisational issues accompanying health and social care integration and the optimal structures and skills to support this major transformational programme. Integration of health and social care may be an area where health economics research and methods could make important contributions, although the research needs had yet to be well defined. There may be opportunities for the Unit to work with key policy and delivery stakeholders to help define and address those research needs.
18. The Panel also suggested that, given the increasing focus on patient-centred care and high quality patient experiences, incorporating evaluation of preferences within economic analysis of workforce and delivery to be valuable. Furthermore, opportunities to conduct natural experiments looking at cross-border differences between contractual, payment and resource allocation arrangements between Scotland and England could be explored, although there may be limitations in the data that are available. Similar comparisons between different Scottish health and social care partnerships might also be insightful. The issues around centralisation of services could also benefit from an economics perspective. This theme might also usefully draw upon and apply methods and theories from institutional and industrial as well as labour market economics.
19. In light of the breadth and depth of research questions that could be tackled within this theme and the constraints of the capacity available to address them, the Panel suggested it important to define research priorities in discussion with policy interests. This would help the Unit identify the most pressing researchable issues, which could be matched to capacity and skills to manage stakeholder expectations.

20. With the particular focus of much of the work within this theme, the Panel noted that funding opportunities from other UK research funders to support work of this nature may be relatively limited. This highlights the particular importance of core-funding to support the research within this theme.
21. *Recommendation: the Unit should develop closer relationships with key policy makers to help understand and define the most pressing workforce and organisation of care research priorities where the Unit could generate high impact academic and policy-informing findings. Consideration – resources permitting – should also be given to broadening the research scope to include other health and care professionals, health and social care integration, and to exploring opportunities for natural experiments. Approaches from other areas of economics might also be usefully applied.*

Health Behaviour and Inequality

22. The Panel considered that research undertaken within this theme was wide-ranging, novel and of high quality with findings that had made influential contributions to public health policy and interventions in Scotland, including, for example, supporting high profile national policy on minimum unit pricing of alcohol, and local policy on the financial incentives for smoking cessation. However, the Panel wondered whether the theme had produced the number of publications that might have been expected.
23. The programme of future work to apply economic methods to generate new insights on lifestyle behaviours associated with increased chronic disease risks, self-management approaches, and behavioural preferences to inform strategies to modify these is novel, timely, and of high policy-relevance and potential impact. The Panel suggested the scope could be extended to consider multiple unhealthy lifestyle behaviours, since these are often clustered and understanding these to intervene across multiple factors could be impactful. Research that can support health economic analyses that more completely assess the health and societal benefits and return on investments in public health interventions continues to be valuable.
24. While the title of the theme suggests specific focus on research to address health inequalities, this is not particularly evident currently within the research plans. The Panel considered that the contributions that research within this theme is anticipated to make towards narrowing health inequalities should be clarified and set out more explicitly in order to reflect the high policy priority of this issue.
25. The Panel noted that much of the work within the theme appeared to be supported through CSO funding. Opportunities to broaden the funding base and lead on grants, reducing the reliance on core-funding, should be explored, particularly given the increasing interest of UK research funders and hence funding opportunities for public

health research. Furthermore, utilising the niche strengths of the Unit in new research collaborations with other public health research groups on intervention development, public health policy modelling, and natural experiments on divergent public health policies could be highly productive. The Unit is encouraged to explore such collaborative opportunities, which may also help to increase academic output and broaden funding avenues.

