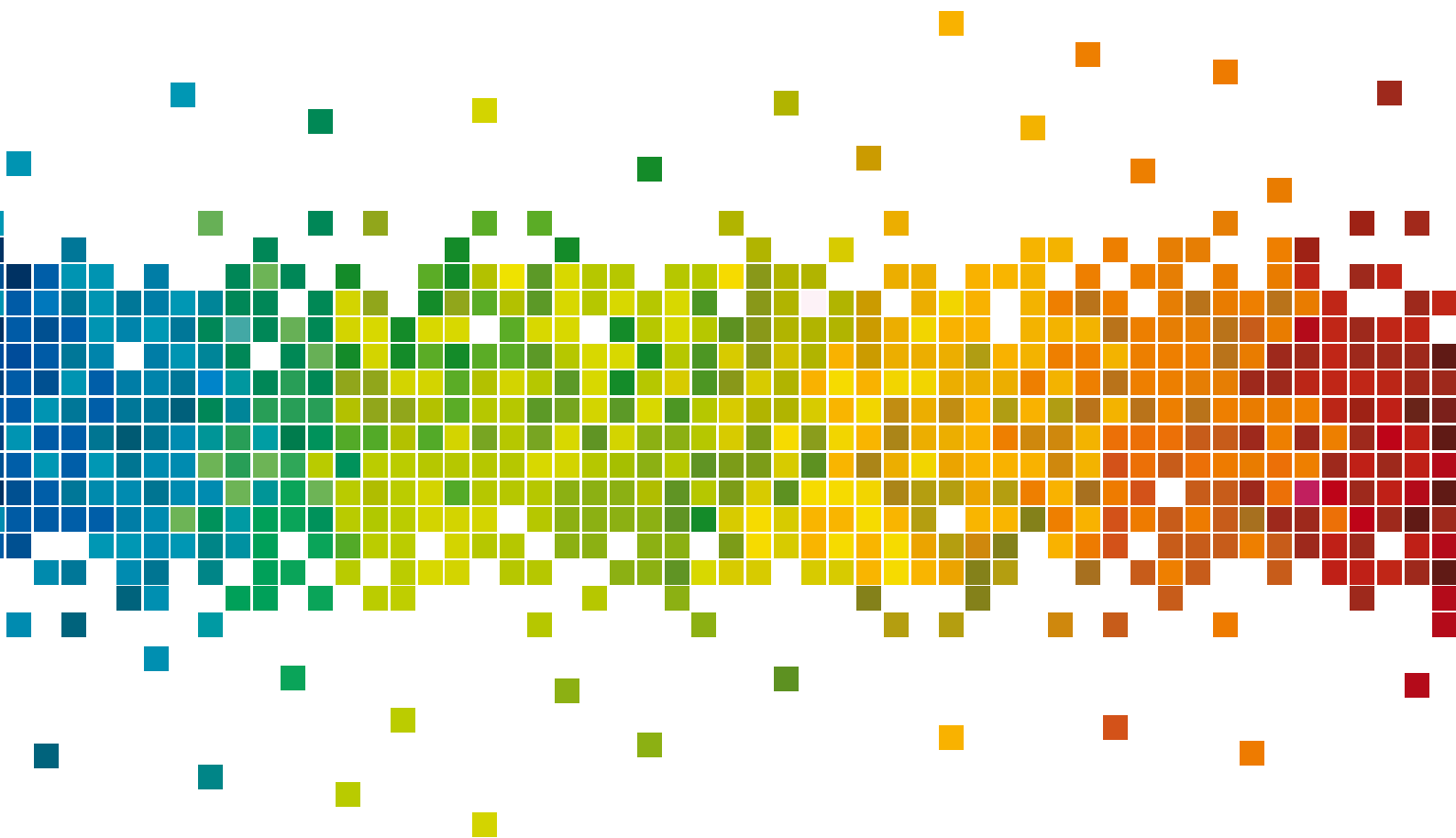




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UK Clinical Research Collaboration Health Research Classification System



