Economic Evaluation for Health and Wellbeing

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Let me introduce myself, I'm a sociologist and economist, I spent 35 years evaluating and teaching ways to improve health and care. I led the PWC health consulting team and have worked with the UK Department of Health, the World Bank, the World Health Organization, the EU and health systems in 30 countries. I wrote DH guidelines on investment appraisal and guidance on leadership and management of NHS Trusts. My current work is focused on the evaluation of behavior change for health including: health trainer services, smoking, alcohol, diet and activity, breast feeding, bowel cancer screening, "Making Every Contact Count", Breathe Easy for COPD, integration for migrant women and Social Prescribing.

This discovery learning course is intended to help prepare for the Health and Care Act 2022. It provides a framework of ideas and questions, with links to sources you can research to discover your own answers. The sources include a wide range of NHS web sites and academic studies plus some of my own training materials. You are welcome to select fields of greatest interest for your work and skim through other areas. You are welcome to copy, improve and use bits or all of this. Let me know if you spot things that can be improved or if you would like a Words version of any of this.

Introducing-Economics

Socrates saw economics as part of a philosophy of virtue and knowledge

'Oeconomics' from the Greek for oikos = house and nomos = custom or law , hence "rules of good housekeeping."

Jeremy Bentham saw it as the gay (meaning happy) science of improving wellbeing for all

"The greatest good for the greatest number of people is the measure of right and wrong"

Thomas Carlyle named it the "dismal science" because it held all people equal including former slaves .

Florence Nightingale was nurse and a statistician who used mathematics to demonstrate the importance of good hygiene and nursing care in Crimea.

Socrates (c. 470 – 399 BC) provides an early example of the use of the term economics as recounted by Plato. He drew a distinction between the exchange value or price of goods and their "utility" or value to society. Socrates also stressed the importance of knowledge to the virtue of an individual and society. Thus from earliest days economics has recognized the importance of understanding value to society.

Adam Smith (1723–1790) wrote "*The Wealth of Nations,"* see 1 sometimes described as the basis of macro-economics, it describes how rational self-interest and competition can lead to national prosperity. If this is the first lesson in macro-economics, then the second lesson, is that decision makers are not always rational nor do they always act in the best interest of society (see Introduction to Behavioural Health Economics see 2). Markets need to be regulated and consumers informed to defend social values. These factors are considered in the socio-economic analysis of the impact of particular actions.

Jeremy Bentham (1748—1832), whose remains I remember on display in a cupboard at UCL, was the founder of utilitarianism, an underpinning concept of modern micro-economics, arguing for the maximization of human benefits for all, respecting equity between all peoples. John Stuart Mills (1863) noted the importance of valuing the quality of outcomes, he wrote: "It is quite compatible with the principle of utility to recognize the fact, that some kinds of pleasure are more desirable and more valuable than others. It would be absurd that while, in estimating all other things, quality is considered as well as quantity, the estimation of pleasures should be supposed to depend on quantity alone". In other words, outcomes must be described, measured and valued for the quality of their contribution to society.

Thomas Carlyle (1795–1881) attacked utilitarian economics as the "dismal science", because it valued the benefits to all people equally. He argued that the benefits to former slaves should be considered as less valuable than those to their former masters. Thus economists can be proud that they were attacked precisely because their science values benefit to all people equally and that it looks beyond the market price of outcomes to consider the social values created. This is the basis for socio-economic evaluation.

Florence Nightingale (1820 – 1910) was both a nurse and mathematician, her statistical analyses of the "Causes of Mortality in the Army of the East" see 3 informed modern nursing and hygiene practice.

Form your own view of the basis for the science of economics and socio-economic evaluation.

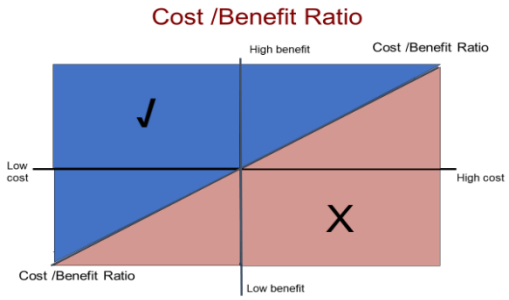
Why is economics important to you?

- Health and Wellbeing Economics: "How people use limited resources in an attempt to satisfy unlimited demands"
- Health and wellbeing economics is essential
  - To understand health and social care policy
  - To manage health and care resources and outcomes
  - To develop and evaluate new solutions

- Values for Money in means using resources in the best way possible to achieve the social goals and values of our society.
- All health and social care managers need a practical grasp of economic principles, and an understanding of the social science of getting them implemented.

Paul Samuelson (1915 -2009) has been called the father of modern economics. He suggested a simple explanation of the challenge faced by economics, that can be applied to health and wellbeing decisions: "to meet unlimited demand from limited resources it is necessary to consider: what services to provide, how to provide them and who to provide them for".

As the resources available for health and wellbeing will never match the unlimited demand, it is important to keep in mind that every expenditure of resources on one service means less are available for others. The task of health and social care leaders is to ensure that the available resources are allocated and applied wisely to achieve the goals of maximizing benefits to health and wellbeing.



