Government Office for Science

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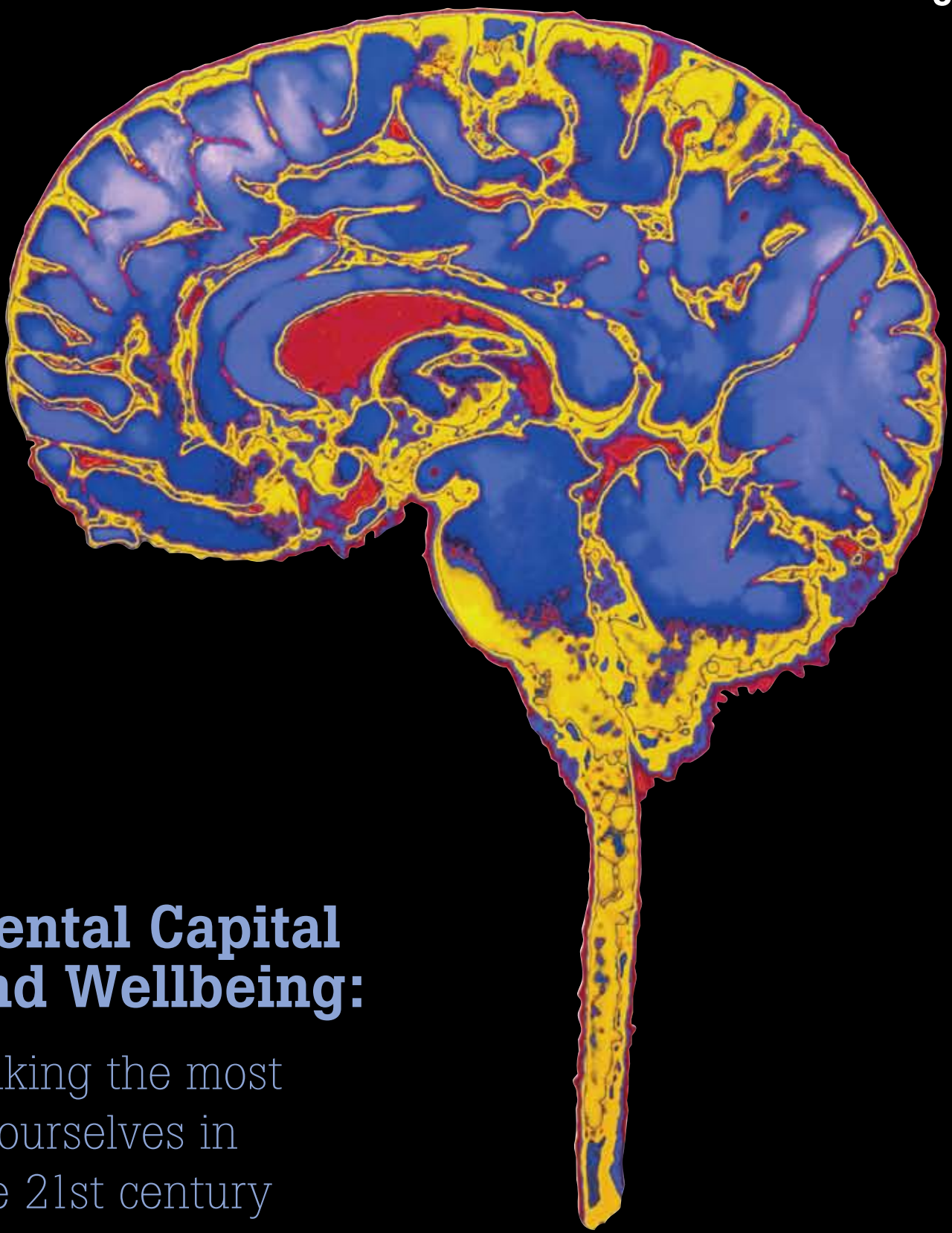

Mental Capital and Wellbeing:

Making the most of ourselves in the 21st century

EXECUTIVE SUMMARY

Mental Capital and Wellbeing: Making the most of ourselves in the 21st century

Executive summary

This report is intended for:

Policy makers and a wide range of professionals and researchers whose interests relate to mental capital and wellbeing. The report focuses on the UK but is also relevant to the interests of other countries.

This report should be cited as:

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The Government Office for Science (GO-Science) would like to thank the Project's Science Co-ordination Team who oversaw the technical aspects of the Project, who were involved in much of the work, and who were particularly involved in writing the final report. They were led by Professor Cary Cooper, CBE and are Professor John Field, Professor Usha Goswami, Professor Rachel Jenkins and Professor Barbara Sahakian.

GO-Science would also like to thank: Professor Philip Dewe, Professor Eugene Paykel, Professor Felicia Huppert and Mr Chris Riley who also contributed to the final report; Professor Leon Feinstein, Professor Tom Kirkwood and Professor Michiel Kompier who led parts of the first phase of the Project; and the company shiftN who worked on the futures and systems aspects.

Particular thanks are due to the Project's High Level Stakeholder Group and Expert Advisory Group as well as the many experts and stakeholders from the UK and around the world who contributed to the work of this Project, who reviewed the many Project reports and papers, and who generously provided advice and guidance. A full list of those involved is provided in Appendix A of the final Project report which is available in hard copy or electronically through www.foresight.gov.uk.

The Foresight Programme in the UK Government Office for Science is under the direction of the Chief Scientific Adviser to HM Government. Foresight strengthens strategic policy-making in Government by embedding a futures approach.

Foreword

The UK is a small country in a rapidly changing world. Major challenges such as globalisation, the ageing population, the changing nature of work, and changing societal structures are already having profound influences on society and on our place internationally. So, if we are to prosper and flourish in this evolving environment, then it is vital that we make the most of all our resources – and this is as true for our mental resources as material resources. The present Project was therefore conceived to provide a vision of how that can be achieved.

The Project's scope is possibly unparalleled. It has taken an independent look at the best available scientific and other evidence and has considered the factors that influence an individual's mental development and wellbeing from conception until death. It has assessed how these are affected by: the policies of key Government departments; by important stakeholders such as educators, healthcare professionals and employers; and by the diverse environments in which we live – families, communities and our physical surroundings. It has also analysed possible interventions to address the future challenges, drawing upon considerations such as scientific efficacy, economics, governance and ethics.

I am most grateful to my predecessor Professor Sir David King who commissioned this Project, to the group of senior stakeholders who have advised on the work throughout, and to those who have contributed to and who have peer-reviewed the work; over 400 leading experts and stakeholders from countries across the world have been involved. These have been drawn from diverse disciplines including: neuroscience, psychology and psychiatry, economics, genetics, social sciences, learning, development and systems analysis.

The breadth of scope, coupled with the strong use of scientific and other evidence, provides the key added value of the Project, and has enabled it to provide fresh insights and new thinking across a broad front. Nevertheless, a report of this breadth cannot aspire to consider every issue in fine detail, but instead it aims to provide signposts to important future challenges, and how they could be addressed within a coherent and integrated framework.

Through the publication of this final report, I have pleasure in handing over the findings to Government. It is with equal pleasure that I am making all of this work freely availably within the UK and worldwide.

Professor John Beddington CMG, FRS
Chief Scientific Adviser to HM Government, and
Head of the Government Office for Science

Preface

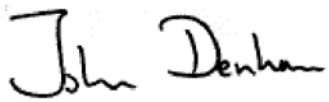
On behalf of the Department for Innovation, Universities and Skills, I am delighted to receive this final report of the Foresight Mental Capital and Wellbeing Project from Professor Beddington. Mental capital and wellbeing are in many ways very personal concepts, but Government has a role in creating an environment in which everyone has the opportunity to flourish. The future of prosperity and social justice in the UK will be strengthened by drawing on the mental capital and talents of its citizens.

As this report demonstrates, the science that shapes our understanding of the complex functioning of human brains has progressed rapidly in recent decades, and continues to develop. This gives policy makers new insights and creates fresh opportunities to offer support to individuals, families, and organisations in building and sustaining mental capital and good mental health.

The Project has shown that Government is already on the right track in many areas. However, it also demonstrates that there is very considerable scope to go further by adopting a long-term and strategic perspective that spans an individual's lifecourse. Realising the full benefits could have implications for systems of governance of mental capital and wellbeing and for how the decisions on trade-offs for resource allocation are made.

Nevertheless, the report identifies a number of priority areas, where more immediate benefits could be realised, and the work of the Project is already being used to inform a number of important Government initiatives. I am particularly pleased that a wide range of departments and organisations across Government and more widely are committed to taking forward the Project's findings and I will be overseeing the progress of that over the coming year.

I would like to conclude by thanking Professor Beddington for this excellent report, and also the many individuals and stakeholders who have contributed, both inside and outside Government, and from other countries.