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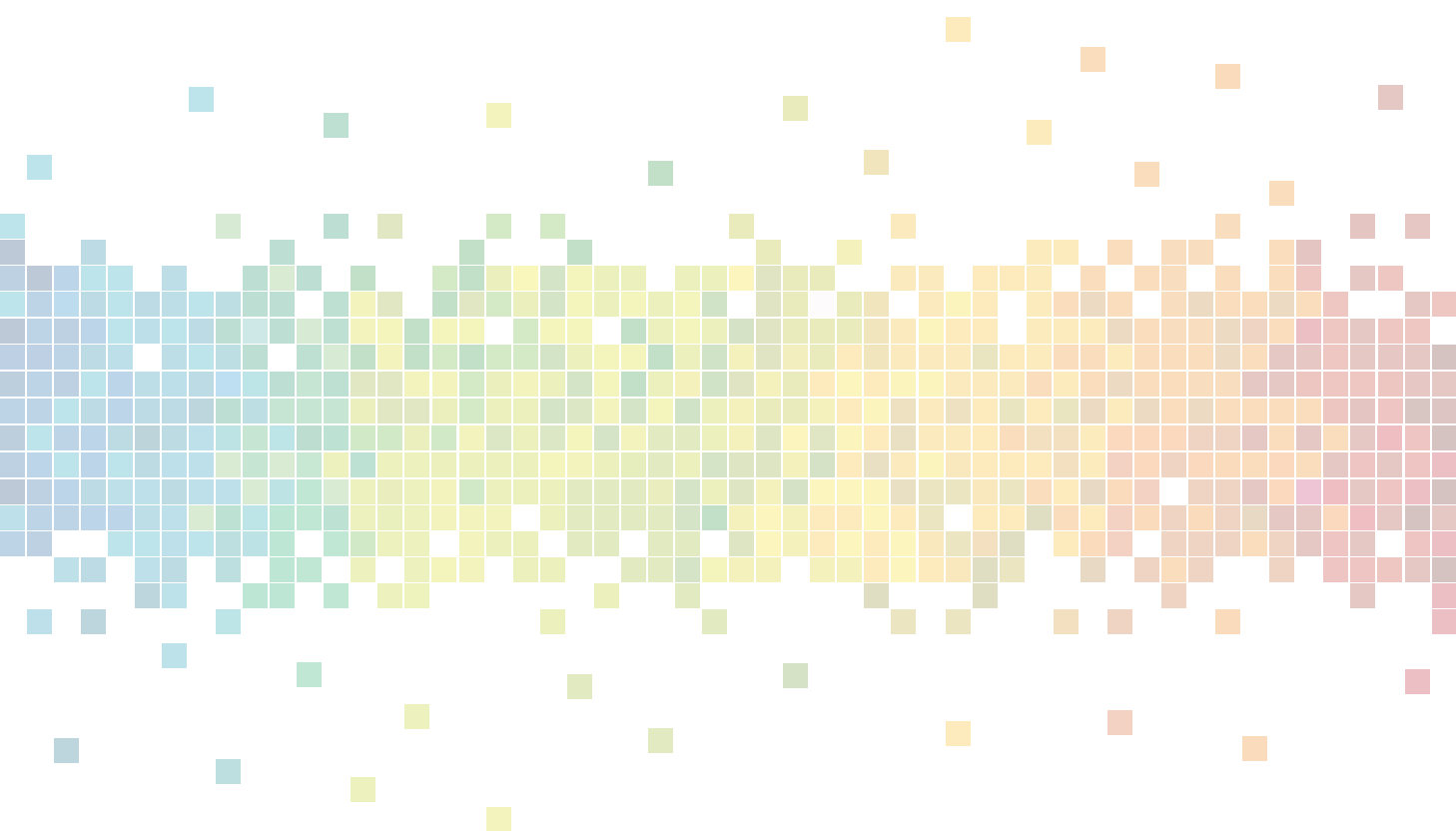
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UK Clinical Research Collaboration Health Research Classification System



The Health Research Classification System has been developed by the UKCRC for the classification and analysis of all types of health research. It is openly available for use as a research management tool provided the use is not for commercial gain. The UKCRC reserves the right to control the content of this and any subsequent versions. For further details please see the HRCS website:

<http://www.hrcsonline.net/>

Health Categories

Health Categories

Category	Includes
Blood	Haematological diseases, anaemia, clotting and normal development and function of platelets and erythrocytes
Cancer	All types of cancers (includes leukaemia)
Cardiovascular	Coronary heart disease, diseases of the vasculature and circulation including the lymphatic system, and normal development and function of the cardiovascular system
Congenital Disorders	Physical abnormalities and syndromes that are not associated with a single type of disease or condition including Down's syndrome and cystic fibrosis
Ear	Deafness and normal ear development and function
Eye	Diseases of the eye and normal eye development and function
Infection	Diseases caused by pathogens, acquired immune deficiency syndrome, sexually transmitted infections and studies of infection and infectious agents
Inflammatory and Immune System	Rheumatoid arthritis, connective tissue diseases, autoimmune diseases, allergies and normal development and function of the immune system
Injuries and Accidents	Fractures, poisoning and burns
Mental Health	Depression, schizophrenia, psychosis and personality disorders, addiction, suicide, anxiety, eating disorders, learning disabilities, autistic spectrum disorders and studies of normal psychology, cognitive function and behaviour
Metabolic and Endocrine	Diabetes, thyroid disease, metabolic disorders and normal metabolism and endocrine development and function
Musculoskeletal	Osteoporosis, osteoarthritis, muscular and skeletal disorders and normal musculoskeletal and cartilage development and function
Neurological	Dementias, transmissible spongiform encephalopathies, Parkinson's disease, neurodegenerative diseases, Alzheimer's disease, epilepsy, multiple sclerosis and studies of the normal brain and nervous system
Oral and Gastrointestinal	Inflammatory bowel disease, Crohn's disease, diseases of the mouth, teeth, oesophagus, digestive system including liver and colon, and normal oral and gastrointestinal development and function
Renal and Urogenital	Kidney disease, pelvic inflammatory disease, renal and genital disorders, and normal development and function of male and female renal and urogenital system
Reproductive Health and Childbirth	Fertility, contraception, abortion, <i>in vitro</i> fertilisation, pregnancy, mammary gland development, menstruation and menopause, breast feeding, antenatal care, childbirth and complications of newborns
Respiratory	Asthma, chronic obstructive pulmonary disease, respiratory diseases and normal development and function of the respiratory system
Skin	Dermatological conditions and normal skin development and function
Stroke	Ischaemic and haemorrhagic
Generic Health Relevance	Research applicable to all diseases and conditions or to general health and well-being of individuals. Public health research, epidemiology and health services research that is not focused on specific conditions. Underpinning biological, psychosocial, economic or methodological studies that are not specific to individual diseases or conditions
Other	Conditions of unknown or disputed aetiology (such as chronic fatigue syndrome/myalgic encephalomyelitis), or research that is not of generic health relevance and not applicable to specific health categories listed above