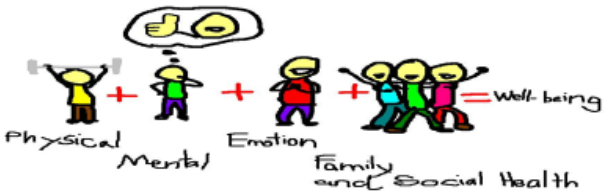
Being economic in the use of resources does not necessarily mean spending less, indeed there are many circumstances in which a more intensive use of resources can produce more or higher quality benefits in relation to the resources used that outweigh their cost. What is important is to consider the relationship between the cost to society of resources used and the benefits achieved. This is called the cost/benefit ratio.

As the demand for services, the technical and social possibilities for delivering them and the policy context in which decisions are made continually change, it is essential to rethink and innovate services, evaluating new proposals against existing services to ensure that they provide better ways of achieving the best value from services with the available resources. "Value" here means enhancing social values.

In recent decades the success of the NHS in treating conditions that previously resulted in premature death, has meant that people live longer but often require continuing health and social care. At the same time: population growth, demand for higher quality services and the increasing cost of medical technology put pressure on costs and the need for health and wellbeing services has risen due to factors such as family breakdown, poor diet, lack of activity and increase in alcohol and drug harm. Examine the long-term cost pressures on health and social care described in the OBR assessment see 4 .

How does the economic performance of health and social care services affect; political decisions on the funding of health and social care, recommendations made by the National Institute of Health and Care Excellence about drugs and services to be funded, decisions made by Clinical Commissioning Groups and NHS Trusts and the decisions you may face as a health or care manager?

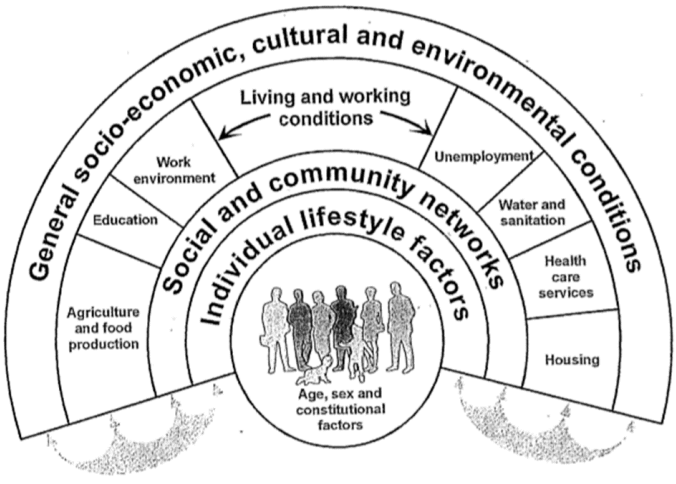
What is Health and Wellbeing?



- Health is defined in the WHO constitution of 1948 as:
  - A state of complete physical, social and mental well-being, and not merely the absence of disease or infirmity.
- My definition of health and wellbeing:
  - *Physical, mental, emotional and community wellbeing enables every individual to maximise their capability to manage health conditions and risks, cope with normal stresses of life, find purpose and happiness, work productively and fruitfully, make a contribution to and draw support from family, community and their home and natural environment.*

Physical and mental health improvement can be described and measured in terms of the years of life gained and the quality of life in those years as perceived by patients (through surveys) this is the basis for the Quality Adjusted Life Year (QALY) measure, most commonly used in England to describe health gains. The WHO uses a similar (but inverse) measure of the Burden of Disease (loss of health) at national level. Disability Adjusted Life Years (DALY) is a measure of the Years of Life Lost (YLL) due to early deaths plus Years Lived with Disability (YLD) weighted by an international panel, in terms of impact on quality of life.

Wellbeing includes health, happiness (Bhutan led the world by introducing a World Happiness Index in 1972), satisfaction, fulfillment and freedom, the WHO measures this with 5 questions (WHO-5) see 5, UK uses 4 for Wellbeing Adjusted Life Years (WELLBYs).



In 2010 David Cameron launched the National Wellbeing Programme to "start measuring our progress as a country, not just by how our economy is growing, but by how our lives are improving; not just by our standard of living, but quality of life"

Things that improve health and wellbeing may include: a political system that is seen as fair and just, physical security, education, family and social support, community engagement, housing, environment, employment and financial security, music, art, culture health and social care.

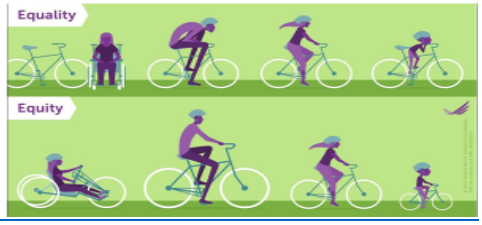
These are personal and social judgements about freedom to improve the quality of life. It is important to think through goals with individuals and communities to assess the health, social wellbeing and cultural factors that are valued. It may not be possible to measure all aspects but we can at least acknowledge and describe them from the perspective of participants, this is a part of a socio-economic evaluation.