26. *Recommendation: The Unit should explore opportunities to broaden the funding sources to support the Health Behaviour and Inequality theme. New collaborative relationships building on the Unit's niche expertise to apply health economic approaches to public health challenges should also be explored. The contribution of research within the theme towards narrowing health inequalities should be clarified.*

Assessment of technologies

27. The Panel considered that work in this theme was of high quality with some impressive outputs, including Health Technology Assessment (HTA) reports. Productive collaborations with other research groups and clinical specialists had been established as evidenced by the large number of separate grant awards. The Panel noted that within each award the share of the grant allocated to the Unit was often relatively small reflecting the usual extent of health economics input within healthcare technology assessment studies and clinical trials. However, even taking this into account, the proportion of grant income for the health economics work appeared low and the Panel wondered whether the Unit's activity had been appropriately valued within grant applications. Cross-subsidisation of grant applications from core funding support should be avoided. The Unit should review the valuation of work for future grant applications.
28. The embedded nature of cost effectiveness analysis within health technology assessment studies can also limit opportunities to generate high quality publications with a health economics focus. This is evident in the publications arising from work within this theme where most outputs are joint with clinical collaborators and often in the form of HTA reports. The Panel suggested that the academic output from the theme could be enhanced by taking a more strategic approach to study design to look for opportunities within studies for broader or more innovative economic assessments and methodological approaches, which could help generate high impact publications with an economics focus.
29. The Panel also recognised that the demands on the Unit for economics input into health technology assessments outstrips capacity and supported the approach to only undertake smaller projects where it may lead to higher impact work. Approaches from Health Boards for health technology analyses might be addressed by focussed training in

health economic methods to enhance the ability within the NHS to handle simpler assessments themselves (see later recommendations).

30. The Panel was supportive of the proposed future direction of the theme to focus on evaluating existing technologies and their possible withdrawal or redesign. However, consideration could also be given to the application of health economics research methods to technology design, which if developed could also be a productive niche.
31. Since health economic expertise to support health technology assessment is relatively widespread across the UK, the case for core-funding to maintain this expertise may be less than for other themes. However, the Panel considered that the case is strengthened by research that is directed towards addressing healthcare technologies that are in use by NHS Scotland when the circumstances and use may be specific to Scotland (e.g. the Unit's research on the Scottish diabetic retinopathy screening programme) and as such may not be prioritised for support by other health research funders. The specific needs for research could be identified in discussions with key stakeholders.
32. *Recommendation: The Unit should develop a more strategic approach to its health technology assessment activities to generate opportunities to enhance academic output in terms of producing high quality publications with an economics focus. Consideration should be given to identifying specific areas where health technology assessment may be important and valuable for NHS Scotland and to broadening the scope of the theme to include appraisal to inform health technology design.*

Methods of benefit valuation

33. The Panel considered the work within the theme to be of high quality and novelty, recognising that the Unit had developed a leading international reputation and academic acclaim in benefit valuation and in particular the development of discrete choice experiments. The extent to which this work underpins other themes was recognised.
34. The Panel was supportive of the future research plans. Continuing to develop broader measures of valuing benefits that can take into account to a greater degree patient and societal preferences and values is relevant towards the development of patient-centred health and care policies, including the integration of health and social care. However, given the cost utility analysis approach of key advisory bodies such as the National Institute for Care Excellence and the Scottish Medicines Consortium, the route to application of this research beyond academic outputs is unclear. How this work could inform health economics appraisal and resource decision making should be given particular consideration, including building in support from such stakeholders for the

research. Plans to develop innovative discrete choice experiment methods so that they can be conducted more efficiently and can be applied in different contexts, for example in support of joint patient-clinician decision making, were commended, as were plans to summarise existing knowledge from experiments and explore how it may be used to inform economic evaluations without the need to undertake new experiments every time.

35. While rigorous methodological development is an extremely important endeavour, there is a risk that this theme could be viewed as tangential to the Unit's mission of applied health economics research to support Scottish Government and NHS policies and practice, since the application and impact may be less immediately evident than in other themes. The lack of appreciation of the importance of this work was apparent in some of the stakeholder feedback and views of those from NHS and government groups. The Panel suggested that greater emphasis should be given to highlighting the very real practical and applied nature of this work, including in supporting the research conducted in other themes.

