Annex A

Examples of impacts and indicators

1. Table 1 is intended to illustrate the wide variety of areas in which impact from research across the panels may be found to have a positive influence on the quality of life of individuals and communities locally, nationally and internationally. These are indicative only, and in practice much of the impact will cross boundaries between them or go beyond them.

2. The 'indicators' are listed independently of the 'types of impact' and are not intended to link to a specific impact example listed. The list provides illustrative examples of indicators of both reach and significance.

3. Examples of impact achieved through public engagement are integrated into the different areas of impact in Table 1.

4. Examples are also provided of impact evaluation frameworks used outside higher education. Impact partners may also have their own evaluation frameworks that could be drawn upon to evidence impact.

These examples are taken from the 2021 Research Excellence Framework guidance. They are provided to support you to frame different types of research impact and think about how to evidence them

Areas of impact	Types of impacts	Indicators of reach and significance
Impacts on the health and wellbeing of people, and animal welfare Impacts where the beneficiaries are individuals and groups (both human and animals) whose health outcomes have been improved, whose quality of life has been enhanced (or potential harm mitigated) or whose rights or interests have been protected or advocated through the application of enhanced policy and practice for individuals or public health activities.	• Outcomes for patients/users or related groups have improved. • Public health or wellbeing has improved. • Quality of life in a developing country has been improved by new products or processes. • A new clinical or lifestyle intervention (e.g. drug, diet, treatment or therapy) has been developed, trialled with patients/users, related or other groups (e.g. community samples), and definitive (positive or negative) outcome demonstrated. • Patient health outcomes have improved through, for example, the availability of new drug, treatment or therapy, diagnostic or medical technology, changes to patient care practices, or changes to clinical or healthcare guidelines. • A new diagnostic or clinical technology has been adopted. • Disease prevention or markers of health have been enhanced by research. • Misleading health claims identified by research are not included in food packaging. • Care and educational practices have changed. • Clinical, dietary, health or social care guidelines have changed. • Health or social care training guidelines have changed. • Decisions by a health service or regulatory authority (to take, or not to take action) have been informed by research. • Public health and quality of life has been enhanced through, for example, enhanced public awareness of a health risk, enhanced disease prevention or, in developing countries, improved water quality or access to health and social care.	• Measures of improved clinical outcomes, public behaviour or health services (lives saved, reduced infection rates). • Measures of improved wellbeing. • Evidence from clinical trials. • Measures of improved patient/user outcomes, public health or health services. • Documented changes to clinical and/or public health guidelines (documented references to research evidence in guidelines). • Evidence of enhancement of patient/user experience. • Evidence of take-up and use of new or improved products and processes that improve quality of life or animal welfare in any given context, e.g. developing countries. • Evidence of the number of animals no longer used in research or a specific sector (e.g. per test, drug, laboratory, or leisure industry). • Documented changes to animal welfare codes or guidelines.

	• The user experience has improved. • Increased patient/user involvement in shaping and implementing policy and practice. • Public awareness of a health risk or benefit has been raised. • The control of diseases has changed in developing countries. • Development or adoption of new indicators of health and wellbeing. • Development of policy and practice with regard to medical ethics, health services or social care provision. • Influence on CPD and training standards. • Influence or shaping of relevant legislation. • Influencing policy or practice leading to improved take-up or use of services. • Improved provision or access to services. • Animal health and welfare has been enhanced by research. • Use of animals in research has been reduced, refined or replaced.	
Impacts on creativity, culture and society Impacts where the beneficiaries may include individuals, groups of individuals, organisations or communities whose behaviours, creative practices, rights, duties and other activity have been influenced.	• Collaboration with museum professionals results in enhancements to (cultural) heritage preservation and interpretation, including museum and gallery exhibitions. • Co-production of new cultural artefacts, including for example, films, novels and TV programmes. • Generating new ways of thinking that influence creative practice, its artistic quality or its audience reach. • Inspiring, co-creating and supporting new forms of artistic, literary, linguistic, social, economic, religious, and other expression.	Arts Council England offer guidance and toolkits for evaluating impact: • https://www.artscouncil.org.uk/quality-metrics/quality-principles • https://www.artscouncil.org.uk/quality-metrics/quality-metrics • https://www.artscouncil.org.uk/measuring-outcomes/generic-learning-outcomes