Conditions that support health and wellbeing were identified by Dahlgren and Whitehead (1991) in "Policies and strategies to promote social equity in health" from which the diagram shown here is derived. This recognizes that health and wellbeing are complex, with multiple causes and consequences.

Look at Dahlgren and Whitehead paper see 6 and identify factors affecting your health and wellbeing.

Capability Theory

- Developed by Amartya Sen, Martha Nussbaum and others from 1979
- Underlies UN SDGs, UK Wellbeing Measures and WHO policy
- Stresses freedom to pursue wellbeing as seen by individuals and groups
- E.g. provide resources – bikes
- Giving freedom - capability to travel
- Which enables agency – role in society
- Support functioning – community action
- Enhancing utility – wellbeing
- And equity of outcomes



Capability theory underlies much of current thinking about wellbeing, including the UN Sustainable Development Goals and UK attempts to measure quality of life. The ideas were developed by the Nobel prize winning economist and philosopher Amartya Sen in his 1979 book "Equality of What", his editing of "Quality of Life" in 1992 with Martha Nussbaum, his 2009 book "The Idea of Justice" and his contribution to the 2009 Stiglitz, Sen and Fitoussi "Commission on the Measurement of Economic Performance and Social Progress" set up by French President Nicholas Sarkozy, see 7.

Capability theory moves away from the idea of economic growth, as the measure of development in rich and poor countries. Becoming richer may enable some people to live more comfortably but it does not reflect the many complex factors that enhance or constrain individuals and communities. Welfare economics promotes equal access to basic goods, as identified by John Rawls, but may not reflect individual needs or demands. Capability theory stresses the role of the state in ensuring freedom of individuals and groups to enhance wellbeing in a sustainable and equitable way, recognizing their choices and obstacles. These ideas are reflected in the WHO European Region Strategy for Health and Wellbeing see 8 it implies wellbeing is not just about making people happy but allowing them to achieve their aims.

A capability approach suggests that, measures of wellbeing must recognize and value the freedom of peoples' roles in society (agency), and their action (functions) that lead to enhanced equity and wellbeing (utility), provided that this respects the rights of others and the physical and social environment. This recognizes that people have different needs and demands, so justice and freedom may have different meanings for each person and society. Measures of wellbeing at individual or community level should evaluate the extent to which people achieve their aims in terms of:

1. Material living standards (income, consumption and wealth);
2. Health;
3. Education;
4. Personal activities including work;
5. Political voice and governance;
6. Social connections and relationships;
7. Environment (present and future conditions);
8. Insecurity, of an economic as well as a physical nature.

Capability theory points to the need for **Personalised Care**, enabling each person to define their own health and wellbeing goals and helping them to address and overcome the obstacles they face see 9. It also shows the need for services to meet local community needs rather than "one size fits all" solutions.

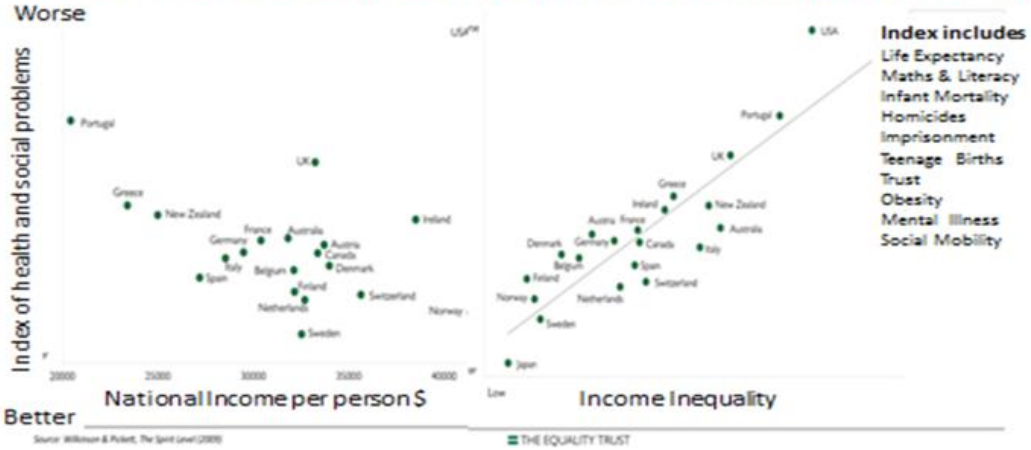
What factors would you include in a Wellbeing Framework to enhance the quality of community life?

How Cost-Effective are Health and Care Services?

- Health economists apply different cost effectiveness criteria
  - WHO, OECD, Commonwealth Fund and others all use different criteria
  - High income countries have better health and wellbeing, but
  - No clear winners can be agreed, though losers include the USA
- Health and wellbeing in high income countries reflect more complex socio-economic factors, not simply income or levels of spending

High income countries spend more on health and wellbeing and achieve better outcomes than most lower income countries but comparisons between different high-income countries show that increasing wealth beyond a certain level does not guarantee better health or wellbeing. In 2000 the World Health Organisation global analysis of health systems ranked UK 18th overall. In 2010, the OECD, rated UK NHS performance lower than the OECD (rich country) average. However, in 2014 (and again in 2017) New York based Commonwealth Fund rated UK 1st or 2nd. Read my discussion of different ways of evaluating the "best" healthcare system which can be downloaded see 10.