36. *Recommendation: The Unit should consider re-presenting the methods of benefits valuation theme such that much greater emphasis is placed on the application of the research to health and care policies and practices and the translation into accepted health economic appraisal methodology.*

Capacity building

37. The Panel was impressed by the breadth and quality of doctoral and postdoctoral research within the Unit, which was evident in the presentations from early career research staff and PhD students. The Unit is clearly maintaining its reputation for developing excellent health economics researchers. The strategic approach that the Unit had taken to developing training opportunities, including the appointment of a dedicated Director of Teaching, and the introduction of post graduate training qualifications and an annual training course on the use of economic evidence in public health attended by NHS and Scottish Government staff, was commended.

38. Nevertheless, the Panel agreed that the Unit potentially had more to offer to enhance health economics literacy specifically within Health Boards. It was noted that in a previous review CSO had steered the Unit towards working with Health Boards on a national rather than regional basis as in this way the Unit's work could have wider impact. However, there remained unmet demands within Health Boards for health economic analyses. The Panel recognised that these needs could not be met directly by the Unit but suggested that this could be addressed by specific practical training tailored towards the health economic challenges faced by, and analysis needs of, Health Boards.

Specific targeted training days to develop practical health economics skills had been successful within Collaborations for Leadership in Applied Health Research and Care (CLAHRCs) in England. A similar training model replicated in Scotland might be similarly attractive and beneficial. This approach could also enhance the NHS-facing engagement and reputation of the Unit and provide an efficient way of managing the demands for health economics analysis, which outstrips the capacity of the Unit to meet.

39. *Recommendation: HERU should explore the interest in and consider developing dedicated training that is targeted towards professionals in Health Boards tailored to the application of health economics methods to the issues that they face; examination of the approach used in CLAHRCs could be helpful.*

Engagement, dissemination and knowledge exchange

40. The Panel noted that the Unit had substantially broadened its routes to engage with stakeholders. HERU had constituted a Policy Advisory Group with Scottish Government and NHS Scotland representation to facilitate engagement and form closer relationships. The Unit is also a member of the public health-focussed Health Economics Network for Scotland. In addition, the Unit had begun to consider how public and patient involvement (PPI) could be constituted to a greater extent within its activities, including within the Policy Advisory Group. It was also leading the nascent Scottish Health Economics Study Group, which would bring together health economists working at a range of organisations and career stages. A number of the Unit's staff provided the input to, and were members of, a range of expert advisory bodies. A new position of lead for Public Engagement with Research has been created.
41. The Panel commended the Unit for all these initiatives. However, recognising that close two-way engagement, particularly with policy makers and other research users, can be challenging, the Panel encourages the Unit to continue efforts to build relationships. To date, the full potential of the Policy Advisory Group to influence and shape the Unit's research had not been realised, although it was noted the Group had met only a small number of times. The Panel wondered whether the membership of the Group was sufficiently close to, and engaged with, the policy agenda and suggested that further consideration should be given to the membership and operation of the Group to achieve the outcomes sought. PPI within this forum may not help clarify policy needs. In addition to the Policy Advisory Group, complementary direct engagement with policy makers by theme leaders in specific areas where HERU research has relevance could be a particularly helpful additional route for engagement. This could help to define and address important researchable questions, more clearly articulate what HERU can offer to manage stakeholder expectations, and provide greater external validation of HERU's research amongst those likely to use it in practice.

42. *Recommendation: HERU should re-evaluate the constitution and operation of its Policy Advisory Group to enhance engagement with key stakeholders and research users and explore developing close bi-lateral relationships with key policy representatives in Scottish Government or NHS Scotland working in specific areas where the research themes have particular relevance. HERU should consider whether plans for PPI would have most value in the context of the Policy Advisory Group or other fora.*

43. The Panel noted that to enhance dissemination and take up of the Unit's research, HERU had introduced 'policy briefs' (stakeholder-facing summaries to disseminate key findings of studies from the Unit). Whilst this was a welcome development and the policy briefings had been carefully produced to a very high standard, their influence to enhance the impact of the Unit's research was as yet unclear. Feedback on the usefulness of the policy briefs had been limited but there were indications in the stakeholder responses to the strategic statement that summaries of wider evidence rather than single studies may be of more benefit. The Panel considered that syntheses of the policy and practice implications of a body of evidence targeted at the audience may in some contexts have greater influence than summaries of single studies. An evidence synthesis produced by the Unit to support the policy case for minimum unit pricing that was used in Legal Court proceedings was an example of the potential impact of this alternative approach.