Research Activity Codes

Overview of the Research Activity Codes

1	Underpinning Research
1.1	Normal biological development and functioning
1.2	Psychological and socioeconomic processes
1.3	Chemical and physical sciences
1.4	Methodologies and measurements
1.5	Resources and infrastructure (underpinning)
2	Aetiology
2.1	Biological and endogenous factors
2.2	Factors relating to physical environment
2.3	Psychological, social and economic factors
2.4	Surveillance and distribution
2.5	Research design and methodologies (aetiology)
2.6	Resources and infrastructure (aetiology)
3	Prevention of Disease and Conditions, and Promotion of Well-Being
3.1	Primary prevention interventions to modify behaviours or promote well-being
3.2	Interventions to alter physical and biological environmental risks
3.3	Nutrition and chemoprevention
3.4	Vaccines
3.5	Resources and infrastructure (prevention)
4	Detection, Screening and Diagnosis
4.1	Discovery and preclinical testing of markers and technologies
4.2	Evaluation of markers and technologies
4.3	Influences and impact
4.4	Population screening
4.5	Resources and infrastructure (detection)
5	Development of Treatments and Therapeutic Interventions
5.1	Pharmaceuticals
5.2	Cellular and gene therapies
5.3	Medical devices
5.4	Surgery
5.5	Radiotherapy
5.6	Psychological and behavioural
5.7	Physical
5.8	Complementary
5.9	Resources and infrastructure (development of treatments)
6	Evaluation of Treatments and Therapeutic Interventions
6.1	Pharmaceuticals
6.2	Cellular and gene therapies
6.3	Medical devices
6.4	Surgery
6.5	Radiotherapy
6.6	Psychological and behavioural
6.7	Physical
6.8	Complementary
6.9	Resources and infrastructure (evaluation of treatments)
7	Management of Diseases and Conditions
7.1	Individual care needs
7.2	End of life care
7.3	Management and decision making
7.4	Resources and infrastructure (disease management)
8	Health and Social Care Services Research
8.1	Organisation and delivery of services
8.2	Health and welfare economics
8.3	Policy, ethics and research governance
8.4	Research design and methodologies
8.5	Resources and infrastructure (health services)

1 Underpinning Research

1 Underpinning Research

Research that underpins investigations into the cause, development, detection, treatment and management of diseases, conditions and ill health

1.1 Normal biological development and functioning	Studies of normal biology including <ul style="list-style-type: none">▶ genes and gene products▶ molecular, cellular and physiological structures and function▶ biological pathways and processes including normal immune function▶ developmental studies and normal ageing▶ bioinformatics and structural studies▶ development and characterisation of model systems
1.2 Psychological and socioeconomic processes	Studies that do not address health directly but cover issues that may have a bearing on health and well-being including <ul style="list-style-type: none">▶ perception, cognition and learning processes▶ social and cultural beliefs▶ individual or group characteristics and behaviours▶ politics, economies and urban development▶ development and characterisation of model systems
1.3 Chemical and physical sciences	Research in chemical and physical sciences that may lead to the future development of diagnostic tools or medical treatments including <ul style="list-style-type: none">▶ bioengineering and biophysics▶ chemical structures, interactions and properties▶ molecular modelling▶ material science
1.4 Methodologies and measurements	Development of novel underpinning research measures and analytical methodologies including <ul style="list-style-type: none">▶ development of statistical methods and algorithms for genomic analysis▶ development of mapping methodologies and novel data comparison methods▶ development of biological, psychological and socioeconomic research measures
1.5 Resources and infrastructure (underpinning)	<ul style="list-style-type: none">▶ development and/or distribution of resources for use by the research community including equipment, cell lines, DNA banks, and genomic and proteomic sequence resources▶ infrastructure to support research networks, consortia and centres

2 Aetiology

2 Aetiology

Identification of determinants that are involved in the cause, risk or development of disease, conditions and ill health