Expenditure on health and care is less important than social factors such as equality in determining outcomes



In high-income countries health and wellbeing outcomes are not simply a product of health and care systems or their funding but are a product of the social structure within which they are based. This is not surprising as health, care and social services are only two elements of the resources required to achieve health and wellbeing. In 2007 Richard Wilkinson and Kate Pickett wrote, "The Spirit Level: Why Equality is Better for Everyone". This uses measures of problems of: Life Expectancy, Maths and Literacy, Infant Mortality, Homicide, Imprisonment, Teenage Births, Trust, Mental Illness (including drug and alcohol addiction), and Social Mobility, to show a correlation between measures of health and wellbeing problems and levels of income inequality in 23 high income countries. A similar comparison shows no relationship between average income levels in these countries and levels of wellbeing, see 11.

Has this brief introduction to the macro-economic impact of health and wellbeing services helped you see the need to take a wider social perspective of resources and outcomes for health and wellbeing?

Health and Social Care

- The NHS provides physical and mental health services in hospitals and community care settings and primary care in General Practices
- Local Authorities provide social care services for adults and children
  - Adult Social Care services manage the provision of: equipment and home adaptations, home help, community support and activities, day centres, residential care, information and advisory services, advocacy, carer support.
  - Childrens' Services safeguard and promote the welfare of vulnerable children and adults, providing a wide range of services to children and parents, usually within their home but sometimes requiring children to be taken into care
- After years of local initiatives, recommendations of NHS England and NHS Improvement and Royal Assent of the Health and Care Act (2022), 42 Integrated Care Systems will be established across England on 1 July 2022.

- Sajid Javid, Secretary of State for Health and Social Care focussed on the importance of integrated care in "levelling up" health and care, emphasising the wider role in social and economic development. The current Secretary of State, Steve Barclay has emphasised the importance of integrated care in allowing patients to be discharged from hospitals.

The Secretary of State for Health and Social Care (Jeremy Hunt/Sajid Javid/Thérèse Coffey/Steve Barclay) brings these services together at ministerial level. The responsibilities of the NHS and local authorities for health and care have always overlapped. As examples: most residents of care homes require healthcare support, a major cause of bed blocking for health services is the lack of homecare support, people with dementia are supported by LAs, while the NHS provides for people with similar symptoms arising from other mental health issues and it is estimated that 20% of people consult GPs for issues that are primarily social problems, see 12. Factors that drive social care costs are similar to health, with an emphasis on family breakdown, some 32% of people over 65 live alone and are often isolated, see 13.

The objectives of the DHSS have been redefined as to

1. Keep people healthy and support sustainable public services.
2. Transform out of hospital care to keep people living healthier for longer in their community.
3. Support the delivery of high-quality, safe and sustainable care and secure the right workforce.
4. Research and innovate to maximise health and economic productivity.
5. Ensure accountability of the health and care system to Parliament and the taxpayer.

Integrated Care Systems (ICSs) are provided by partnerships of local organisations that come together to plan and deliver joined up community health and care services, and to improve the lives of people who live and work in their area. They are commissioned by Integrated Care Boards to include NHS, LAs, community and voluntary organisations, local residents, people who use services, their carers and representatives and other community partners. They replace Clinical Commissioning Groups and both commission health and care services and address wider health and wellbeing issues, which could include social integration, economic development, inequality, housing, policing and education see 14.

This together with the earlier introduction of Social Prescribing to guide patients visiting their GPs for social reasons is a further step to address the wider determinants and outcomes of health and wellbeing for more details see my training notes on social prescribing at 15.

Review the NHS guidance on Integrated Care Systems and research the integrated Care Board responsible for your area (see the map on the web site) think through the issues and discuss the priorities you would suggest for improving health and wellbeing in your area.

The Objectives of Health and Care Services

- As Chief Executive of the NHS Amanda Pritchard and Chair of the NHS England Commissioning Board Richard Meddings challenge is to commission the right services (allocation efficiency), to ensure efficient delivery (technical efficiency) to meet greatest needs (equity) at best quality
- Integrated Care Boards, provider Trusts and Local Authorities are required to work with communities to achieve national objectives:
  - To improve health promotion and health services to increase healthy life expectancy
  - To reduce inequity and
  - To improve the Value for Money of services
  - While maintaining and enhancing the quality of services.

The high-level objectives of the NHS and Local Authorities for health and care services are set out in: the Health and Social Care Act 2012, the Public Services (Social Value Act) 2012 and the Care Act (2014). Google these for further detail. At both national and local level health and social care services pursue complex social and economic aims that require decisions on what services to provide, how to deliver them with greatest efficiency to those in greatest need at increasing levels of quality.

Progress towards Increasing Life Expectancy at Birth (LEB) has shown an increase of 2 years every 10 years over about 50 years but this has slowed in recent years and may even have stopped. Moreover, for those over 65, years spent in "not good health" increased by about 0.5 - 0.7 years over10 years.