44. *Recommendation: HERU should assess the effectiveness of its 'policy brief' series and consider producing a smaller number of user-facing evidence syntheses that can highlight the policy and practice implications of a body of evidence produced by the Unit set within the content of the wider evidence available. Given the likely resource implications, assessing with relevant stakeholders the need for, and value of, planned syntheses would be important.*

Relationship with the host institution

45. The Panel noted that the Unit was well integrated within the University of Aberdeen. The University was committed to the Unit and had supported the Unit by funding the contracts of a significant number of senior and earlier career positions, and hosting the Unit within the Institute of Applied Health Sciences. Additionally, of the income generated by the Unit, directly incurred costs on grants (i.e. researcher time and running costs etc) were returned to the Unit for both CSO core-funded and University of Aberdeen funded staff. The University benefits by retaining all directly allocated staff costs (i.e. Principal applicant and Co-applicants costs) plus indirect costs (i.e. overheads) within grant awards and income arising from the Research Assessment Exercise 2008 and Research Excellence Framework 2014 submissions. The returned income had been

used strategically by, and at the discretion of, the Unit to fund additional research posts and educational and training activities.

46. The Panel noted an intention of CSO to review the funding arrangements across all of its investments in core-funded Units, including in relation to income generated from core-funded posts. It was suggested that the expectations and arrangements should be set out explicitly in any contractual agreement between CSO, HERU and the University of Aberdeen for the income arising from CSO core-funded posts costed in grant awards. This income should be returned to the Unit and, although decisions on the specific uses of this income should be at the discretion of the Unit Director, it should be used in support of the Unit's core-funded mission with the Unit Director reporting on the activities that the income had supported.

47. *Recommendation: CSO should consider setting out the expectations and arrangements for the income generated as a result of core-funding within the contractual agreements it has with HERU and the University of Aberdeen.*

Value of CSO core-funding

48. The Panel concluded that HERU is a very highly regarded centre of academic excellence in health economics research and is clearly focussed on and actively addressing the objectives set out in the contract with CSO. However, given the lack of specificity of those objectives, it is challenging for the Panel to make more precise assessments about the degree to which the Unit is meeting the expectations of core-funding from CSO.

49. In considering the potential value of CSO core-funding, the Panel agreed it provided a platform to:

- engage and develop longer-term and deeper relationships with other research groups, policy makers and research users to identify, define and address important researchable health and care challenges and priorities in Scotland;
- support research studies and programmes of specific relevance to health and care policies and practices in Scotland some of which may be unlikely to receive funding from other sources;
- build research capacity and expertise that can be applied to important health and care policies and practices in Scotland and provide a unique source of advice and bespoke training;
- develop highly impactful focussed research programmes and longer-term methodological work;
- generate additional grant income that can be directed towards activities across the Unit's mission.

50. The Panel considered that it was clear that the Unit had been utilising core-funding to support activities across all these areas. However, there could be greater focus in some areas, as identified in the Panel's recommendations, that would provide additional value from core-funding. In this regard, CSO could define more specific objectives, informed by the Panel's recommendations, that capture more explicitly the expectations for core-funding and this would also have the advantage of allowing the Unit to demonstrate that expectations had been met. Nevertheless, when framing new objectives it would be important to give due consideration to the various demands on the Unit including: to generate additional funding from grant awards and to contribute to the academic standing of the University of Aberdeen. Therefore, objectives should not be too tightly defined to be restrictive on those other aims. Instead, they should provide sufficient latitude so that the Unit can maintain its excellent academic status and ability to attract and hold on to talented researchers since these vitally underpin the ability of the Unit to address the aims and objective of core-funding.