Areas of impact	Types of impacts	Indicators of reach and significance
	• Collaboration with public arts venues, artists and programming professionals to produce new forms of artistic expression. • Research-led engagement with marginalised, under-engaged and/or diverse audiences leads to increased cultural participation. • Developing stimuli to cultural tourism and contributing to the quality of the tourist experience. • Improvements to legal and other frameworks for securing intellectual property rights. • Increased understanding of local traditions leads to enhanced cultural preservation in any given context, for example developing countries. • New forms of artistic expression resulting in enhancement of quality of life.	• https://www.artscouncil.org.uk/measuring-outcomes/generic-social-outcomes • Testimonials from creative practitioners, curators, media professionals. • Publication and sales figures both in the UK and overseas, audience or attendance figures (including demographic data where relevant), broadcasting data and other forms of media, download figures, or database and website hits over a sustained period. • Evaluative reviews in the media. • Citations in reviews outside academic literature. Independent citations in the media, including in online documents. • Tourism data, including audience figures and visitor numbers at exhibitions, events, performances. • Professional evaluations of exhibitions, performances or other outputs. • Audience/visitor/participant feedback (e.g. through surveys, interviews or focus groups).
Impact on social welfare Impacts where the beneficiaries include individuals, groups of individuals, organisations	• Improved social welfare, equality, social inclusion; improved access to justice and other opportunities (including employment and education). • Engagement with research has enhanced policy and practice for securing poverty alleviation.	A beginner's guide to evaluating social return on investment (SROI) can be found here: http://www.socialvalueuk.org/resource/guidance-on-starting-out-on-sroi-2/. • Documented evidence of changes to social policy.

or communities whose rights, duties, behaviours, opportunities, inclusion, quality of life and other activity have been influenced.	• Influential contributions to campaigns for social, economic, political and/or legal change through engagement with civil society groups. • Changes to social policy have been informed by research. • Changes to social policy have led to improved social welfare, equality or social inclusion. • Research has contributed to community regeneration or development. • Improved social and educational inclusion of marginalised groups in any given context, for example developing countries. • More effective integration of refugees into host communities. • Enhanced understanding of victims' needs in reconciliation processes in post-conflict states.	• Measures of improved social equality, welfare or inclusion. • Citations in campaign literature (e.g. leaflets). • Evidence of public debate in the media or other fora being influenced by the research. • Documented evidence of increased social inclusion (e.g. participation figures). • Testimonials from civil society groups and policymakers.
Impacts on commerce and the economy Impacts where the beneficiaries may include businesses, either new or established, the NHS, private health and social care, agriculture or other types of organisation which undertake activity that may create wealth.	• A spin-out or new business has been created, established its viability, or generated revenue or profits. • Contributing to innovation and entrepreneurial activity through the design and delivery of new products or services. • Decisions are made not to introduce a new process or product as a result of research. • Social enterprise initiatives have been created. • The costs of treatment, health or social care have changed as a result of research-led changes in practice. • Policies have been introduced which have had an impact on economic growth or incentivising productivity. • Gains in productivity have been realised as a result of research-led changes in practice.	• Evidence of improved cost-effectiveness. • Evidence of service change. • Sales of new products/services. • Business performance measures (e.g. turnover/profits, trends in key technical performance measures underlying economic performance). • Employment figures. • Licences awarded and brought to market; market authorisation. • Demonstrable collaborations with industry (including knowledge transfer partnerships, and contracts). • Commercial adoption of a new