2.1 Biological and endogenous factors	<p>Identification and characterisation of endogenous factors known or suspected to be involved in the cause, risk or development of disease, conditions or ill health including</p> <ul style="list-style-type: none"> ▶ genes and gene products, molecular, cellular and physiological structures and functions ▶ biological factors linked to ethnicity, age, gender, pregnancy and body weight ▶ endogenous biological factors or pathways involved in responses to infection or damage by external factors ▶ metastases, degenerative processes, regeneration and repair ▶ complications, reoccurrence and secondary conditions ▶ bioinformatics and structural studies ▶ development and characterisation of models
2.2 Factors relating to physical environment	<p>Environmental or external factors associated with the cause, risk or development of disease, conditions or ill health including</p> <ul style="list-style-type: none"> ▶ physical agents, occupational hazards, environmental surroundings, radiation and pollution ▶ chemicals and nutrients ▶ infection by pathogens and studies of infectious agents
2.3 Psychological, social and economic factors	<p>Research into psychological conditions, or research into the cause, risk or development of disease, conditions or ill health associated with social, psychological and economic factors including</p> <ul style="list-style-type: none"> ▶ individual or group behaviours and lifestyle ▶ cultural or religious beliefs or practices ▶ ethnicity, age and gender differences ▶ socioeconomic factors
2.4 Surveillance and distribution	<p>Observational studies, surveys, registries, and studies that track incidence, prevalence, morbidity, co-morbidity and mortality including ongoing monitoring of large scale cohorts</p>
2.5 Research design and methodologies (aetiology)	<p>Development of aetiological and epidemiological research designs, measures and methodologies including</p> <ul style="list-style-type: none"> ▶ methodological innovation and modelling complex epidemiological data ▶ development and evaluation of novel research designs ▶ development of epidemiological research measurements including outcome measures ▶ development of analytical and statistical methods to understand disease cause, susceptibility and risk including genetic linkage and association studies
2.6 Resources and infrastructure (aetiology)	<ul style="list-style-type: none"> ▶ development and/or distribution of resources for general use by the research community including equipment, cell lines, tissue and DNA banks, and genomic and proteomic sequence resources ▶ infrastructure to support research networks, consortia and centres

3 Prevention of Disease and Conditions, and Promotion of Well-Being

3	Prevention of Disease and Conditions, and Promotion of Well-Being	Research aimed at the primary prevention of disease, conditions or ill health, or promotion of well-being
3.1	Primary prevention interventions to modify behaviours or promote well-being	Development, implementation and evaluation of interventions to modify personal or group behaviours and lifestyles affecting health and well-being including <ul style="list-style-type: none">▶ risk behaviours associated with diet, tobacco use, physical activity, alcohol consumption, sexual health and substance misuse▶ age, gender, cultural or religious practices▶ public health policy, health communication and educational interventions▶ behavioural, psychological, social and physical interventions
3.2	Interventions to alter physical and biological environmental risks	Development, implementation and evaluation of interventions surrounding physical, biological and environmental risk factors including <ul style="list-style-type: none">▶ radiation, second-hand smoke, physical and chemical agents, occupational hazards and environmental surroundings▶ contraceptive devices▶ infectious agents▶ policy, educational and physical interventions
3.3	Nutrition and chemoprevention	Research on chemopreventative agents and health protective effects of nutrients including <ul style="list-style-type: none">▶ development, characterisation and mechanism of action▶ chemical contraceptives▶ testing and evaluation in model systems and clinical, applied and community settings▶ evaluation of evidence to inform policy
3.4	Vaccines	Research on vaccines for prevention of disease including <ul style="list-style-type: none">▶ discovery, development and testing of vaccines and vaccination in model systems▶ mechanism of action▶ development, implementation and evaluation of vaccination programmes and studies to increase uptake▶ decision making, outcomes from vaccination and evaluation of evidence to inform policy
3.5	Resources and infrastructure (prevention)	<ul style="list-style-type: none">▶ development and/or distribution of resources for use by the research community including equipment, cell lines, tissue and DNA banks▶ infrastructure to support research trials, networks, consortia and centres

4 Detection, Screening and Diagnosis

4 Detection, Screening and Diagnosis	Discovery, development and evaluation of diagnostic, prognostic and predictive markers and technologies
4.1 Discovery and preclinical testing of markers and technologies	<p>Discovery, development and preclinical testing of novel markers (that may be derived from patient samples) and technologies for use in detection, diagnosis, prediction, prognosis and monitoring including</p> <ul style="list-style-type: none"> ▶ biological and psychological markers ▶ diagnostic and monitoring devices, imaging, scanning, predictive and diagnostic tests ▶ development and characterisation of models ▶ diagnostic measures and methodologies
4.2 Evaluation of markers and technologies	<p>Testing and evaluation of markers and technologies in humans for use in detection, diagnosis, prediction, prognosis and monitoring in clinical, community or applied settings including</p> <ul style="list-style-type: none"> ▶ assessment of sensitivity, efficacy, specificity, predictive and prognostic value, reproducibility and safety ▶ medical devices, imaging, diagnostic and predictive tests ▶ evaluation of diagnostic models, methods and methodologies in clinical or applied settings
4.3 Influences and impact	<p>Studies investigating impact of screening and factors affecting uptake including</p> <ul style="list-style-type: none"> ▶ attitudes and beliefs including cultural and religious practices ▶ issues relating to gender, age and ethnicity ▶ genetic counselling and decision making ▶ psychological, social and economic factors ▶ development, implementation and evaluation of interventions to promote screening including policy, education and communication
4.4 Population screening	<p>Studies investigating population screening programmes including</p> <ul style="list-style-type: none"> ▶ feasibility studies, pilot studies and trials ▶ evaluation of effectiveness, benefits and economic evaluation ▶ impact on health services and policy issues ▶ models of population surveillance
4.5 Resources and infrastructure (detection)	<ul style="list-style-type: none"> ▶ development and/or distribution of resources for use by the research community including equipment, cell lines, tissue and DNA banks, and informatics systems ▶ infrastructure support for research trials, networks, consortia and centres

5 Development of Treatments and Therapeutic Interventions

5 Development of Treatments and Therapeutic Interventions **Discovery and development of therapeutic interventions and testing in model systems and preclinical settings**