51. *Recommendation: CSO should review the contractual expectations and objectives for core-funding and set these out more explicitly within any new contract for core-funding.*

52. The Panel noted that in addition to CSO core funding the Unit receives substantial support from the University of Aberdeen and wins, in its own right or in collaboration with others, substantial additional grant income from other research funders some of which is also disbursed to other Institutions across Scotland involved in health research. Hence as well as addressing needs for applied research, the Panel considered that there is added value from CSO core-funding in the form of inward investment to HERU and to others in the wider Scottish health research community.

53. The Panel concluded that, whilst there are some areas for action and refocusing as identified in the Panel's recommendations to both HERU and CSO, the Unit has continued to be an important centre of excellence in health economics research that can continue to make impactful contributions to health research, policy and practice and research capacity in Scotland. The Panel understands that CSO intends to conduct an overarching review of the funding and aims of investment in core-funded research units and that this will influence longer-term decisions about CSO's approach to core-funding. The Panel recommends that CSO should consider continuing core-funding for HERU, subject to plans for this overarching review.

54. *Recommendation: CSO should continue core-funding for HERU, subject to plans for an overarching review of investments in core-funding of research units.*

Recommendations

55. The Panel recommended that HERU:

- should develop closer relationships with key policy makers to help understand and define the most pressing workforce and organisation of care research priorities where the Unit could generate high impact academic and policy-informing findings. Consideration – resources permitting – should also be given to broadening the research scope to include other health and care professionals, health and social care integration, and to exploring opportunities for natural experiments. Approaches from other areas of economics might also be usefully applied.
- should explore opportunities to broaden the funding sources to support the Health Behaviour and Inequality theme. New collaborative relationships building on the Unit's niche expertise to apply health economic approaches to public health challenges should also be explored. The contribution of research within the theme towards narrowing health inequalities should be clarified.
- should develop a more strategic approach to its health technology assessment activities to generate opportunities to enhance academic output in terms of high quality publications with an economic focus. Consideration should be given to identifying specific areas where health technology assessment may be important and valuable for NHS Scotland and to broadening the scope of the theme to include appraisal to inform health technology design.
- should consider re-presenting the methods of benefits valuation theme such that much greater emphasis is placed on the application of the research to health and care policies and practices and the translation into accepted health economic appraisal methodology.
- should explore the interest in and consider developing dedicated training that is targeted towards professionals in Health Boards tailored to the application of health economics methods to the issues that they face; examination of the approach used in CLAHRCs could be helpful.
- should re-evaluate the constitution and operation of its Policy Advisory Group to enhance engagement with key stakeholders and research users and explore developing close bi-lateral relationships with key policy representatives in Scottish Government or NHS Scotland working in specific areas where the research themes have particular relevance. HERU should consider whether plans for PPI would have most value in the context of the Policy Advisory Group or other fora.
- should assess the effectiveness of its 'policy brief' series and consider producing a smaller number of user-facing evidence syntheses that can highlight the policy and practice implications of a body of evidence produced by the Unit set within the content of the wider evidence available. Given the likely resource implications, assessing with relevant stakeholders the need for, and value of, planned syntheses would be important.

56. The Panel recommended that CSO:

- should consider setting out the expectations and arrangements for the income generated as a result of core-funding within the contractual agreements it has with HERU and the University of Aberdeen;
- should review contractual expectations and objectives for core-funding and set these out more explicitly with any new contract for core-funding;
- CSO should continue core-funding for HERU, subject to plans for an overarching review of investments in core-funding of research units.

Acknowledgements

57. The Review Panel thanks the Director and all the staff at HERU for the very high quality of the written material provided, and presentations made, to the Panel for this review and for the arrangements for the review meeting.