John Denham MP
Secretary of State for Innovation, Universities and Skills

Contents

1. The aims and ambitions of the Project 9
2. Mental capital and mental wellbeing explained: their critical importance 10
3. Why the Project was undertaken: major challenges ahead 11
4. How the Project adds value over previous work 13
5. Children 15
6. Adolescence 18
7. Adults and children: mental ill-health 21
8. Adults: learning 25
9. Adults: working life 28
10. Older adults 33
11. Key choices for policy makers 39
12. Conclusion: next steps for Government 45

Appendix A Structure of the Project reports and supporting papers 49

Appendix B Synthetic view of the mental capital trajectory 52

Executive summary

1 The aims and ambitions of the Project

A key message is that if we are to prosper and thrive in our changing society and in an increasingly interconnected and competitive world, both our mental and material resources will be vital. Encouraging and enabling everyone to realise their potential throughout their lives will be crucial for our future prosperity and wellbeing.

The aim of the Foresight Project on Mental Capital and Wellbeing

This has been to use the best available scientific and other evidence to develop a vision for:

- The opportunities and challenges facing the UK over the next 20 years and beyond, and the implications for everyone's "mental capital" and "mental wellbeing".
- What we all need to do to meet the challenges ahead, so that everyone can realise their potential and flourish in the future.

The Project seeks to highlight where action is most important, and how we can better allocate available resources.

An independent look

The analysis provides an independent look at the challenges ahead and how they might best be addressed. As such, the findings do not constitute Government policy. Rather, they are intended to inform the strategic and long-term choices facing Government departments, business and society as a whole.

A word of caution

It is impossible for a broadly-scoped project such as this to consider the range of issues and disciplines in the same detail as the more focused work of individual Government departments.

Rather, its insights should be seen as complementary: providing a fresh look from its unique perspective; challenging existing thinking; and providing signposts to the most important issues and to promising approaches. As such, it presents a framework for more detailed analysis and policy development by stakeholders.

2 Mental capital and mental wellbeing explained: their critical importance

An individual's mental capital and mental wellbeing crucially affect their path through life. Moreover, they are vitally important for the healthy functioning of families, communities and society. Together, they fundamentally affect behaviour, social cohesion, social inclusion, and our prosperity.

A key conclusion of the Project is that mental capital and mental wellbeing are intimately linked: measures to address one will often affect the other. This argues for them to be considered together when developing policies and designing interventions.

Mental capital[1]

This encompasses a person's cognitive and emotional resources. It includes their cognitive ability, how flexible and efficient they are at learning, and their "emotional intelligence", such as their social skills and resilience in the face of stress. It therefore conditions how well an individual is able to contribute effectively to society, and also to experience a high personal quality of life.

The idea of "capital" naturally sparks association with ideas of financial capital and it is both challenging and natural to think of the mind in this way.

Mental wellbeing[2]

This is a dynamic state, in which the individual is able to develop their potential, work productively and creatively, build strong and positive relationships with others, and contribute to their community.

It is enhanced when an individual is able to fulfil their personal and social goals and achieve a sense of purpose in society.

Whilst it is important for Government to address problems that affect the mental development of specific groups, such as learning difficulties and mental disorders, policies and choices also need to nurture the mental capital and wellbeing in the wider population, so that everyone can flourish throughout their lives.

1 See Chapter 2, section 2.1 of the final Project report and Appendix B of this Executive summary

2 See Chapter 2, section 2.2 of the final Project report; "Wellbeing" in this report refers to "mental wellbeing" unless indicated otherwise

3 Why the Project was undertaken: major challenges ahead

Many important factors will affect the country over the next 20 years and beyond. Some will make demands on our mental capital, requiring new skills and expertise. Some will create substantial threats to our mental health and wellbeing. And some will offer new opportunities for people to develop and flourish. Assessing how to manage these opportunities and threats has been a key aim of this Project.

Important factors that will drive change include:

• The demographic age-shift[3]

Life expectancy is projected to grow over the next few decades: by 2071 the number of adults over 65 could double to nearly 21.3 million, and those over 80 could more than treble to 9.5 million. Over the same period, our concept of what constitutes "old age" will change, and notions of "career" and "retirement" will shift in response to longer working lives. The number of older people will also increase as a proportion of the working population, thereby creating possible tensions within society.

Two major challenges are:

- How to ensure that the growing number of older people maintain the best possible mental capital, and so preserve their independence and wellbeing. Dementia will be a major problem and will have a substantial and increasing impact on individuals, carers and families. Over the next 30 years in the UK, the number of people affected could double to 1.4 million, and the annual cost to the economy could treble to over £50 billion.

- How to address the massive under-utilisation of the mental capital of older adults, and how to reverse the continued negative stereotyping of older age. Achieving these would benefit everyone: older people themselves, business, and the rest of society. However, failure could result in a spiral of poor wellbeing, mental ill-health and exclusion; and disenchantment in this large and growing sector of the population.

• Changes in the global economy and the world of work[4]

- Economic growth in countries such as China and India, new technologies and globalisation will continue to present major challenges to business, and to our increasingly knowledge- and service-based economy. Skill levels (both high and low) in the UK workforce will be critical to competitiveness and prosperity.

- Increasing numbers of workers will need to compete in a global market for skills. It will be crucial for them to develop their mental capital by training and retraining through their working years in order to compete effectively. Preparing people to meet that challenge will need to start early in life by fostering the best possible "disposition to learn".

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3 See Chapter 6 of the final Project report

4 See Chapter 5 of the final Project report

- The relentless demands for increased competitiveness will combine with changing family commitments, such as the two-earner family and the increasing need to care for older adults. These demands will have major implications for work-life balance and the wellbeing of workers, and have knock-on effects for their families and communities.

Overall, a major challenge will be to square the circle of meeting the demands of increasingly intensive work, whilst preserving and nurturing wellbeing.

• The changing nature of UK society

The evolving mix of cultures, changing family structures, and changing patterns of migration, will drive the need to connect better across cultural groups and across generations. Several aspects of mental capital and wellbeing could contribute to this: for example, learning through life; new approaches to flexible working; and encouraging the involvement of older people in inter-generational activities. Success could create a virtuous cycle of opportunity, social inclusion and social cohesion. However, inequality of opportunity could fuel a cycle of tensions between different cultural and age groups, fragmentation of society, and social exclusion.

• Changing attitudes, new values and expectations of society[5]

Increasingly, we expect more from life than living healthier and longer; "wellbeing" has become one of today's buzzwords. A major issue will be to decide on the values and expectations we are aiming to meet; and also to determine the balance of responsibility for action – between the State, employers, families and individuals.

• The changing nature of public services

The trend in recent years has been towards a model of public services based on greater levels of personal choice, active citizenship, personal responsibility, and "co-production". This is set to continue. To work most effectively, these models of service/client relationship require the greatest number of the public to be equipped with the mental capital and disposition to participate. This calls for a policy mindset that aims to foster mental capital and wellbeing across the whole population.

• New science and technology

These will create substantial opportunities for improving how we develop our mental capital and promote mental wellbeing. For example: new understanding is already leading to new ways of addressing learning difficulties and mental disorders; advances in new technology for learning has the potential to play an important role in personalisation of education; and new technology could help everyone to flourish by changing how we socialise, work, learn and communicate.

However, arguably the biggest challenge will not be the development and implementation of these new technologies, but rather, in ensuring equality of access to

5 Appendix B of the final Project report outlines three future scenarios that have been used to explore different possible futures for the UK.

the benefits. This will be critical if they are to reduce social inequalities in the future, rather than fuelling further divisions.

4 How the Project adds value over previous work

The Project combines a uniquely broad vision to take an independent look far into the future. In so doing, it sets out to challenge existing thinking.

The Project's analysis has:

- Drawn upon the advice of over 400[6] leading experts and stakeholders from across the world, and from diverse disciplines such as: economics; modelling and systems analysis; social sciences and ethics; neuroscience, genetics and mental development; psychology and psychiatry; and sciences relating to education, work and wellbeing.

- Looked across the lifecourse: it has considered how experiences and interventions at one stage of life can affect an individual's mental capital and wellbeing for years and even decades.

- Spanned the interests of key departments across Whitehall, and of diverse stakeholders outside of Government.

The state-of-the-art in 80 areas of science have been reviewed[7] to develop an understanding of how mental capital and wellbeing evolve through the lifecourse, and to identify which aspects are most critical for meeting future challenges. The following sections summarise what is important at successive stages of life.

6 See Appendix A of the final Project report for details of those involved in the Project.

7 Appendix E of the final Project report provides a list of the main Project reports and the 80 reviews of the state-of-the-art of science. These reports, along with a number of other Project discussion papers, workshop reports and analysis papers will be made available through www.foresight.gov.uk.

5 Children[8]

Today's children will shape the future of the country, and their childhood is critical in setting a course for their trajectories through life. Early interventions to address learning difficulties and to help children flourish are particularly promising: for improving outcomes for children, and for offering good value for money.