Steps towards reducing inequity in health show mixed results. The gap in LEB between most advantaged and disadvantaged socio-economic quintile groups for males widened over 30 years from 5.6 to 7.5 years in 2001, since then the gap has narrowed slowly. Inequality in LEB for females widened from 3.8 years to 5.3 years and it was widest from 2007 to 2011, it has since narrowed slightly.

Estimates of the Value for Money (VfM) of NHS services by the Office of National Statistics suggest that from 1995-2010 productivity increased at only 0.4% p.a. other estimates have varied from 0% to 1.4%. This reflects the difficulty of knowing how to assess this. For example, is it better VfM to treat more people per £ spent or to reduce the number treated by improving self-care.

The objective of improving the quality of care, is also difficult to measure. The Mid Staffordshire Report of 2013 (see 16) pointed to**:** "A serious failure to listen to patients and staff, allowing an insidious negative culture, tolerating poor standards in part as a consequence of focus on reaching national access and financial targets, and seeking foundation trust status at the cost of delivering acceptable standards of care". Have these lessons been learnt? Judge for yourself by looking at the 2020/2021 State of Care Report by the Care Quality Commission (CQC) see 17. On this site you will find reports on your own services, but of course the Covid Pandemic has seriously affected all services. .

Plans for future health and care services call for a transformation of services to support integrated community action and services to improve health and wellbeing, while improving efficiency and quality. The Kings Fund web site provides a useful guide to the 2022 Health and Care Act see 18.

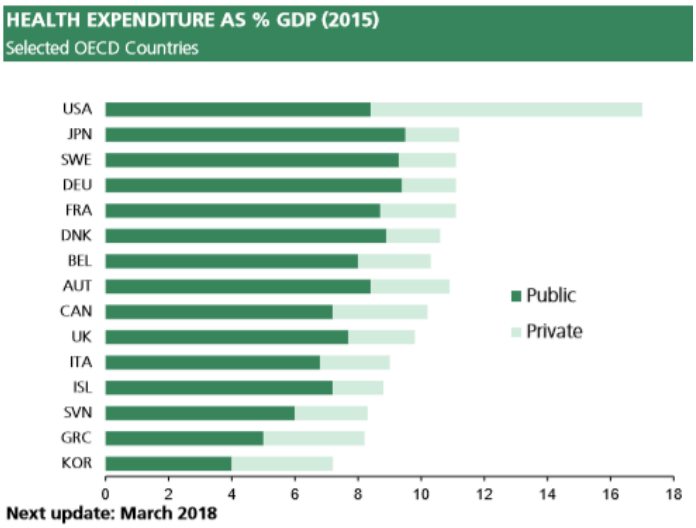
How has your own local service performed as shown by the Care Quality Commision web site?

Spending on Health and Wellbeing

- Spending on Healthcare can include:
  - Government and private sector expenditure on prevention, treatment and nursing care
  - Private spending on health products and over the counter medicines
- Spending on Social care can include:
  - Local Government and private spending on residential care
  - Government allowances and services for people with disabilities and their carers
- Other costs of health wellbeing are difficult to define but might include:
  - The time spent by informal carers
  - Cost to employers of health related absence
  - Spending by government and the public on products and services that increase wellbeing

The cost of health and care services funded by the DHSS for England in 2021/22 will be £190 billion. Of this £136 b will be spent by the NHS and includes £30 b for Covid response. LA expenditure on adult care services net of income will be some £17 b, net Child care service costs £10 b, other government spending on social care includes Disability Living Allowances £10 b and Carer Allowances of £2.5b.

But these figures are only a proportion of the total cost of health and care services. A wider view of social costs would include private funding of health (some £7 b) and care (some £12 b including residential and domiciliary care), the cost of informal care provided by family and friends (5.5 million carers), the cost of over the counter medicines, health products and services such as fitness, leisure centres and sport, public health and safety services, and costs to industry of absence due to illness - read Graham Lister and Ray Robinson (2005) "The Future of Health and Care Costs"see 19. This estimates that in UK the full social and economic cost of health and care amount to some 20% of GDP (value of all goods and services produced by a country over a year). The definition of health and care used in this review encompassed a very wide range of public and private spending on issues affecting wellbeing.



The Organisation for Economic Co-operation and Development (OECD) shows the UK in terms of the % of GDP spent by individuals and government on healthcare services in 2015. The OECD Health Database offers the most comprehensive source of statistics on health and health systems across OECD countries see 20.

For low income countries it has been argued that health improvement is a key driver of economic development, as it leads to increased productive lifespans as well as better cognitive ability,

OECD views on health and efficiency in high income countries are shown by the reports at 21 review this and consider how the suggestions for improving efficiency might apply to this country.

Improving Technical Efficiency

- Economic efficiency can be improved by:
  - Eliminating waste and duplication
  - Providing services at lower cost, while maintaining quality,
  - Providing services with greatest impact on health and wellbeing,
  - Providing services to those in greatest need who will benefit most.
- The Carter Report found hospital productivity could be improved 9%
  - By applying current best practice in use of resources to all hospitals
- The Five Year Forward View efficiency target is 2.4% per year by:
  - Focussing on services which have the greatest impact on outcomes,
  - A ten point plan to use resources more efficiently,
  - Better integration of health and social care around the needs of patients

A review led by Lord Carter, shows the scope for increasing technical efficiency by more effective use of resources in hospitals. It offers a standard way of measuring and costing activity - Weighted Activity Units (WAU) and challenges providers to meet the cost per WAU shown by the most efficient. It also noted problems of poor coordination and ineffective use of potential economies of scale see 22.