Annex 1 - Membership of the Review Panel

[REDACTED]

[REDACTED] University of York) – Chair*

[REDACTED] Scottish Government)

[REDACTED]

[REDACTED]

[REDACTED] Bangor University)**

[REDACTED]

[REDACTED] University of Oxford)

[REDACTED] CSO Public Engagement Group)

[REDACTED]

[REDACTED] University College London)

[REDACTED] NHS Healthcare Improvement Scotland)

Support [REDACTED] (CSO)

* [REDACTED] (University of York) had originally agreed to chair the Panel and was involved in the preparations for the review until he stood down as chair due to unforeseen circumstances such that he could not participate in the review meeting or the drafting of this report.

** Could not participate on the second day of the review meeting but was involved in all other aspects of the review.

Annex 2 – Terms of Reference of the Review Panel

To advise CSO on:

- the scientific quality and potential for impact on policy and/or practice of HERU's research programmes/themes and activities since the last review, including the extent to which HERU has achieved its aims and addressed recommendations of the last review;
- the relevance to, scientific quality, and potential for impact on policy and/or practice in Scotland of the proposed programmes/themes of future work;
- the success of the HERU's dissemination and knowledge exchange activities, and the plans for these going forward;
- the success of the development of research skills and expertise (i.e. the capacity building role of the unit), and the plans for these going forward;
- the wider contributions of HERU to the health research, policy and practice environments in Scotland and beyond;
- whether the Unit funding represents value for money and whether a core funded Unit offers the best option to CSO for progressing work of the kind proposed, including whether and what changes to the funding arrangement should be considered by CSO.

Annex 3 - Content of written report provided by the Unit and the review meeting agenda

Content of written report

A written report was provided to the review panel by the Unit that included the following information:

- an overview of the purpose, objectives and scope of Unit's research;
- a summary of organisational developments and other developments in response to recommendations made in the previous HERU review;
- a statement prepared mid-2016 by the Unit Director summarising the achievements and future plans of the Unit that was circulated by CSO to key stakeholders with a synthesis of stakeholder views prepared by CSO;
- a summary of the Unit's dissemination, knowledge exchange and capacity building activities and future plans for these;
- a description of each of the Unit's four research themes, the projects within each theme, the impact of the research, and the future plans;
- the grants awarded to, and publications authored by, the Unit's staff
- a list of staff; and
- a financial summary.

Annex 4 – review meeting agenda

AGENDA – INDEPENDENT REVIEW OF HEALTH ECONOMICS RESEARCH UNIT (HERU)

28-29 MARCH 2017

Location– Rowett Institute of Nutrition and Health Conference Room, Foresterhill, AB25 2ZD

<http://www.abdn.ac.uk/about/campus/rowett-396.php>

Day	Timing	Item	Lead	Notes	Papers (source)
Session 1: Overview of Unit					
28/03/17	9.00 - 9.10	Welcome and overview of remit	Panel chair	To confirm understanding of remit and designated responsibilities	Panel briefing paper (CSO)
	9.10 - 10.15	Overview of unit , strategic direction and unit contribution to science in Scotland, Summary of Knowledge exchange and dissemination and addressing recommendations of previous HERU review. Followed by discussion with Panel & Unit Director (20 minutes presentation followed by discussion)	██████████	Panel discussion with Director	Presentation and HERU Review report
	10.15 – 10.30	Break - Tea & coffee			
Session 2: Overviews of Themes: Workforce and Organisation of Care and Health Behaviour & Inequality					
	10.30 - 11.15	Overview of Workforce and Organisation of Care (WOC) theme and future plans (20 minutes presentation followed by discussion)	██████████ ██████████	Panel discussion with theme lead	Presentation and HERU Review report
	11.15 - 12.00	Overview of Health Behaviour and Inequality (HBI) theme and future plans (20 minutes presentation followed by discussion)	██████████ ██████████	Panel discussion with theme lead	Presentation and HERU Review report