New science has transformed our understanding of child development, learning and learning difficulties. We need to capitalise on these developments for all children: by placing more emphasis on starting early, even from birth; improving parenting, and home and nursery care environments; and combining interventions in different settings – the family, nursery care, and school. The benefits would be improved pro-social behaviour, improved attitudes to independent learning through life, and better resilience in terms of coping with the challenges of their future lives.

Learning difficulties are a particular problem, affecting up to 10% of children[9]. Yet too often they remain unidentified, or are treated only when advanced. The result can be under-achievement in school and disengagement by the child, sometimes leading to a long-term cycle of anti-social behaviour, exclusion and even criminality. Improvements in early detection combined with focused interventions could prevent problems developing and create broad and lasting benefits for the child and society.

5.1 Interventions to promote the best possible mental development need to start as early as possible – mental development starts in the womb[10]:

- **Addressing maternal stress, diet, and smoking should be high priorities**, as these three factors are particularly crucial. Also, similar concerns exist in regard to mothers abusing illegal substances, such as stimulant drugs e.g. methamphetamine, cocaine.

- **Avoidance of alcohol exposure during pre-natal development is also potentially important**, since "foetal alcohol syndrome" (FAS) is the most common environmental cause of learning difficulties, affecting from one to seven per 1,000 live-born infants. However, a continuing controversy involves the degree to which the deficits observed in FAS conditions derive from brain damage in the womb or from the neglectful and/or non-stimulating environments provided by alcoholic mothers who continue to drink.

5.2 Enabling the best possible family, social and physical environments in which children are nurtured should be a priority[11]:

- **Parents should be offered coaching in skills, particularly those who have not experienced effective parenting skills in their own upbringing.** Early family and nursery environments are crucial, as they provide the learning environments that can nurture the social and self-regulation skills that will enable children to

8 See Chapter 3 of the final Project report

9 Note: learning difficulties such as dyslexia are not the same as Special Educational Needs, which include physical difficulties and generalised intellectual disabilities. Learning difficulties are considered in the Project report: Goswami. *Learning difficulties: Future challenges*; and in the Project science reviews – Appendix A refers

10 See Chapter 2, section 2.1 of the final Project report

11 See Chapter 3, section 3.4 of the final Project report

flourish: warm and contingent caretaking, rich language, and avoiding directiveness[12] and punitiveness are all important and should be promoted. Conversely, adverse experiences in the post-natal period can lead to cognitive impairments: environmental risk factors include low socio-economic status, and also trauma such as childhood sexual abuse.

- **Ensuring good housing quality is likely to be important – poor housing is a key factor associated with children's mental development, although it is not known whether the association is causal.** Housing quality could be a good proxy measure for the quality of the home learning environment e.g. lack of resources, disruptive family circumstances, lower-quality social support networks. Children living in poorer-quality housing have also been shown to have higher levels of stress hormones and behavioural problems.

5.3 Early identification and prompt treatment of learning difficulties in children are vital[13]:

Increasing effort here could substantially help to address long-term social and economic consequences for the child and for society. Two particularly important types of learning difficulty have been considered by the Project:

- **Developmental dyslexia.** This affects the literacy skills of between 4-8% of children: it can reduce lifetime earnings by £81,000, and reduce the probability of achieving five or more GCSEs (A*-C) by 3-12 percentage points. A range of possible interventions has been identified by the Project – for both home and school.

- **Developmental dyscalculia – because of its low profile but high impacts, its priority should be raised.** Dyscalculia relates to numeracy and affects between 4-7% of children. It has a much lower profile than dyslexia but can also have substantial impacts: it can reduce lifetime earnings by £114,000 and reduce the probability of achieving five or more GCSEs (A*-C) by 7–20 percentage points. Home and school interventions have again been identified by the Project. Also, technological interventions are extremely promising, offering individualised instruction and help, although these need more development.

5.4 Teachers and front-line childcare professionals should be given scientifically accredited training in fields relating to how children learn and develop, and also learning difficulties[14]:

The training would capitalise on the new scientific understanding in these fields. It would empower the professionals to better address the needs of individual children, and to improve learning and development trajectories. For example, there is a need to foster wider recognition that most learning difficulties in children such as dyslexia and dyscalculia are genetically transmitted, with genes subsequently interacting with environments to affect developmental trajectories.

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12 "Directiveness" is ignoring the child's focus of attention and instead directing them to focus elsewhere – see glossary of terms in Appendix D of the final Project report

13 See Chapter 3, sections 3.1 – 3.3 of the final Project report

14 See Chapter 3, section 3.5 of the final Project report

Looked-after children[15]

Much more could be done to enable looked-after children to realise their future potential. Only 2% of looked-after children are so placed because of their unacceptable behaviour. The majority are in care because they have been the victims of abuse, neglect and family dysfunction. Yet they are stigmatised as though they themselves are at fault, and they also experience difficulties in accessing services.

It is estimated that 45% of looked-after children have a mental health disorder, that they are 10 times more likely to have a statement of special educational need, and that their educational attainment is considerably worse than that of other children (for example, 41% attain five GCSEs [A* to G] compared to 91% of children overall). Also, these disadvantages follow them through their lives: for example, unemployment on leaving school is four times more likely; and around one-third of prisoners were in care as children. Moreover, children who are in residential care show even more severely disadvantaged trajectories.

This argues strongly for the need to:

- **Increase the priority and nature of their support** with a view to improving: the promotion of good mental health; better prevention of mental disorders; and more effective help for those affected. Strengthened and systematic educational support is also needed to reduce the major inequality of educational attainment for all looked-after children.
- **Provide training to enable carers to improve developmental trajectories for looked-after children, while also supporting families.** Of particular importance are: investment in the education and skills of foster carers, adopters and residential staff; and attaching a higher value to the caring professions.
- **Foster the better use of the science and evidence base to identify the causes of these disadvantages.**

15 See Chapter 3, section 3.9 of the final Project report

6 Adolescence[16]

The adolescent brain has been compared to a car with a strong engine but poor steering. Science helps us to understand what is happening during this crucial period of development.

A "Year 8 dip" (age 12-13) in academic performance has been reported and might correspond, at least in part, to the reorganisation of the brain around puberty so that it can learn more efficiently. However, a number of important environmental factors, for example, alcohol and substance abuse, can combine to disrupt this neural reorganisation, making the brain particularly vulnerable during this critical time.

A key message is the need to address substance and alcohol abuse in adolescents. However, the science shows us that the changing adolescent brain specifically makes teenagers vulnerable to poor decision-making. Therefore, we need to use science to inform interventions to help adolescents to navigate their way through this difficult time.

6.1 Several important factors can contribute to alcohol and substance abuse:

- There is evidence that adolescents may process reward differently to adults: immediate positive outcomes, such as peer approval, may outweigh potential, long-term, negative consequences. This difference in the anticipation of outcomes may help explain why some young people gravitate toward risky behaviours such as substance abuse.

- Other conditions such as mood disorders may predispose adolescents to substance abuse.

- Youngsters subjected to familial risk, those with affective disturbance, conduct problems, and neurotic or disinhibited personalities all appear to be at risk of escalating substance abuse.

Neuroimaging and neuropsychological studies indicate that adolescent substance use is associated with neural disadvantages, particularly in neural networks involved in learning, attention, and executive function[17]. Also, heavy use of cannabis during adolescence may adversely affect brain development and lead to decrements in attention, learning and memory.

Within a strategy to address the problem of alcohol and substance abuse, action to reduce availability should form an important element. This is because rates of consumption of alcohol and other substances, and hence hazardous consumption and dependence, are directly related to availability (price relative to earnings, and distribution).

16 See Chapter 2, section 2.1 of the final Project report

17 See Appendix D of the final Project report for a glossary of terms

The growing use of drugs for cognitive enhancement[18]

These drugs can prove useful for healthy people, for example, in times of stress such as sleep deprivation; or for the elderly (see below). They can help combat fatigue and jet-lag, and improve attention and other forms of cognition. They are therefore becoming more widely used by people in a variety of settings including: shift workers; international travellers in business or academia; and students for studying and exams.

However, careful and critical evaluation is needed concerning possible long-term risks, which are presently unknown. In particular, their potential effect on the developing brains of children is a cause for concern. A cautious approach to their availability and use is therefore warranted.

18 See Chapter 2, section 2.1 of the final Project report

7 Adults and children: mental ill-health[19]

Mental ill-health can have diverse and long-term effects on individuals, families and society. Estimates place the costs at about £77 billion per year for England when wider impacts on wellbeing are included, and £49 billion for economic costs alone. The pervasive importance and long-term costs of mental ill-health in society suggest the need to reappraise the resources devoted to it: currently only about 13% of the NHS budget.

Many people experience mental ill-health: for example, about 16% of adults and 10% of children are affected by common mental disorders such as depression and anxiety at any one time. However, whilst all disorders are best detected and treated early, many go undiagnosed or are only treated when advanced, and when the impacts are severe for the individual and families.