Areas of impact	Types of impacts	Indicators of reach and significance
	• Research helps to stimulate foreign direct investment (FDI). • The performance of an existing business has been improved through the introduction of new, or the improvement of existing, products, processes or services; the adoption of new, updated or enhanced technical standards and/or protocols; or the enhancement of strategy, operations or management practices. • Contributing to economic prosperity via the creative sector including publishing, music, theatre, museums and galleries, film and television, fashion, tourism, and computer games. • Performance has been improved, or new or changed technologies or processes adopted, in companies or other organisations through highly skilled people having taken up specialist roles that draw on their research, or through the provision of consultancy or training that draws on their research. • Potential future losses have been mitigated by improved methods of risk assessment and management in safety- or security-critical situations. • The strategy, operations or workplace practices of a business have changed. • Improved support for the development of 'small scale' technologies. • Improvements in legal frameworks, regulatory environment or governance of business entities. • Better access to finance opportunities. • Enhanced corporate social responsibility policies. • More effective dispute resolution. • Alternative economic models (such as fair trade) have been developed and adopted.	technology, process, knowledge or concept. • Business performance measures, for example sales, turnover, profits or employment associated with new or improved products, processes or services. • Jobs created or protected. • Investment funding raised from UK and/or non-UK agencies (venture capital/ Business Angel, and so on) for start-up businesses and new activities of existing businesses. • Priority shifts in expenditure profiles or quantifiable reallocation of corporate, non-profit or public budgets. • Evidence of critical impact on particular projects, products and processes confirmed by independent authoritative evidence, which should be financial where possible. • Evidence of research leading to avoidance of negative outcomes. • Quantitative data relating, for example, to cost-effectiveness or organisational performance. • Tourism data, including audience figures and visitor numbers at exhibitions, events, performances. • Evidence of closing identified skills gaps.

Impacts on public policy, law and services Impacts where the beneficiaries are usually government, non-governmental organisations (NGOs), charities and public sector organisations and society, either as a whole or groups of individuals in society, through the implementation or non-implementation of policies, systems or reforms.	• Policy debate has been stimulated or informed by research evidence, which may have led to confirmation of policy, change in policy direction, implementation or withdrawal of policy. • Policy decisions or changes to legislation, regulations or guidelines have been informed by research evidence. • A policy has been implemented (including those realised through changes to legislation) or the delivery of a public service has changed. • In delivering a public service, a new technology or process has been adopted or an existing technology or process improved. • The quality, accessibility, acceptability or cost-effectiveness of a public service has been improved. • (Sections of) the public have benefited from public service improvements. • Risks to the security of nation states have been reduced. • The work of an NGO, charitable or other organisation has been influenced by the research. • Legislative change, development of legal principle or effect on legal practice. • Research is used by parliamentarians to develop proposals for new legislation through Private Members' Bills, or to assist scrutiny of legislation and inform amendments to other bills such as those introduced by government. • Research recommendations are taken up by policymakers through membership of a government advisory committee. • Policymakers make use of research-based critical evidence synthesis in developing policy. • Government analysts adopt innovative methodological or	• Documented evidence of use in policy debate (e.g. at a parliamentary Select Committee, material produced by NGOs). • Citation in a public discussion, consultation document or judgement. • Evidence of citation in policy, regulatory, strategy, practice or other documents. • Direct citations of research in parliamentary publications such as Hansard, committee reports, evidence submissions, or briefings. • Acknowledgements to researchers on webpages, in reports or briefings. • Evidence of influence on a debate in public policy and practice through membership of or distinctive contributions to expert panels and policy committees or advice to government (at local, national or international level). • Quantitative indicators or statistics on the numbers of attendees or participants at a research event, or website analytics for online briefings. • Qualitative feedback from participants or attendees at research events. • Data to show close working relationships with members or staff. For example, the number of meetings held, minutes from these meetings, membership of working groups, co-authoring of publications. • Testimonials from members, committees or officials, where available.