5.1 Pharmaceuticals	Identification and development of pharmaceutical small molecules, therapeutic vaccines, antibodies and hormones including <ul style="list-style-type: none"> ▶ drug screening and development of delivery systems ▶ mechanism of action including side effects and drug resistance ▶ pharmacogenetics, prediction of genetic variation and responses to drugs ▶ testing in <i>in vitro</i> and <i>in vivo</i> model systems
5.2 Cellular and gene therapies	Discovery and development of cellular, tissue and gene therapies including <ul style="list-style-type: none"> ▶ gene therapy, stem cells therapy, <i>in vitro</i> fertilisation and tissue engineering ▶ development of delivery systems ▶ development of culture systems ▶ testing in <i>in vitro</i> and <i>in vivo</i> model systems
5.3 Medical devices	Discovery and development of medical devices including <ul style="list-style-type: none"> ▶ implantable devices, mobility aids, dressings, medical equipment and prostheses ▶ biological safety assessments and investigation of adverse events ▶ sterilisation and decontamination of equipment or surfaces ▶ testing in <i>in vitro</i> and <i>in vivo</i> model systems
5.4 Surgery	Development of surgical, obstetric and dental interventions including <ul style="list-style-type: none"> ▶ histocompatibility, transfusions, transplantations including xenograft studies and bone marrow transplants ▶ mechanisms of recovery, tolerance, rejection and side effects including infection ▶ testing in <i>in vitro</i> and <i>in vivo</i> model systems
5.5 Radiotherapy	Discovery and development of interventions including <ul style="list-style-type: none"> ▶ radiobiology, radiotherapy, radioimmunotherapy, radiosensitisers, microwaves, ultrasound, laser and phototherapy ▶ development of delivery systems ▶ investigation of mechanisms of action and side effects ▶ testing in <i>in vitro</i> and <i>in vivo</i> model systems
5.6 Psychological and behavioural	Development of psychological and behavioural interventions including <ul style="list-style-type: none"> ▶ cognitive behavioural therapy, electro-convulsive therapy, counselling, therapy and social interventions ▶ testing in model systems
5.7 Physical	Development of physical interventions including <ul style="list-style-type: none"> ▶ physical therapies, physiotherapy, occupational therapy, speech therapy, dietetics, exercise and osteopathy ▶ mechanisms of action ▶ testing in model systems
5.8 Complementary	Discovery and development of complementary approaches to conventional medical therapies including <ul style="list-style-type: none"> ▶ hypnotherapy, meditation, massage, acupuncture and homeopathy ▶ mechanisms of action ▶ testing in model systems
5.9 Resources and infrastructure (development of treatments)	<ul style="list-style-type: none"> ▶ development and/or distribution of resources for general use by the research community including equipment, cell lines, tissue and DNA banks ▶ infrastructure support for networks, consortia and centres

6 Evaluation of Treatments and Therapeutic Interventions

6 Evaluation of Treatments and Therapeutic Interventions	Testing and evaluation of therapeutic interventions in clinical, community or applied settings
6.1 Pharmaceuticals	Clinical application and evaluation of pharmaceutical small molecules, therapeutic vaccines, antibodies and hormones in humans including <ul style="list-style-type: none"> ▶ small scale settings and pilot studies ▶ phase I, II, III and IV trials ▶ assessing sensitivity, efficacy, specificity, relapse, survival, therapeutic value, pharmacokinetics, reproducibility and safety ▶ studies monitoring response, outcome, drug resistance and side effects
6.2 Cellular and gene therapies	Clinical application and evaluation of cellular, tissue and gene therapies in humans including <ul style="list-style-type: none"> ▶ small scale and pilot studies ▶ phase I, II, III and IV trials ▶ gene therapy, stem cell therapy, <i>in vitro</i> fertilisation, tissue engineering ▶ evaluation of applied delivery systems
6.3 Medical devices	Application and evaluation of medical devices in humans in a clinical, community or applied setting including <ul style="list-style-type: none"> ▶ implantable devices, mobility aids, dressings, medical equipment and prostheses ▶ validation of design and post market surveillance
6.4 Surgery	Clinical and applied application and evaluation of surgical, obstetric and dental interventions in humans including <ul style="list-style-type: none"> ▶ small scale and pilot studies ▶ phase I, II, III and IV trials ▶ procedures including organ and bone marrow transplantation, tissue grafts and transfusions ▶ monitoring outcomes, side effects and rejection
6.5 Radiotherapy	Clinical application and evaluation of interventions in humans including <ul style="list-style-type: none"> ▶ small scale and pilot studies ▶ phase I, II, III and IV trials ▶ radiotherapy, radioimmunotherapy and radiosensitisers, microwaves, ultrasound, laser and phototherapy ▶ monitoring side effects
6.6 Psychological and behavioural	Application and evaluation of psychological and behavioural interventions in humans in clinical, community and applied settings <ul style="list-style-type: none"> ▶ phase I, II, III and IV trials ▶ cognitive behavioural therapy, electro-convulsive therapy, counselling, therapy and social interventions
6.7 Physical	Testing and evaluation of physical interventions in humans in a clinical, community or applied setting including <ul style="list-style-type: none"> ▶ physical therapies, physiotherapy, occupational therapy, speech therapy, dietetics, osteopathy and exercise
6.8 Complementary	All aspects of testing, evaluation and provision of complementary approaches to conventional medicine in humans in a clinical, community or applied setting including <ul style="list-style-type: none"> ▶ hypnotherapy, massage, acupuncture and homeopathy ▶ issues relating to health and social services and health care delivery ▶ attitudes and beliefs of patients and health care professionals
6.9 Resources and infrastructure (evaluation of treatments)	<ul style="list-style-type: none"> ▶ provision and distribution of resources related to clinical and applied therapeutic interventions ▶ infrastructure support for clinical and applied research networks and trials, consortia and centres