Mental disorders are influenced by diverse biological and social risk factors, including: genetic factors; biographic characteristics (age, sex); family and socio-economic characteristics (marital status, number of children, employment); individual circumstances (life events, social supports, immigrant status, debt); household characteristics (accommodation type, housing tenure); geography (urban/rural, region); and societal factors (crime, deprivation index).

These diverse social factors may change over the coming years in a variety of ways, and so it is not possible to make general predictions of the prevalence of disorders. (Dementia is a notable exception – see below). Therefore, a challenge will be to develop policies that are robust to future uncertainties. A strategy that is flexible and adaptable should emphasise the following:

7.1 Addressing the risk factors associated with mental disorders:

Examples include:

- Debt[20]. There is a strong case for Government to work with financial organisations and utility companies to break the cycle between debt and mental illness. Recent research has indicated that debt is a much stronger risk factor for mental disorder than low income. A range of possible interventions are suggested: beginning with better training for teenagers in managing finance; greater awareness of the link between mental health and debt by banks and financial institutions; and measures by utility companies to handle arrears better.

- Harnessing wider policies in Government. Common mental disorders affect 16% of the population and are affected by a wide range of issues such as employment, housing, urbanisation, exposure to crime, and debt. When policies are developed in areas such as these, there is a clear case for taking more account of the implications for mental health, as is generally the case for physical health and safety.

19 See Chapter 3, section 3.8; Chapter 4 of the final Project report

20 See Chapter 4, section 4.6 of the final Project report

7.2 Diagnosing early and treating promptly[21]:

- **Realising the considerable scope for the primary care setting to play a pivotal role in providing more integrated access to appropriate sources of help, such as social, psychological and occupational care[22].** An estimated 30% of GP consultations have an underlying mental-health cause, many of which have a socio-economic basis, e.g. debt, family breakdown, trauma, bullying at work, etc. However, many GPs do not currently feel it is their job to help patients seek support to address those social risk factors. Promoting referral from primary care to social, psychological and occupational professionals could therefore be win-win: individuals would benefit from earlier and more effective treatments; GPs would have fewer repeat visits; and there could be net savings to the care budget.

- **Improving access to treatments.** This has the potential to offer particularly good value for money. As an example, the Project has considered the specific case of depression. From data in the recent King's Fund report and the 2000 Psychiatric Morbidity Survey, it is estimated that there are 828,000 people with moderate to severe depression in England, yet in 2007, for example, only 10% of guidance produced by NICE related to mental health. **Extending NICE-recommended treatment to all sufferers would deliver economic benefits well in excess of £1 billion each year, and the extra treatment costs would be vastly outweighed by higher Government revenues and reduced benefit payments. Benefits to individual wellbeing would add very substantially to this figure.**

7.3 Addressing important mediating factors:

For example:

- **Addressing stigma associated with mental ill-health[23].** Stigma and discrimination relating to mental ill-health is widespread. It affects people's willingness to undergo diagnosis and treatment, and it can itself exacerbate some disorders. Analysis commissioned by this Project has shown that a sustained and integrated approach involving a range of different stakeholders (such as the family, employers, schools, the media) is needed.

- **Well-designed work placement, support and intervention programmes to help those with mental health problems.** Better access to work for those with mental health problems is known to offer both clinical and economic benefits; such schemes offer good value for money.

7.4 Targeting high-risk groups:

- **These include looked-after children, drug users, and prisoners.** Crucially, mental illnesses often go unrecognised and/or untreated in these groups, and the behaviours associated with the disorders go unrecognised and misconstrued. The individuals can then easily fall into a cycle of exclusion, inappropriate responses by the authorities, and subsequent deprivation. Breaking this cycle is a major challenge, but failure to do so will lead to substantial and long-term costs in the future.

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21 See Chapter 4, sections 4.2 – 4.5 of the final Project report

22 See Chapter 4, section 4.3 of the final Project report

23 See Chapter 4, section 4.7 of the final Project report

Promoting positive mental health and wellbeing[24]

The importance of promoting positive mental health for the general population has been a consistent message throughout the work of this Project. **It is proposed that achieving a small change in the average level of wellbeing across the population would produce a large decrease in the percentage with mental disorder, and also in the percentage who have sub-clinical disorder (those "languishing").**

Throughout this report, interventions are proposed to promote positive mental health and wellbeing for many groups, for example:

- Promoting flourishing in children.
- Fostering mental wellbeing for workers.
- Unlocking the mental capital in older people and promoting their wellbeing so that they can flourish.
- Promoting wellbeing in key front-line professions, such as teachers and doctors.

Five ways to mental wellbeing

In addition, the Project has commissioned work to identify the wellbeing equivalent of "five fruit and vegetables a day". The suggestions for individual action, based on an extensive review of the evidence are:

1. **Connect…** With the people around you. With family, friends, colleagues and neighbours. At home, work, school or in your local community. Think of these as the cornerstones of your life and invest time in developing them. Building these connections will support and enrich you every day.

2. **Be active…** Go for a walk or run. Step outside. Cycle. Play a game. Garden. Dance. Exercising makes you feel good. Most importantly, discover a physical activity you enjoy and that suits your level of mobility and fitness.

3. **Take notice…** Be curious. Catch sight of the beautiful. Remark on the unusual. Notice the changing seasons. Savour the moment, whether you are walking to work, eating lunch or talking to friends. Be aware of the world around you and what you are feeling. Reflecting on your experiences will help you appreciate what matters to you.

4. **Keep learning…** Try something new. Rediscover an old interest. Sign up for that course. Take on a different responsibility at work. Fix a bike. Learn to play an instrument or how to cook your favourite food. Set a challenge you enjoy achieving. Learning new things will make you more confident as well as being fun.

5. **Give …** Do something nice for a friend, or a stranger. Thank someone. Smile. Volunteer your time. Join a community group. Look out, as well as in. Seeing yourself, and your happiness, as linked to the wider community can be incredibly rewarding and creates connections with the people around you.

24 See Chapter 2, section 2.2 of the final Project report

8 Adults: learning[25]

Learning in adult life should not be seen in isolation, but as part of a continuum which begins in childhood and extends into old age.

Workers at all levels will increasingly need to be self-motivated and empowered to take personal responsibility to train and develop through their working life. This will be vital if they are to compete at all levels in the global marketplace for skills.

Government is already implementing important initiatives in this area; however, these could be amplified by further efforts to:

- *Stimulate demand for learning and skills development in individuals and employers.*
- *Empower individuals to learn, through strengthening information, advice and guidance.*
- *Improve levels of basic skills.*
- *Realise the considerable potential of new technologies for learning.*

Workers will increasingly need to compete at all levels in the global marketplace for skills. However, the growth in that marketplace, together with a trend towards shorter-term jobs, will reduce the incentive for firms to continuously develop their existing workforce, thereby creating a market failure. Starting early will be crucial: it will be important to create experiences for young learners that promote their motivation and capacity to engage in learning throughout their lives i.e. promoting their "disposition to learn".

8.1 Stimulating the demand for skills:

A range of possible approaches are suggested for consideration by stakeholders:

- **Targeted awareness-raising.** This could be achieved through a series of high-quality campaigns for lifelong learning. These would be targeted at specific groups within the adult population that have particular needs, or that do not engage strongly in learning e.g. people with specific English language requirements, or those towards the end of their working lives.
- **Locally-led and focused schemes using loans or financial incentives to motivate and empower individual demand.** Evidence shows that these could offer substantial potential.
- **Incentive systems for employers, building on Train to Gain.** The evidence shows that such incentives work best when embedded in a wider structure and culture of collaboration on skills.
- **The role of trade unions in raising employer demand for skills, as well as promoting learning to their members, could be developed;** particularly for types of employee that are often under-represented in education and training.

25 See Chapter 5, section 5.1 of the final Project report

8.2 Empowering individuals to learn:

- **The strategic economic role of career guidance needs to be reconsidered and emphasised.** This is because the nature of careers is changing for a large proportion of the population, and because the provision of learning for adults is becoming more demand-led and more complex.

- **As careers, career expectations and opportunities change in the future, it will be important to develop new markers of career success and different criteria that reflect the diversity of the workforce and the changing aspirations of individuals.**

The announcement of the planned creation of the Adult Advancement and Careers Service from 2010/2011 is a welcome development. Importantly, the Department for Innovation, Universities and Skills (DIUS) has announced that it will be available to all adults; including those experiencing mental ill-health, who are likely to require special targeting.

8.3 Addressing the gap in basic skills:

Basic skills will be vital to meet the challenges of the 21st century global economy:

- Rapid changes in the job market mean that within the next 15-20 years, the prospects for employment for those with few qualifications and limited literacy and numeracy will become substantially reduced.

- Longitudinal cohort studies have repeatedly shown that poor basic skills significantly increase the probabilities that people will experience unemployment, imprisonment, and poor health – and reduce the probabilities of civic engagement.

These factors underline the need to address the gap in basic skills. However, whilst there has been some progress in recent years, around five million adults in the UK remain functionally illiterate, and almost seven million functionally innumerate.