The current Five Year Forward View for the NHS sets priorities for action to maximise values achieved by improved quality, allocation and technical efficiency and contribute to financial sustainability**,** including:

- To provide urgent and emergency care: 24 hrs a day and 7 days a week by working with community services and councils to reduce pressures.
- To reverse the decline in primary care funding: more GPs, Clinical Pharmacists and Mental Health Therapists and extended evening and weekend appointments.
- To improve services for Cancer patients and people with Mental Health problems:
- To improve prevention and care services: to enable frail and elderly people to live independent lives by integrated funding and provision of health and care services.
- To implementing the NHS Ten Point Efficiency Plan: recognising the skills of all staff and their leadership skills and using technology innovations to transform services.

The NHS efficiency plan aims to: 1 Reduce demand for hospital beds by extending home care and care in the community, 2 Reduce use of temporary agency staff, 3 Make better use of NHS procurement power, 4 Improve use and price of medicines, 5 Reduce avoidable demand for services, by better referral and prevention services, 6 Reduce unwarranted variation in the quality and efficiency of services,7 Make better use of estates, infrastructure and clinical support services, 8 Reduce administrative costs, 9 Collect income more effectively,10 Ensure better financial control, further details at 23. The principles were demonstrated in practice by Vanguard Projects and Sustainability and Transformation plans. These included development of integrated health and social care planning and funding and Rapid Response Intermediate Care (RRICs) which despite the name and acronym are intended to provide integrated health and social care support in patients own homes.

Review the Next Steps on the NHS Five Year Forward View and Vanguard or other new care models that are most relevant to your area of practice and local plans. Which steps are aimed at allocation efficiency, technical efficiency, equity or quality of treatment and care?

The NHS Long Term Plan Build Back Better and The Health and Care Act 2022

- **More investment in Integrated Primary and Community Care**
  - With **Primary Care Networks** of GPs serving communities of 30-50,000 people.
  - Supported by staff including Pharmacy, Paramedics and Social Prescribers
- **Integrated Care Partnerships** of NHS LAs and Community Groups
  - Integrated Care focussed on community health, wellbeing and prevention
- **Community Diagnostic Centres**
  - Providing advanced diagnostic services in community setings
- **More personalised care using Digital Technology.**
  - Supported by use of digital technology in primary and outpatient care
- **More investment in Mental Health services**

The NHS Long Term Plan see 24 led to the introduction of **Integrated Care Systems** bringing primary and community care together and improving coordination with social care and community organisations. A measure subsequently announced was the creation of **Primary Care Networks** of GPs supported by 22,000 posts, including; pharmacists, paramedics and link workers. These networks serving 30-50,000 people would help integrate primary and community care and would enable **social prescribing**, linking people to community groups that could support their health and wellbeing and reduce social isolation. This was intended to reduce demand pressures on GPs and A&E services. A 1.1% per year cash-releasing productivity target, was set as a target for overall efficiency. This will be essential to bring government funding increase of 3.4% per year to a level that stands a chance of matching demand pressures.

The situation is now more complex and more urgent due to the Covid Pandemic and its aftermath and the need to reform the funding and management of social care services. Measures to reduce the backlog in demand, including virtual clinics using digital technology set out in the **Build Back Better Plan** see 25. However, at present the NHS is under ever increasing pressure due to under funding and strikes.

The **Health and Care Act 2022** enables much of the Long Term Plan. It created NHS England as a single body responsible for the quality and efficiency of NHS services, reducing inequalities in health and wellbeing, reducing climate impact and improving public engagement. It formalizes the role of Integrated Care Boards and Partnerships. These are required to, work with Local Authorities in Health and Wellbeing Boards to establish integrated health and social care plans for local communities, this should ensure better coordination of discharge planning, physical and mental health and social care. Services can be commissioned from all providers whether or not they are for-profit up to the limit of the lifetime cap on personal social care expenditure (now £86,000). The Act also introduces measures to limit the advertising of unhealthy food and ensure better labelling of contents.

There are many implications for health leaders: they must find ways of redirecting services to integrated primary and community care, increase investment in mental health and support for people with chronic conditions, develop plans for the use of new digital technology and for engaging people in their own personal care plans. All such measures will require an understanding and application of socio-economic evaluation to ensure that objectives for service quality improvement and cost reduction targets are met

Review the current debate on the cost drivers and funding of the NHS and social care services.

Applying Economic Appraisal to Your Service

- Economic appraisal is useful at every stage:
  - Reflecting on how to improve your performance
  - Planning a service development
  - Leading and managing change
  - Adjusting changes
  - Evaluation
- Economic appraisal is always a comparison
  - With current practice or the next best alternative

Economic appraisal is an essential element of leadership and management of health and wellbeing services at every stage: thinking through how you can improve the performance of your service, planning and leading service development, adjusting innovations to maximise their value and evaluating service performance on an ongoing basis. It is not just about reducing costs but also about improving the quality of patient/client experience and outcomes. This requires leadership skills and an understanding of how to manage change. You can download guides on leading innovation and change see 26, you can also find a full range of leadership training materials on this site.