Areas of impact	Types of impacts	Indicators of reach and significance
	approach-based advice from researchers. • Forms of regulation, dispute resolution or access to justice have been influenced. • Research is used to change current processes or services, or identify new services to be provided. • Research into the languages and cultures of minority linguistic, ethnic, religious, immigrant, cultures and communities used by government, NGOs, charities or private sector to understand and respond to their needs. • Research helps to highlight issues of concern to parliamentarians and contributes to new analysis of existing issues. • Research helps parliamentarians and staff to identify inquiry topics, shape the focus of inquiries, inform questioning of witnesses, and underpin recommendations. • Research equips parliamentarians, their staff, and legislative staff with new analytical or technical skills, or refreshes existing ones. • International policy development has been influenced by research. • Allocation and/or distribution of Official Development Assistance (ODA) has been influenced by research. • Policy and practice of international agencies or institutions have been influenced by research. • Research stimulates critical public debate that leads to the non-adoption of policy.	• Documented evidence of influence on guidelines, legislation, regulation, policy or standards. • Documented evidence of changes to public policy, legislation, regulations or guidelines. • Analysis by third-party organisations of parliamentary proceedings or processes, for example studies of the passage of particular pieces of legislation. • Documented evidence of changes to international development policies. • Evidence of use of process/technology. • Measures of improved public services, including, where appropriate, quantitative information; such information may relate, for example, to the quality, accessibility or cost-effectiveness of public services. • Measures of improved inclusion, welfare or equality. • Satisfaction measures (e.g. with services). • Formal partnership agreements or research collaboration with major institutions, NGOs and public bodies. Consultancies to public or other bodies that utilise research expertise. • Evidence of engagement with campaign and pressure groups and other civil organisations (including membership and activities of those organisations and

		campaigns) as a result of research. • Documented evidence of changes to international development policies. • Measures of improved international equality, food security, welfare or inclusion.
Impacts on production Impacts where the beneficiaries are individuals (including groups of individuals) whose production has been enhanced.	• Production, yields or quality have been enhanced or level of waste has been reduced. • Research helps to create routes to international innovation and market impact. • Research leads to improvement in productivity and resource-use efficiency. • Decisions by regulatory authorities have been influenced by research. • More efficient production, including food production, for example where costs have been reduced. • Animal husbandry methods have changed. • Management practices in production businesses have changed.	• A new product has been recommended for use or adopted. • Development of a new plant variety or crop protection product which has entered the appropriate national or international regulatory testing system. • Evidence of improved sustainability. • Documented changes to working guidelines. • Documented evidence of improved working practices and/or level of production.
Impacts on practitioners and delivery of professional services, enhanced performance or ethical practice Impacts where beneficiaries may include organisations or individuals, including service users, involved in	• Professional standards, guidelines or training have been influenced by research. • Professional methods, ideas or ethics have been influenced by research. • Professionals and organisations are able to adapt to changing cultural values as a result of research. • Contribution to continuing personal and professional development. • Practitioners/professionals/lawyers have used research findings in conducting their work.	• Documented change to professional standards, performance or behaviour. • Evidence of adoption of best practice (e.g. by educators or law enforcement personnel). • New or modified professional standards and codes of practice. • New or modified technical standards or protocols. • Documented changes in knowledge,

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the development and/or delivery of professional services and ethics.	• Professional bodies and learned societies have used research to define best practice, formulate policy, or to lobby government or other stakeholders. • Workforce planning has been influenced by research. • Educational or pedagogical practices and methods have changed in primary, secondary, further or higher education, within or beyond the submitting unit. • Practices have changed, or new or improved processes or methods have been adopted, by individuals, companies or other organisations, through the provision of training or consultancy. • The development of expert systems has been influenced in areas such as medicine, human resources, accounting, and financial services. • The quality, efficiency or productivity of a professional service has improved. • Expert and legal work or forensic methods have been informed by research. • Law enforcement and security practices have changed. • Cessation of practices shown by research to be ineffective.	capability or behaviours of individuals benefiting from training. • Evidence of debate among practitioners, leading to developments in attitudes or behaviours. • Literature/web information from practitioners and advisers, including the research findings and how they are applied in practice. • Traceable reference to inclusion of research in national or international industry standards or authoritative guidance. • Traceable references by practitioners to research papers that describe their use and the impact of the research.
Impacts on the environment Impacts where the key beneficiaries are the natural, historical and/or built environment, together with societies, individuals or groups of individuals who benefit as a result.	• The environment has been improved through the introduction of new product(s), process(es) or service(s); the improvement of existing product(s), process(es) or services; or the enhancement of strategy, operations or management practices. • New methods, models, monitoring or techniques have been developed that have led to changes or benefits. • Policy debate on climate change or the environment has been influenced by research.	• Sales of new products, or improvements in existing products, that bring quantifiable environmental benefits. • Verifiable influence on particular projects or processes which bring environmental benefits. • Evidence of generic environmental impact across a sector, confirmed by independent authoritative evidence.