7 Management of Diseases and Conditions

7 Management of Diseases and Conditions

Research into individual care needs and management of disease, conditions or ill health

7.1 Individual care needs

Studies of patients and service user care needs including

- ▶ quality of life, management of acute and chronic symptoms, management of side effects, rehabilitation, long term morbidity and reproductive issues
- ▶ psychological impact of illness
- ▶ social and economic consequences of ill health
- ▶ behaviour affecting disease management including secondary prevention, compliance to treatment and attitudes and beliefs relating to seeking treatment
- ▶ assessment of social care and health services needs
- ▶ educational or communication interventions to promote self-care or improve health care by carers
- ▶ impact on carers

7.2 End of life care

Studies involving all issues related to palliative care and end of life care including

- ▶ assessment of patient, service user and carer needs
- ▶ provision and evaluation of palliative and end of life care services
- ▶ quality of life for patients and carers
- ▶ evaluation of interventions for health and social care professionals
- ▶ social, economic and policy issues
- ▶ pain management for terminally ill people
- ▶ bereavement

7.3 Management and decision making

Studies into all aspects of the management of diseases, ill health and conditions by health and social care professionals

- ▶ attitudes, beliefs and behaviours of health and social care professionals
- ▶ investigation of decision making including factors influencing diagnosis, treatment, referral and management strategies
- ▶ educational interventions and communication practices
- ▶ development of guidelines, interventions or models to assist decision making and management, including identifying symptoms, predicting outcomes and identifying individuals at risk
- ▶ testing and evaluating management regimes and strategies

7.4 Resources and infrastructure (disease management)

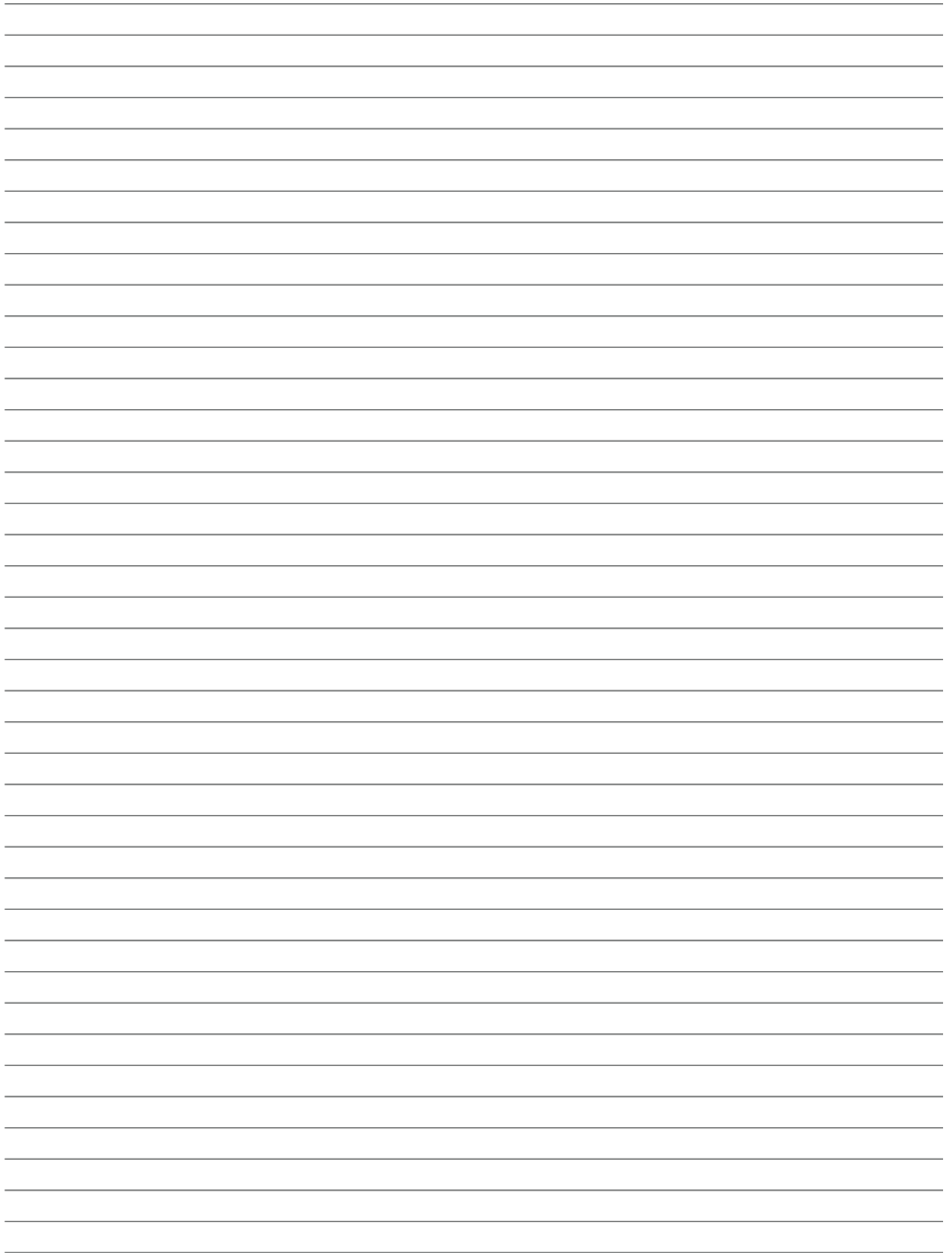
- ▶ development and/or distribution of resources and equipment for use by the community including informatics systems
- ▶ infrastructure support for trials, networks, consortia and centres