It will be important to build upon existing progress and strategies, rather than launching entirely new initiatives. In particular, it is important for providers to engage consistently with stakeholders who represent the groups the initiatives are targeting e.g. union learning representatives.

8.4 Realising the considerable potential of new technologies for learning should be a priority:

These could play a major role in the personalisation of learning, promoting social inclusion for learners, and increasing productivity for both learner and teacher.

Two messages are particularly important:

- **New technologies should be driven by the needs of learners** – rather than trying to adjust learners to technologies developed for other purposes (such as the leisure or business markets). Only then are the full benefits likely to be realised.

- **Ensuring equality of access will be vital.** For example, it will be important to address the digital divide. This is still marked; people from lower socio-economic strata are less likely to have internet access than people from professional and managerial backgrounds. Also, rates of access to technology remain strongly contingent on age.

The Project has identified a number of technologies that are already making an impact on education and training, and others with potential to do so in the future. The latter category includes: ubiquitous and mobile technologies; artificial intelligence; assessment technologies; and tools to support teachers in designing and exchanging learning activities.

9 Adults: working life[26]

People can benefit from work not only financially, but also in their general fulfilment and wellbeing. It should therefore be a priority to ensure that these benefits are available to everyone, including those with mental health problems. There is strong evidence that programmes to encourage and support people with mental health problems into work offer very high economic and social returns: these programmes should be expanded and intensified.

The world of work is changing, with far-reaching consequences: globalisation and the growing intensification of work will combine to increase workers' levels of stress and anxiety, and affect their health and efficiency. Changes in the nature of work will also interact with changes at home, such as growing numbers of two-earner households and increased need for care for older relatives, thereby creating pressures on families. Maintaining and improving wellbeing in the face of these trends will be a major challenge. The Project therefore proposes a range of interventions to encourage employers to promote wellbeing in their workforces.

A Government lead in promoting wellbeing in its own workforce would be win-win: besides benefiting the considerable number of public sector employees and the performance of its own business, it would set an important example to the private sector.

9.1 There is a strong case for expanding activities to improve access to work for those with mental health problems:

There is a great deal of evidence that interesting and fulfilling work can be generally beneficial for mental health, and that measures to help people with mental health problems into work offer high returns. Supported employment schemes such as Individual Placement and Support have been shown to deliver both long-lasting economic benefits and clinical improvements.

9.2 Ensuring mental health in the workplace:

Poor conditions in the workplace can cause stress and exacerbate mental health problems, and so limit the benefits of working. Also, in the future, changes in the economy and increasing global competition may increase these dangers, with substantial risks to the wellbeing of individuals and their families, competitiveness, levels of employment, and benefit payments.

Employers should be encouraged to foster work environments that are conducive to good mental wellbeing and the enhancement of mental capital. Following consultation with key stakeholders, promising suggestions are set out below. Economic benefits are difficult to quantify, but analysis of the first three suggest they may be very cost-effective due to reductions in the costs of presenteeism[27], labour turnover, recruitment and absenteeism.

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26 See Chapter 5, section 5.2 of the final Project report

27 "Presenteeism" is defined as the potential lost productivity that occurs as a result of an individual being less than totally productive while being at work.

- **The collection of wellbeing data against Key Performance Indicators and the undertaking and implementation of annual wellbeing audits.** There is clear evidence that once people fall out of work due to mental disorders, they can lapse into long-term absences, or may never return to work. However, this initiative would help prevent this, and enable people to remain in work. Employers in both the public and private sectors should therefore be encouraged to carry out an annual stress and wellbeing audit, and to act on its findings. Standardised auditing instruments of the Health and Safety Executive (HSE) or others should be used to identify if there is a problem, and if so, the source of the problem.

- **Integration of occupational health professionals with primary care.** This is a subset of the primary-care intervention mentioned above (see Section 7 on mental ill-health). Here it would have two components:

  - The co-ordination of employment advisors/occupational health professionals and clinical psychologists with GP practices to facilitate the early identification of workplace stress and mental ill-health in patients (such co-ordination need not include physical co-location).

  - The employment advisors/occupational health professional would, with the agreement of the patient, approach the relevant employers and work with them to address those aspects of the workplace environment that are affecting mental health.

  Importantly, this intervention would seek to address the underlying problems in the work environment, thereby potentially also benefiting co-workers.

- **Extension of flexible working arrangements.** Two possible variants have been considered:

  - The extension of the right of all employees with children at or below the age of 18 to request flexible working arrangements, and the duty of employers to consider these requests. This would build on the recent legislation that has extended the right to request flexible working arrangements for all working parents of children at or below the age of 16.

  - A second variant would grant all working people this right.

Economic analysis of these options suggests that better rates of return could be obtained and the economy strengthened, particularly if the right to request was extended to all.

9.3 Other suggested interventions (for which economic analysis has not been performed):

- **Better training for managers so they understand the impact they can have on mental capital and wellbeing.** A possible way to promote the training for managers in social and interpersonal skills would be to extend the Train to Gain programme so that employers, particularly small and medium-sized enterprises (SMEs), can obtain partial funding for this.

- **Raising the profile of the importance of mental health and wellbeing at work.** This addresses the concern, which is supported by evidence, that levels of mental ill-health and mental wellbeing in the workplace are insufficiently recognised by employers. One possibility would be to encourage companies to include wellbeing indicators in their annual reports – thereby benchmarking their performance for shareholders, and showcasing any improvements.

- **The establishment of a Workplace Commission.** This would: raise awareness of the importance of mental capital and wellbeing at work; promote stress audits; and help SMEs to act on the findings of those audits.

10 Older adults[28]

By 2071, the number of people over 65 could double to nearly 21.3 million, while the number of people aged 80 and over could more than treble to 9.5 million. However, this expanding group will be beset by two major challenges:

- *The increasing prevalence of cognitive decline, particularly due to dementia will be critical. However, other mental disorders, notably depression and anxiety will also be important: addressing the relatively poor access of older adults to treatment (compared with younger adults) should be an immediate priority.*

- *The need to reverse the continued negative stereotyping and massive under-utilisation of their mental capital: this is crucial so that the considerable mental resources of older people are recognised and unlocked for the benefit of themselves and society.*

A new mindset is needed: involving a rethink of "older age", and addressing the stigma associated with it.

At a strategic level, there is a strong case for a step-change in the governance of older people in order to promote their wellbeing and unlock their mental capital. In particular, a high-level lead within Government will be important to ensure sustainable long-term action that is integrated across Government and which adopts a lifecourse perspective.

10.1 Addressing cognitive decline should be high priority[29]:

This is set to rise substantially with the ageing population, and dementia will be a particular problem, as age is a key risk factor. Over the next 30 years, the number of people with dementia in the UK could double to 1.4 million, with major impacts on those affected, their families and carers. It also constitutes an expenditure time bomb; over the same period, costs to the UK economy could treble from £17 billion a year today, to over £50 billion a year. For these reasons, the current development of a national strategy for dementia is particularly welcome. However, in view of the magnitude of the challenge, a high-level commitment to resource its findings will be crucial.

A review of evidence in this Project suggests that such a strategy should include:

- **Starting early in life.** It would be a mistake only to address the risk factors of cognitive decline when they occur in old age. Examples would include encouraging exercise in middle age in order to promote a healthy cardiovascular system, and encouraging education and learning through the lifecourse to promote cognitive reserve.

- **The development and use of new methods for early diagnosis (biomarkers) of cognitive decline and dementia.** Biomarkers will facilitate the development, testing and use of new treatments; however, they are costly and risky to develop. A more focused approach to research, involving a partnership between the research

28 See Chapter 6 of the final Project report

29 See Chapter 6, section 6.2 of the final Project report

community and industry, would help to focus effort and realise efficiency savings, both in terms of research effort and development costs.

- **The effective and timely use of new treatments to arrest the progression of dementia.** A priority should be to develop and use treatments to slow or arrest decline *in the early stages*, before quality of life suffers substantially, and before sufferers become dependent on families and state. Also, there is a case for reviewing how we make decisions on the provision of new treatments.

- **Consideration should be given to the development and use of pharmacological and other types of cognitive enhancers for older people experiencing decline.** The benefits could be considerable for this age group in the future. Moreover, in the case of pharmacological enhancers, the balance of risks and benefits when used by older adults could be quite different compared with their use by children (see above).

10.2 Addressing other forms of mental ill-health in older adults will also be important[30]:

As mentioned above, mental disorders such as depression and anxiety will continue to be particular problems for older people, particularly since they can be associated with factors associated with older age, such as physical and mental decline.

Targeted action is needed now to improve access to treatments for these and other mental disorders, so that long-term impacts are avoided. Such action will be a critical component in a wider strategy to improve mental wellbeing in older adults (see below). Pharmacological and psychological treatments that are matched to the needs of older people are likely to be important.