You will need the support of management and colleagues and your development might form an element of the local Sustainability and Transformation Plan (STP) usually led by the Clinical Commissioning Group. In some circumstances you may need ethical approval to investigate innovations. NHS England guidelines for leading large scale change can be found at 27.

Evaluation is always a comparison between current practice, sometimes called Treatment As Usual, (TAU) or the “do nothing option” or “baseline” and alternative developments, such as following best practice achieved by other providers, or the ideas you develop with your team to improve performance. An essential starting point is therefore, to think through the current process of delivering services and to note the ethical and social values that are crucial to the delivery of care. Improvement is denoted by the Incremental Cost Effectiveness Ratio (ICER) and/or Incremental Cost Utility Ratio (INCUR). This can be achieved by reducing costs or increasing the impact on final outcomes, but you must always respect and enhance the ethical and social values of the service provided.

You are strongly recommended to consider any current initiatives to improve the performance of your service or to think through your own ideas for improving performance in terms of the quality and quantity of the service delivered per unit of cost. This may involve increasing or decreasing the cost but should be aimed at improving the final outcomes achieved per unit of cost. This should reflect the values the service is attempting to achieve and hence the priorities given to different aspects of the outcomes.

Apply the approaches suggested in this section to a specific opportunity to improve services to gain a better understanding of economic analysis for health and wellbeing.

Economic Appraisal Evaluates Values for Money

- Values for Money may mean:
  - Cost offset/ Cost minimisation (CMA)~ cost per £ saved
  - Cost effectiveness (CEA) ~ cost per outcome
  - Cost consequences (CCA) ~ cost per multiple outcomes
  - Cost-utility (CUA) ~ cost per weighted outcome
  - Cost benefit (CBA)~ cost per £ value of outcomes
  - Social Return on Investment (SROI) ~ total social cost per unit of value to society improved.
- But in each case it is essential to ensure that the values of health, social care and wellbeing are respected.

All forms of economic appraisal compare ways of improving the benefits achieved for the cost of time and resources expended, recognizing the NHS values of the service of effective, high quality services delivered with compassion, care and respect for the patient/client. This can be called “values for money”. Improvement is measured as the incremental cost effectiveness ratio (INCER) or cost utility ratio (INCUR).

Cost offset analysis poses the question: “Can the same or better outcomes be achieved for less total cost?” in other words, can cost be reduced by using resources more efficiently. Cost effectiveness extends this by asking: “Can the cost per unit of outcome be reduced?” The Carter Review showed the variation between hospitals in the cost per unit of clinical output delivered using standard measures of costs and outcomes (WAU) see 28. The WAU makes it possible to compare cost effectiveness in the delivery of different types of clinical service. There are also measures of patient-reported outcome measures for example(PROMs) and experience measures (PREMs) that apply to physiotherapy services see 29. There are also measures of the delivery of social care services.

When multiple outcomes arise from treatment of care it is necessary to apply a cost consequences approach, this asks “What outcomes are achieved for each unit of cost?” For example, a population survey to screen for early stage cervical cancer may be evaluated in terms of the cases detected per unit cost. But if this were to be applied to a population of sex workers, a much wider range of outcomes should be expected, addressing issues such as drug addiction, human trafficking and exploitation. In this case it would be important to describe and measure all such outcomes as cost- consequences.

Cost utility analysis applies a weighting to different outcomes so that they may be compared. The most common utility weighting is the Quality Adjusted Life Year (QALY). This values different health outcomes in terms of life years gained and the quality of life improved as perceived by patients. Cost utility analysis asks: “How can cost per QALY be optimized to provide the most health gain?”. A parallel outcome measure can be applied to mental health – the Warwick-Edinburgh Mental Well-being Scale (WEMWBS). Recently a measure of wellbeing adjusted life years (WELLBYs), has been recognized, this is a measure the quality and duration of wellbeing.

Cost benefit analysis applies a value to outcomes to compare with the cost of delivering the service, asking: “What value of benefit is delivered for each unit of cost?” This approach is most often applied as a Social Return on Investment (SROI), asking: “What is the value of the social benefits achieved for each unit of the costs to society incurred?”. Social values can be estimated in several different ways, see later.

You must decide what form of economic evaluation is most appropriate for any service development you are considering, this depends on the nature of the outcomes and the data you can obtain.

Steps in Economic Appraisal

- Consult the stakeholders
  - Understand the values and aims of patients, carers, providers and commissioners
- Plot current and proposed process: Your Theory of Change for better outcomes
  - Current and proposed process + intended and unintended outcomes
- Define and cost the inputs before and after change
  - Measure the marginal cost impact of any changes in the process as experienced
- Describe and measure interim outcomes before and after change
  - Measure the immediate result of the process including positive and negative
- Relate interim outcomes to longer term benefits and savings
  - Estimate likely long term impacts on health and costs allowing for uncertainty
- Describe and value the costs and benefits in current values
  - Discount costs and benefits to provide a range of possible results of the evaluation
- Discuss the quantitative and qualitative aspect of evaluation with stakeholders

Economic appraisal starts and ends as a discussion with patients, carers and those involved in delivering and funding services, about how to improve performance. In some cases, there may be clear evidence of a better way to deliver services, but this must be explained to all participants see 30.