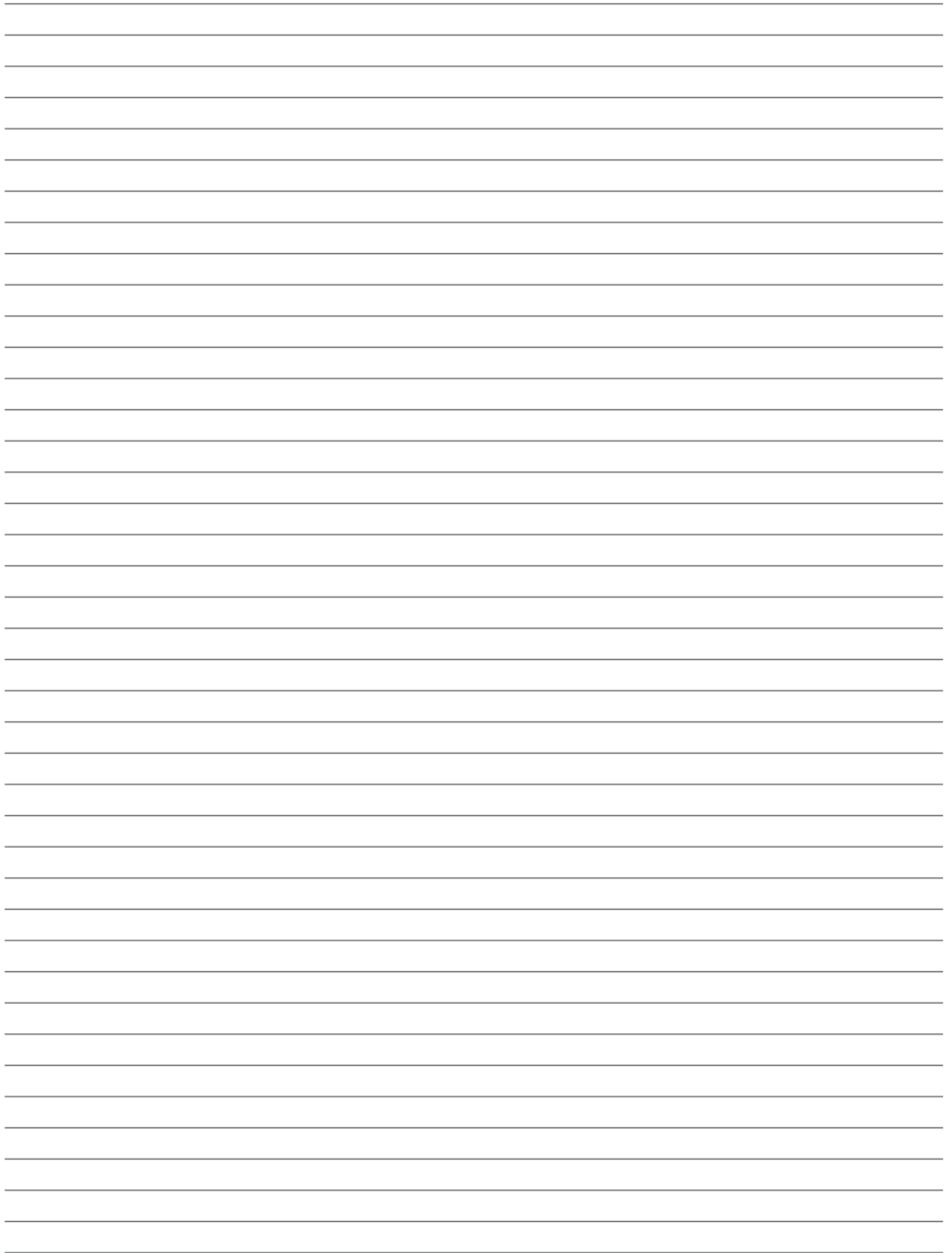
8 Health and Social Care Services Research