10.3 There is a strong case to develop a strengthened strategy for promoting the mental capital and wellbeing of older people[31]:

Here, unlocking the mental capital in older people and promoting their wellbeing are considered together since they are intimately linked: many interventions that target one, will also improve the other. This Project has identified a large number of possible initiatives that should be considered. Older people themselves have helped to refine these ideas through a consultation exercise. The initiatives are too numerous to list in this Executive Summary, but are grouped into the following categories:

- **Promoting social networking.** Scientific and other evidence shows the importance of social networking in promoting mental capital and wellbeing in older adults, and indicates three specific types of intervention that are successful:

  - Group interventions involving educational and social activity, targeting social isolation and loneliness.

  - Volunteering.

30 See Chapter 6, section 6.3 of the final Project report

31 See Chapter 6, section 6.4 of the final Project report

- Interventions that promote trusting relationships, frequent contacts with friends, and which seek to improve the quality of social relationships.

- **Encouraging and empowering older people to engage better in learning.** Evidence shows that learning can help to promote wellbeing, as well as protecting against normal age-related cognitive decline. Furthermore, when learning takes place in social settings, it can promote wellbeing indirectly through social networking. As elsewhere, initiatives that take account of the particular needs of older people will be important.

- **Promoting valued and valuable engagement, enabling people to work if they wish. There is a case for Government to review the right of older adults to continue working.** This could yield a quick win: both the wellbeing and the mental capital of older workers would be promoted, with consequential benefits to wider society.

A key message is that unlocking the mental capital of older people need not incur net costs: interventions could benefit families, business, wider society, and Government, as well as older people themselves. Older people should be a key resource used for planning and implementing new interventions.

10.4 Promoting environments to enable older people to flourish[32]:

If older people are to flourish sustainably, then the various environments in which they live, learn, socialise and work need to support this aim. The policies of many parts of Government will be critical in achieving this:

- **Achieving a physical environment that meets the needs of older people.** Because it can take decades rather than years to substantially change the built environment, the needs of the growing number of older people need to be at the heart of long-term plans being developed now. A range of different scales need to be considered – houses, open spaces and town planning. Examples of initiatives could include:

  - Improving the design of homes and towns to meet the needs of older people; older people themselves are a key resource to advise on this.

  - Improving access and "reach-ability" to public spaces.

  - Better provision of training for decision-makers who influence the physical environment.

- **Promoting good work environments.** Employers could benefit considerably from the skills of older people, and realise savings due to reduced "churn" in employees. The following will be important in promoting the right work environments:

  - Education of employers will be critical so that they understand the benefits of older workers, and understand how to match work and working environments to the needs and capabilities of older adults.

32 See Chapter 6, section 6.5 of the final Project report

- The extension and development of "middle years" and "pre-retirement" training.
- Helping employers to recognise the importance of investing in the training of older workers and to understand better their training needs. This could contribute substantially to making lifelong learning a reality.
- Encourage "employment centres" (physical and online) to advise older people on work opportunities, training and retraining.

- **Harnessing the considerable potential of information and communications technology (ICT).** The development of new products and services should be encouraged to: enable the elderly to remain socially and economically active for longer; create new opportunities for learning; and to promote their wellbeing. However, promoting equality of access and opportunity will be vital to counter a possible "digital divide" and to enable all older people to benefit. Older people could themselves provide a valuable resource in helping to design and trial applications specifically for older users, and in promoting their uptake.

- **Addressing the stigma associated with older age, both within older people themselves, and also within wider society.** Substantial and sustained efforts over many years will be needed to reverse the negative stereotyping of older people in society. However, this will be vital within a wider strategy to improve their wellbeing. Methods developed by the Project (for addressing stigma associated with mental disorders) could be adapted and used to develop an integrated approach involving teachers, families, the media, Government, and older people themselves.

11 Key choices for policy makers[33]

The Project has identified a number of fundamental issues and choices that cut across Government and its decision-making process: these are outlined below. However, whilst the resolution of some of these is outside of the scope of the present Project, they will nevertheless condition how best to proceed, and will need to be addressed if the full benefits are to be realised from this report. They are therefore provided here as a stimulus to further debate.

Who needs to act?

The picture is mixed: there is a clear rationale for action by Government in some areas, and for companies and individuals elsewhere. But in many cases, it will be important for different parties to work together in concert. Overall, it will be crucial to be clear about the balance of action, and to ensure adequate information and incentives to make action happen.

Government

The analysis suggests that action to improve mental capital and wellbeing could have very high economic and social returns. The high costs, for example of mental illness and learning difficulties, are not sufficient in themselves to establish the case for further intervention. However, the final Project report demonstrates a clear economic case for Government intervention and, importantly, that there are cost-effective measures it can take where the economic and social benefits are likely to significantly exceed the costs involved.

The economic rationale for Government intervention to improve mental capital and wellbeing is based on a combination of equity and efficiency arguments. Equity considerations suggest that those who are particularly prone to suffer from stigma, reduced wellbeing, and economic loss because of mental health problems or learning difficulties should not be required to bear those losses without support for themselves or for their informal (often family) carers. Such people are often among the poorer in society. The main efficiency arguments relate to the wider social and economic benefits of action, which go well beyond those accruing to the people directly affected, and the need for better information about impacts and potential remedies.

Personal and corporate responsibility

Despite the rationale for action by Government, the analysis has made it clear that companies and individuals may also need to act and have clear incentives to do so. Three examples are provided:

- In the field of learning, individuals can substantially increase their employability and earnings potential by improving their skills and mental capital, and companies can benefit from helping their employees to train and retrain through their working lives. However, there is a wider social and economic case for Government to help individuals to recognise and take advantage of these benefits, supporting them in childhood and empowering them to take control of their own learning and

33 See Chapter 7 of the final Project report

retraining in later years; and to provide companies with stronger incentives which take full account of the wider benefits involved.

- People have clear incentives to adopt lifestyles in mid-adulthood that will prepare them for older age, and protect them against mental decline. An example here is exercise, which helps to stimulate the cardiovascular system and confer protection against normal cognitive decline. However, people apparently tend to discount these long-term benefits rather heavily, and there is a good case on wider economic and social grounds for Government encouragement and incentives so that they are accorded a higher priority.

- Companies have a strong incentive to adopt working practices that look after the mental health and wellbeing of their employees. It makes them more productive and increases the company's competitiveness. However, provision of Government support and advice may be needed to ensure that companies also factor in the wider benefits for individuals and society.

Diverse players acting in concert

In general, the greatest benefits will be obtained when concerted actions are taken by a range of different stakeholders in particular contexts. The Project has identified a number of instances where an integrated approach will be vital. Two examples are:

- Early child development: as indicated above, there is a case for interventions that adopt basic principles (such as responsivity and warmth), to be integrated in different settings – in the family, school, and inter-generationally.

- In addressing the stigma of mental health, an integrated approach is needed involving a range of stakeholders: parts of Government, the media (such as television and radio), mental health professionals, and educators.

What criteria should underpin policy development in a situation where resources are inevitably constrained?[34]

Choices concerning interventions, and the amount of resources assigned to them, will need to be made against a background of evolving public expectations, and the values to which society will aspire over the next 20 years. There is a strong case for Government to consider these further as part of its consideration of this report.

For example:

- How should we balance resources between: helping those with the most chronic or acute problems; preventing problems developing; and shifting the overall level of wellbeing for the entire population? This latter option, for example, could substantially transform the outlook for a large proportion of the population, but care would be needed to ensure that it was not at the expense of providing the right level of treatment and support for those with disorders.

34 See Chapter 7, section 7.1 of the final Project report

- How should we allocate resources between different life stages? There is a strong case to invest in young people as this will set the course for their future wellbeing and productivity. However, it also makes sense to fully use the mental capital that exists already in people of older ages. Since most people in today's society have a high likelihood of reaching advanced age, investing at later life stages has the potential to benefit many.

- In deciding priorities, appropriate weight needs to be given to factors such as social inclusion, social cohesion and individual wellbeing, as well as to economic prosperity. This will be particularly important for allocating resources for mental capital and wellbeing policies across different age groups, though the general case for acting early in the lifecourse will remain. However, more work is needed to understand and quantify the value of such benefits in the assessment of particular courses of action.

When Government allocates resources for interventions relating to mental capital and wellbeing, how broadly should it value impacts across society, and how should it value very long-term benefits?[35]

For example:

- There is a common tendency for people to discount unduly heavily the (known) long-term effects on their future mental capital and wellbeing of lifestyle choices such as: failing to exercise; taking drugs and the excessive use of alcohol; and of failing to enhance skills and take advantage of training opportunities over the lifecourse. Government policy should adopt measures which help correct for that tendency, and give greater weight to longer-term benefits, using the standard approach to social discounting.

- Interventions that enhance the learning, development and resilience of children could have substantial economic and social implications over many decades: reducing later costs for the criminal justice system, the social and healthcare systems, mental health at work, improving lifetime earnings, and even in protecting against cognitive decline in old age. These need to be taken fully into account.

- There is also a very strong case for more intensive adoption of best-practice treatments for common mental disorders; and well-tested programmes for helping those with mental illnesses into work which offer the prospect of high returns over many years.