	12.00 – 12.30	Closed Session	Panel	For private panel discussion	
	12.30 – 13.30	<i>Lunch with representatives from across the University in the Atrium of the Rowett Building.</i>			
Day	Timing	Item	Lead	Notes	Papers (source)
Session 3: Overview Themes: Assessment of Technologies & Methods of Benefit Valuation					
28/03/17	13.30 – 14.15	Overview of Assessment of Technologies (AoT) theme and future plans (20 minutes presentation followed by discussion)	██████████ ██████████	Panel discussion with theme lead	Presentation and HERU Review report
	14.15-15.00	Overview of Methods of Benefit Valuation (MBV) theme and future plans (20 minutes presentation followed by discussion)	██████████ ██████████	Panel discussion with theme lead	Presentation and HERU Review report
	15.00 – 15.30	Closed Session	Panel chair	For private panel discussion	
	15.30– 15.45	<i>Break - Tea & coffee</i>			
Session 4: Overview of arrangements with host institution					
28/03/17	15.45 – 16.30	Summary of arrangements between unit and host institution and future plans	██████████ and ██████████ ██████████ ██████████	Panel discussion with ██████████ ██████████ ██████████	

				██████████ and HERU Director	
	16.30 – 18.00	Closed session to consider the findings from the earlier sessions and funder and stakeholder views on the unit, expectations and future needs	Panel chair	For private panel discussion	
		End of day 1 Travel back to hotel, and dinner at the <u>Malmaison Hotel (7.30 pm)</u> , joined by ██████████ and ██████████			
Day	Timing	Item	Lead	Notes	Papers (source)
Session 5: Early career researchers & PhD students presentations, overview of capacity building, future plans and further panel discussion					
29/03/17	09.15 – 10.15	Presentations by Early Career Researchers & PhD Students <i>(5 minute presentations)</i> <ul style="list-style-type: none"> • ██████████ Post-doctoral Fellow <i>Work absence in the healthcare sector: old factors, new perspectives</i> • ██████████ Post-doctoral Fellow <i>The impact on practice, outcomes and costs of new roles for health professionals (MUNROS)</i> • ██████████ Lecturer / Assistant Professor 			Presentations

		<p><i>Speak well, do well? Language proficiency and social inclusion of UK migrants</i></p> <ul style="list-style-type: none"> • [REDACTED] PhD Student <i>To self-manage, or not to self-manage: An investigation of the role of time preference and risk aversion</i> • [REDACTED] PhD Student <i>Shared decision making: a novel application of discrete choice experiment</i> • [REDACTED] PhD Student <i>Adherence: Do doctors know best?</i> • [REDACTED] Research Fellow <i>Breaking the addiction to adoption: an evaluation of NHS provided scale and polish</i> • [REDACTED] PhD Student <i>Can we use existing data to incorporate broader measures of benefit in economic evaluation?</i> • [REDACTED] Research Fellow <i>Eye tracking: what can it do for health economics research?</i> • [REDACTED] Research Fellow <i>Nutritional labelling and food choices"</i> 			
	10.15 – 10.45	<i>Break - Tea & Coffee, joined by Early Career Researchers and PhD Student presenters</i>			
	10.45 – 11.30	Overview of Capacity Building and future plans (20 minutes followed by discussion)	[REDACTED] [REDACTED]	Panel discussion with HERU Director of Teaching	Presentation and HERU Review report
	11.30 - 12.00	Closed Session	Panel Chair	For private panel discussion	
	12.00 – 12.30	Panel discussion with Unit Director to clarify points of discussion	Panel & Unit	Panel discussion with	

			Director	Director	
	12.30 - 13.30	Lunch – At the Institute of Medical Sciences (IMS) Building Atrium and joined by all HERU staff			
Session 6: Final Discussions					
	13.30 – 14.50	Private Panel discussion to agree draft conclusions and recommendations	Panel Chair	██████████ on hand to clarify points of discussion	
	15.00	Panel Depart			