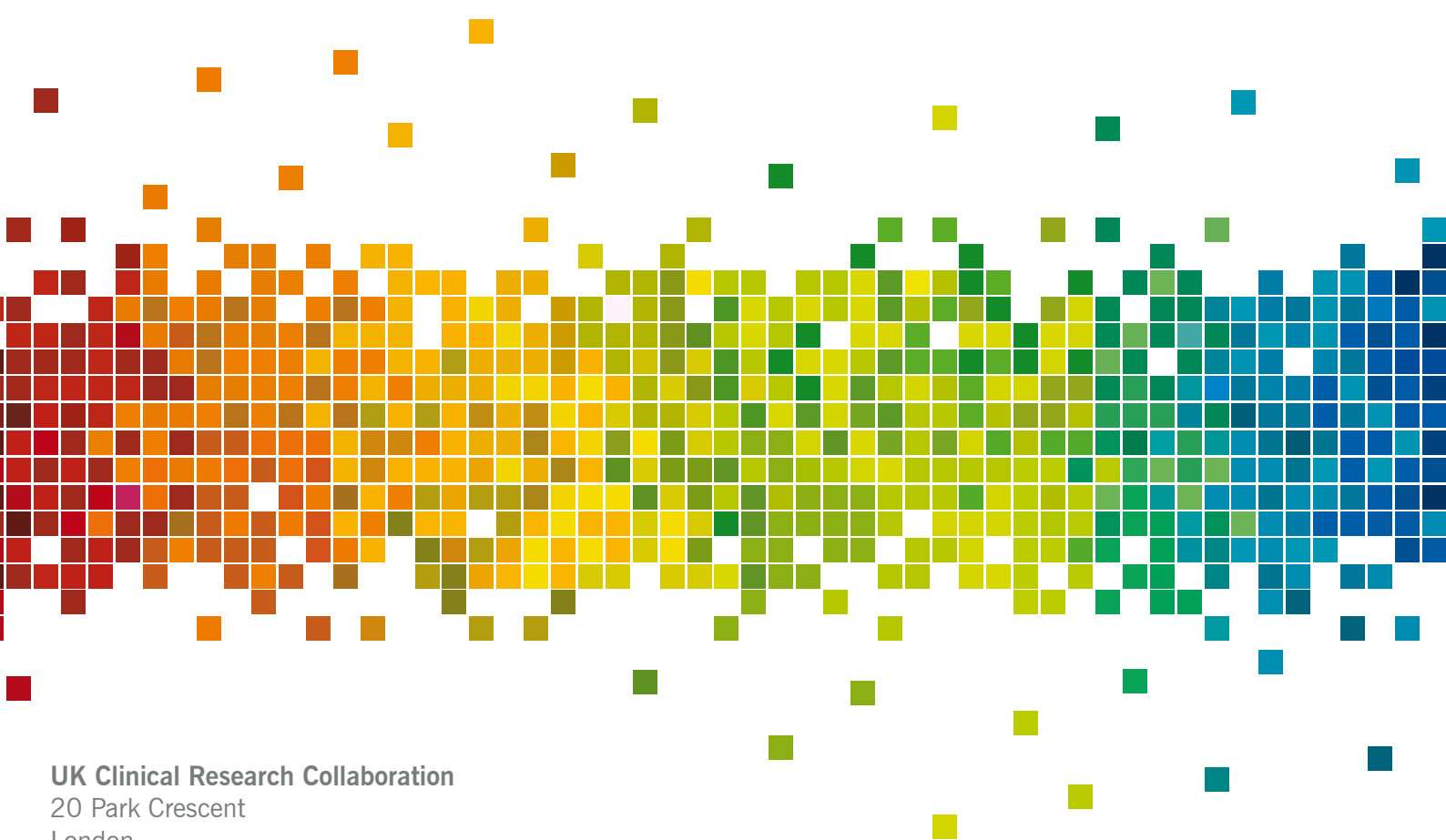
8 Health and Social Care Services Research

Research into the provision and delivery of health and social care services, health policy and studies of research design, measurements and methodologies

8.1 Organisation and delivery of services	<p>Examining the organisation and provision of health and social care services and evaluating factors affecting the quality of care</p> <ul style="list-style-type: none">▶ workforce and career issues▶ organisation and management of services▶ access to health and social care and geographical variations in outcomes▶ effectiveness of different care settings and models of service delivery▶ evaluating quality of care including patient safety issues▶ evaluation of experiences of service users▶ assessment of current and future health care demands▶ development and evaluation of interventions to improve services
8.2 Health and welfare economics	<p>Economic evaluation of health and social care interventions and delivery including</p> <ul style="list-style-type: none">▶ cost-benefit analysis of services including economic modelling▶ cost effectiveness or economic feasibility of implementing new interventions or technologies within health services▶ economic assessment of service productivity and outcomes▶ health care costs▶ development and evaluation of economic models of health care
8.3 Policy, ethics and research governance	<ul style="list-style-type: none">▶ evaluation of local, regional and national healthcare policy▶ impact of legislation▶ synthesis and evaluation of evidence to inform policy▶ dissemination and implementation of research evidence▶ research ethics including use of personal data and biological material, consent and confidentiality▶ research governance and regulation processes including interpretation of guidelines▶ issues surrounding research subjects and donor recruitment
8.4 Research design and methodologies	<p>Development of research designs and novel methodologies for health care including treatment, management and health services research</p> <ul style="list-style-type: none">▶ analytical innovation, methodological research, statistical methods and modelling▶ development of research measurements including outcome measures▶ development of methods of research assessment and evaluation▶ development and evaluation of research designs and methodologies
8.5 Resources and infrastructure (health services)	<ul style="list-style-type: none">▶ development and distribution of resources for use by the community including informatics systems▶ infrastructure support for networks, trials, consortia and centres







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