- Early identification of mental health risks and conditions, for example, through biomarkers, has the potential to enable earlier and more effective interventions which deliver benefits over longer periods. This potential needs to be given full weight in the allocation of research funding.

35 See Chapter 7, section 7.2 of the final Project report

To what extent should wider policy choices across Government take account of mental capital and wellbeing?[36]

The pervasive impacts of socio-economic, cultural and environmental conditions on mental capital and wellbeing illustrate the need to widen the range of circumstances in which impacts on mental health are factored into economic appraisals of public sector policies and projects. However, more evidence is needed to do this effectively.

Several examples illustrate the need to take better account of implications for mental capital and wellbeing when developing policies across Government:

- Common mental disorders are extremely costly e.g. depression in England accounts for about £9 billion per year, mainly in lost productivity. However, the evidence shows that they are crucially affected by factors which are influenced by policies in diverse areas unrelated to mental healthcare e.g. employment and the economy; housing; welfare; and criminal justice.

- There is a good case to intervene in areas such as personal debt and financial literacy, specifically to break the cycle with mental ill-health. Similarly, interventions to improve the physical environment could offer benefits to mental health. However, such cases offer particular challenges, since the principal benefiting Government department would be different from the departments that would resource the intervention.

- New evidence confirms that early child-parent and child-carer relationships are particularly important to later flourishing, both socially and cognitively. It has also informed understanding of causal mechanisms. However, these relationships are affected by many factors, including lack of knowledge by some parents and teachers regarding effective parenting and child development, teenage parenting, sub-optimal child care settings and low pay levels for childcare workers.

There is a need to improve coordination and to align better incentives in the implementation of policies for mental capital and wellbeing[37]*. For example, the incentives facing different departments (at present through the Public Sector Agreement system) need to be aligned as far as possible to embody a consistent and comprehensive approach in this context.*

Crucially, success in managing this agenda and delivering real improvements in mental capital and wellbeing will require strong political leadership and coordination at the centre of Government.

At the level of central Government, at least half of the 30 departmental Public Sector Agreements (PSAs), led by eight separate departments, have potential implications for mental capital and wellbeing, but not all of them recognise this explicitly. Inclusion of mental capital and wellbeing explicitly in these PSAs, supported by appropriate Key Performance Indicators and monitoring frameworks, should be considered.

36 See Chapter 7, section 7.3 of the final Project report

37 See Chapter 7, section 7.3 of the final Project report

More radical possibilities that should be explored include:

- The development of a joint PSA across Government geared to improving mental health and wellbeing; and

- The development of an over-arching mental capital and wellbeing measure, akin to the Communities and Local Government Index of Multiple Deprivation.

How might we address future challenges in those cases where today's science does not provide clear advice?

In general, interventions need to be evidence-based and include a careful appraisal of costs and benefits. However, whilst science tells us a great deal, many uncertainties remain. In particular, evidence on the cost-effectiveness of mental capital and wellbeing interventions is generally sparse, certainly for the UK. A very high priority should therefore be assigned to improving that evidence base.

Where uncertainties remain, it is often desirable to trial new approaches in ways that further understanding. Also, more emphasis on rigorous evaluation of existing and proposed new interventions is required. Both will require a high-level commitment to careful planning and, where relevant, a step-by-step roll out.

12 Conclusion: next steps for Government[38]

Promoting mental capital and mental wellbeing for everyone will be vital in meeting diverse future challenges facing our changing society. This report and its supporting papers identify a large number of evidence-based suggestions for new policies and interventions. The findings have already begun to inform a number of Government reviews and activities: the Project's Stakeholder Engagement document[39] provides a list and includes others that are planned.

However, the full benefits offered by this report cannot be realised by a piecemeal approach by individual parts of Government. Instead, a step change in both social and economic outcomes could be achieved through a more strategic and visionary approach involving:

- *Better use of scientific and other evidence to plan and link interventions that affect mental capital and wellbeing through the lifecourse.*
- *Better decision making, drawing upon better economic analysis of interventions, to take account of wider and longer-term benefits.*
- *Improving the promotion of cross-Government action and central coordination.*

Realising this new approach and the full benefits from this Project will not be easy. There will be substantial difficulties that would need to be overcome, particularly relating to the three areas listed above. For this reason, the following suggests a number of practical steps that constitute a roadmap for further action by Government:

a. *There needs to be a high level commitment and lead in Government to oversee the development and effective implementation of this new approach.*

   This will be vital to integrate policies and interventions effectively across the lifecourse, and across the interests of delivery departments. It will also be important to mesh this over-arching approach with the many existing initiatives and policies. The intention would not necessarily be to require new resources, but rather to bring the many existing initiatives together within a common vision and framework, to reassess the balance of priorities, and to identify and address gaps.

b. *Government needs to act now to prepare society for future challenges, and to prevent problems affecting individuals becoming long-term[40].*

   For example:

   - We need to prepare today's children so that they are set on the best possible trajectories to meet the challenges ahead. The early years of development are critical.
   - In some areas where the situation is set to worsen, such as the growing number of older people at risk of dementia, we need to act decisively – new treatments could take years to become available, and protective lifestyles need to be established now for those in middle age.

38 See Chapter 8 of the final Project report

39 The Stakeholder Engagement document will be made publicly available through www.foresight.gov.uk

40 See Chapters 3 – 6 of the final Project report

- We need to address problems affecting people's mental capital and wellbeing (e.g. relating to learning difficulties and mental health), so that they do not become entrenched and so that we avoid their impact over coming decades.

c. *The new strategic approach needs to be informed by an early debate to decide its breadth, and the values and expectations of society that it will seek to address*[41].

For example, issues such as the balance of roles and responsibilities between the State, the individual and employers will be important. Also, there is a case for Government to engage with the wider society to agree priorities. For example, it will be important to be clear about the relative value of issues such as economic prosperity, wellbeing, social cohesion and inclusion – so that clear principles for the division of resources can be determined.

d. *Work should be commissioned to provide economic assessments of potentially worthwhile interventions*[42].

This will be crucial so that benefits of policies and interventions are maximised – both across society (for example, to include the impacts on carers and business), and across the lifecourse. This may require the development of new economic evidence relating to the values that the strategy will target (see above).

e. *New ways of incentivising Government departments need to be worked out, so that effective and sustained action results*[43].

In particular, it will be important to build upon the existing Public Sector Agreement framework to better address the issue of a given department resourcing interventions that address the priorities and interests of other departments.

f. *Where possible, the development and implementation of the new approach should be inclusive.*

This suggestion recognises the trend towards more active citizenship. A particular example concerns older adults: they should play a central role in developing and implementing the components of the strategy that affects them.

g. *A mechanism should be adopted to oversee the rigorous use of science and other evidence.*

This would be important to inform choices made within the new approach; and to promote the effective use of economic analysis and randomised control trials to assess interventions.

h. *When new policies and interventions are developed for optimising mental capital and wellbeing, their implications for social equity and social inclusion should be systematically assessed.*

For example, the promotion of mental capital and mental wellbeing could be used explicitly as a tool to reduce divisions and exclusion in society. However, it could have the opposite effect if only certain groups were able to benefit. Access to new technology for learning is a clear example: if available to all, it could unlock opportunities for the disadvantaged, but if only available to the privileged, it could widen social divisions.

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41 See Chapter 7, section 7.1 of the final Project report

42 See Chapter 7, section 7.2 of the final Project report

43 See Chapter 7, section 7.3 of the final Project report

i. There should be a long-term commitment to build upon the existing scientific and other evidence base[44].

Addressing gaps and uncertainties will be important and specific areas of further research are suggested in the final report. However, a strategic need that cuts across Government would be to update and strengthen the long-term strategy for large-scale, longitudinal studies.

In conclusion, when a Foresight project is started, it is not known where the scientific and other evidence will lead. Here, it has provided a vision of a future that is beset with many major challenges and uncertainties. However, two consistent themes have emerged throughout: on the one hand the considerable vulnerability of our mental resources and mental wellbeing to those challenges; but on the other hand, the potential of those same resources to adapt and meet those challenges, and indeed to thrive. This central importance of mental capital and mental wellbeing to the future of individuals and to wider UK society argues strongly for them to be considered at the heart of policy development in Government.

44 See Chapter 7, section 7.4 of the final Project report

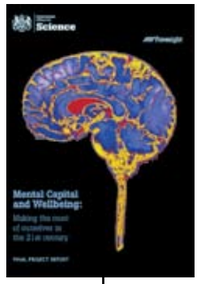
Appendix A: Structure of the Project reports and supporting papers

The accompanying chart details the reports and papers produced by the Project. The various reports are available in the following formats through www.foresight.gov.uk:

- All are available by download.
- All are also all available on CD ROM.
- The reports in the accompanying chart that are represented by icons of their front covers are also available in hard copy.