	• Policy debate on the environment, environmental policy decisions or planning decisions have been stimulated or informed by research and research evidence. • Improved design or implementation of environmental policy or regulation. • The management or conservation of natural resources, including energy, water and food, has changed in a developing country. • The management of an environmental risk or hazard has changed. • Changes in environmental or architectural design standards or general practice. • Influence on professional practice or codes. • Changes in practices or policies affecting biodiversity. • The operations of a business or public service have been changed to achieve environmental (green) objectives. • Direct intervention, based on research evidence, has led to a reduction in carbon dioxide or other environmentally damaging emissions. • Increased understanding of the environmental impact of a product or process means that it is not adopted by industry.	• Traceable reference to inclusion of research into government policy papers, legislation and industry guidance. • Traceable reference to the influence of research in planning decision outcomes. • Sales of new products or improvements in existing products that bring quantifiable environmental benefits. • Traceable impacts on particular projects or processes which bring environmental benefits. • Evidence of generic environmental impact across a sector, confirmed by independent authoritative evidence. • Documented case-specific improvements to environment-related issues. • Traceable reference to inclusion of research into government policy papers, legislation and industry guidance. • Traceable reference to impact of research in planning decision outcomes.
Impacts on understanding, learning and participation Impacts where the beneficiaries are individuals, communities and organisations whose awareness, understanding, participation or engagement	• Enhanced cultural understanding of issues and phenomena; shaping or informing public attitudes and values. • Public interest and engagement in research has been stimulated through, for example, the enhancement of science education in schools. • The awareness, attitudes or understanding of (sections of) the public have been informed, and their ability to make	Many organisations use the Generic Learning Outcomes (GLO) to evaluate impacts on knowledge and understanding: https://www.artscouncil.org.uk/measuring-outcomes/generic-learning-outcomes. The Heritage Lottery Fund also offers guidance on evaluating participation and learning:

Areas of impact	Types of impacts	Indicators of reach and significance
have been enhanced as a result of research.	informed decisions on issues improved, by engaging them with research. • Public or political debate has been shaped or informed by research; this may include activity that has challenged established norms, modes of thought or practices. • Contributing to processes of commemoration, memorialisation and reconciliation. • Contributing to a wider public understanding of basic standards of wellbeing and human rights conceptions. • Contributing to widening public access to and participation in the political process. • Professionals and organisations have adapted to changing cultural values. • Research has challenged conventional wisdom, stimulating debate among stakeholders. • Increased understanding of gender roles in any given context (e.g. developing countries) has improved equality. • Changes to education or the school curriculum have been informed by research. • Influencing the design and delivery of curriculum and syllabi in schools, HEIs or other educational institutions. • Research results in changes to the delivery of vocational courses and subsequently changes to professional practice. • Reduced gap in academic attainment for students with protected characteristics.	https://www.hlf.org.uk/evaluation-guidance. • Documented evidence that public understanding has been enhanced through active collaborative involvement in research. • Documented evidence of policy debate (e.g. in Parliament, the media, material produced by NGOs). • Public debate in the media. • Documented shift in public attitude (e.g. to sexual behaviour, or social factors in health). • Documented evidence of enhanced awareness of health risks and benefits by consumers. • Citation in a public discussion, consultation document or judgement. • Citation by journalists, broadcasters or social media. • Evidence of increased public uptake of scientific training, through public engagement. • Information about the number and profile of people engaged and types of audience. • Evidence of secondary reach, for example from follow-up activity or media coverage. • Evidence of sustainability through, for example, a sustained or ongoing

		engagement with a group, a significant increase in participation in events or programmes or use of resources. • Evidence of engagement with campaign and pressure groups and other civil organisations (including membership and activities of those organisations and campaigns) as a result of research. • Measures of increased attainment and/or measures of improved engagement with science in non-HE education. • Evidence of use of education materials arising from the research.