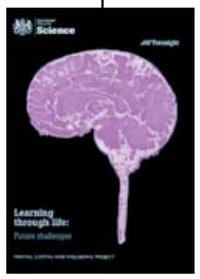
In addition to the reports and papers in the accompanying figure, a number of other discussion papers, economics papers, and workshop reports will also be made available in due course through the above website.

Mental Capital and Wellbeing: Making the most of ourselves in the 21st century
Final Project Report



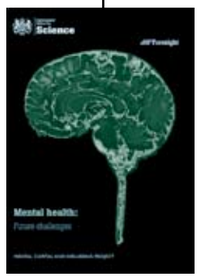
Mental capital through life: Future challenges

SR-E1: *Neuroscience of education*
SR-E2: *Human reward*
SR-E3: *Neuroeconomics*
SR-E4: *Cognitive reserve*
SR-E5: *The adolescent brain*
SR-E6: *Behavioural economics*
SR-E7: *Resilience*
SR-E8: *Adolescent drug users*
SR-E9: *Pharmacological cognitive enhancement*
SR-E10: *Stem cells in neural regeneration and neurogenesis*
SR-E11: *Early detection of mild cognitive impairment and Alzheimer's disease: An example using the CANTAB PAL*
SR-E12: *Anxiety disorders*
SR-E13: *Neurocognition and social cognition in adult drug users*
SR-E14: *Normal cognitive ageing*
SR-E15: *Social cognition in teenagers – inclusion*
SR-E16: *HPA axis, stress, and sleep and mood disturbance*
SR-E17: *Nutrition, cognitive wellbeing and socioeconomic status*
SR-E18: *Nutrition and cognitive health*
SR-E20: *Effect of chronic stress on cognitive function through life*
SR-E21: *Depression and its toll on mental capital*
SR-E22: *Fitness and cognitive training*
SR-E24: *Effects of exercise on cognitive function and mental capital*
SR-E25: *Technology solutions to prevent waste of mental capital*
SR-E27: *Housing as a determinant of mental capital*
SR-E29: *Cognitive neural prosthetics*
SR-E31: *Cellular and molecular logic of neural circuit assembly*



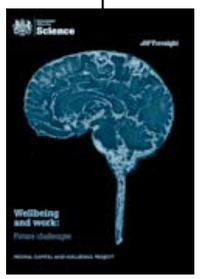
Learning through life: Future challenges

SR-A2: *Learning at work*
SR-A3: *Skills*
SR-A4: *Participation in learning*
SR-A5: *Evidence-informed principles from the Teaching and Learning Research Programme*
SR-A7: *Estimating the effects of learning*
SR-A9: *Self-regulation and executive function*
SR-A10: *Lifelong learning across the world*
SR-A11: *Non-cognitive skills*
SR-A12: *Future technology for learning*



Mental health: Future challenges

SR-B1: *Genetics and social factors*
SR-B2: *Mental health of older people*
SR-B3: *Positive mental health*
SR-B4: *Mental disorders in the young*
SR-B5: *Prisoners*
SR-B6: *The homeless*
SR-B7: *Children in local authority care*
SR-B8: *The costs of mental disorders*
SR-B9: *Serious and enduring mental illness*
SR-B10: *Personality disorders*
SR-B11: *Violence*
SR-B12: *Ageing*
SR-B13: *Migrants*
SR-B14: *Substance abuse*
SR-B15: *Depression*



Wellbeing and work: Future challenges

SR-C1: *Workplace stress*
SR-C2: *Mental wellbeing at work and productivity*
SR-C3: *Management style and mental wellbeing at work*
SR-C4: *Flexible working arrangements and wellbeing*
SR-C5: *New technology and wellbeing at work*
SR-C6: *Stress management and wellbeing*
SR-C7: *Working longer*
SR-C8: *Leisure: the next 25 years*
SR-C9: *Training in the workplace*
SR-C10: *Careers*
SR-C11: *Violence at work*

Learning difficulties: Future challenges

SR-D1: *Specific language impairment*
SR-D2: *Dyslexia*
SR-D3: *Adult learning disabilities*
SR-D4: *Dyscalculia*
SR-D5: *Deafness*
SR-D7: *Genetics and diagnosis of learning difficulty*
SR-D8: *Conduct disorder and anti-social behaviour*
SR-D9: *Social cognition and school exclusion*
SR-D10: *Autism and autism spectrum disorders*
SR-D11: *Attention Deficit Hyperactivity Disorder*
SR-D12: *New technologies and interventions*
SR-D13: *Trajectories of development and learning difficulties*
SR-D14: *Early neural markers of learning difficulty*
SR-D15: *Childhood depression*
SR-D16: *Eating disorders*

Cross-Project papers

SR-X2: *Science of wellbeing*
SR-X3: *Neurobiology of wellbeing*
SR-X5: *Neural circuit assembly*
DR-1: *ICT as a driver of change*
DR-2: *Physical environment and wellbeing*
ER-1: *Ethics*

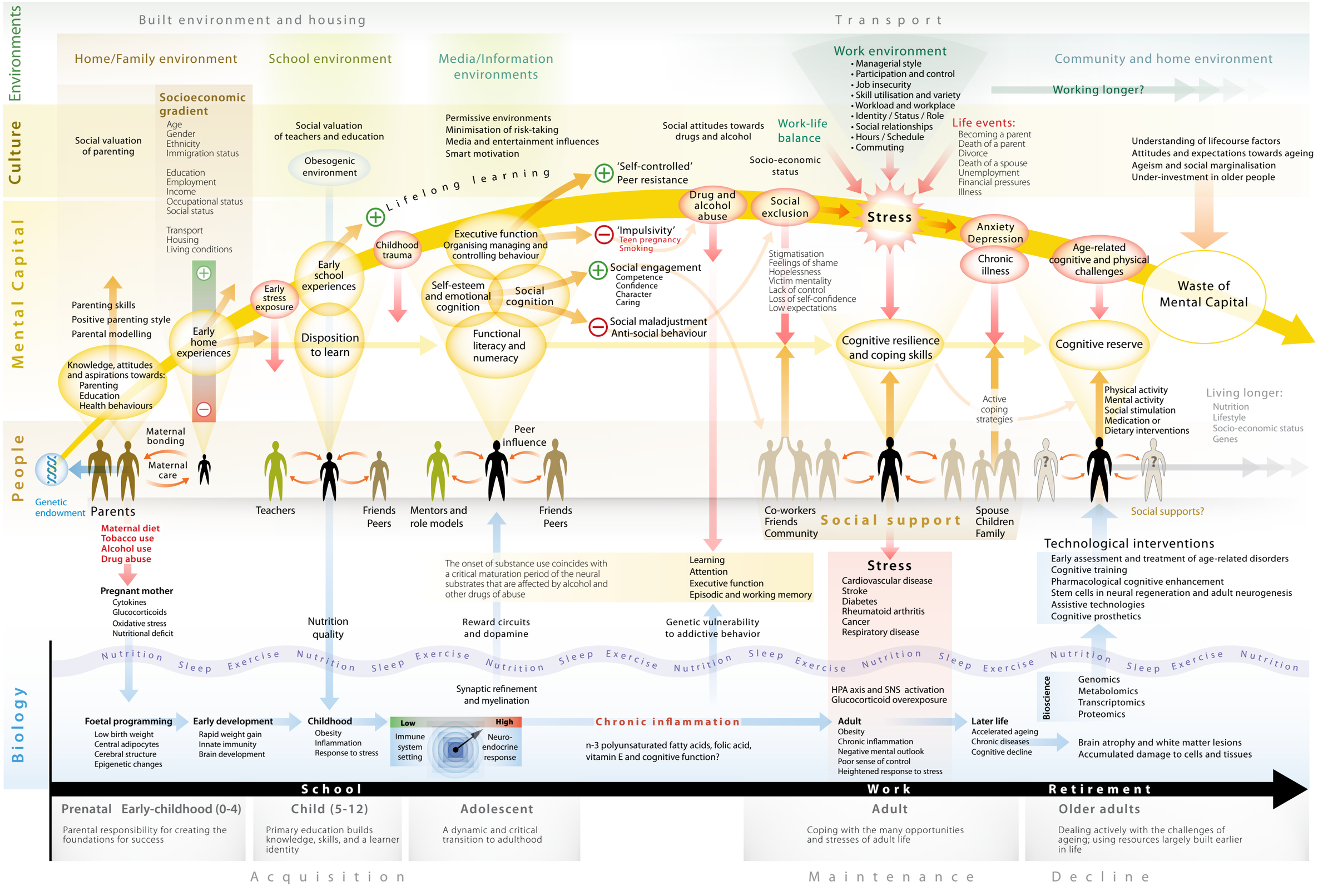
S1: Systems maps

Note 1: Some reference numbers were assigned to topics; however, the reports/papers were not subsequently commissioned.

Note 2: The Project commissioned some additional "discussion papers" as referred to in the text of the final report.

These will be made available through www.foresight.gov.uk in due course.

Appendix B: Synthetic view of the mental capital trajectory and factors that may act upon it



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