A process map can help to identify when and where inputs and outputs arise and all those involved in achieving outcomes, including the patients and their carers. It is helpful to identify both the intended outcomes and the circumstances in which unintended (often negative) outcomes can arise see 31. Evaluation is always a comparison. This should set out a Theory of Change – how it is expected that improved outcomes will be achieved and the potential negative outcomes that must be avoided.

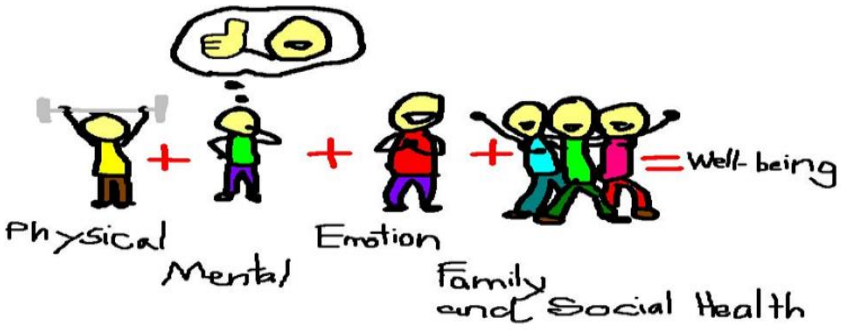
Depending on the level of analysis applied you may identify: costs to the NHS or LA for the same outcome, cost per unit of service delivered, cost incurred for a range of outcomes, cost per weighted outcome, cost per value achieved or total social cost per value to society achieved. Thus cost may be identified: using the NHS Costing Manual see 32 , the costing manual for health and social care see 33, or all those affected, see 34 as an example.

While cost offset and cost effectiveness outcomes may be measured in terms of the delivery of services, more complex levels of analysis require measures of interim outcomes linked to estimates of their long term impact on health, wellbeing and costs or savings to the public sector, patients and others. The initial and recurrent cost impact of services and the benefit outcomes when they arise must be compared, thus future costs and values must be discounted to show their equivalent current value. These estimates inevitably involve uncertainty, **sensitivity analysis** is essential to show how your assumptions and estimates of outcomes and their value affect the calculated cost/benefit ratio.

In each case the outcome of the evaluation will have a quantitative element (cost/benefit ratio) and a descriptive or qualitative element, both need to be discussed with stakeholders. Public Health England guidance on selecting qualitative and quantitative methods of analysis is shown at 35.

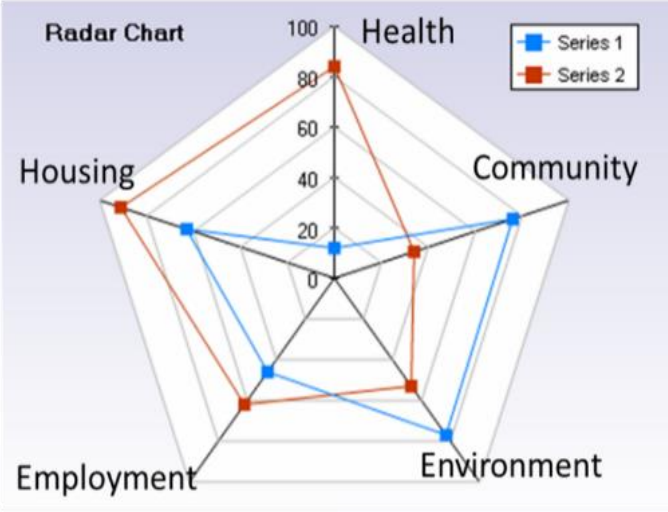
The following pages provide guidance on each of the steps outlined above.

Understanding Social Values and Social Costs



Improvements in health and social care gains are only two aspects of wellbeing Economic, Emotional, Family and Social Wellbeing are also important in enabling people to enjoy fulfilling lives.

Improvements in different aspects of social can be described as subjective views of individuals or communities. A radar web model could be used to illustrate impacts on different aspects of community social values to help policy makers consider options for improving community wellbeing. The radar chart approach might also be used to consider the broader needs of different communities and where community interventions are most needed. At its simplest level a survey simply asks respondents to evaluate local conditions on a 5 point scale to provide this sort of display.



At the outset of any project you will need to consider all the aspect of social value which are relevant to the change or intervention you are considering. Health and social care outcomes are often the focus of most attention but you also need to consider the impact on other aspects of the lives of the patient/clients and their families, will it make them happier or reduce their costs. The intervention may also have wider social implications perhaps engaging community members as volunteers, improving employment or the local environment. And don't forget the intervention will also have an impact on the staff providing services, will it help or present them with problems ?

The value of such social outcomes can be compared with the full cost implications for society, this may include the cost to NHS, LA and other public services, costs to patients/clients and their families and employer and impact on government expenditure and income. Cost implications for patients and their families may include the costs of attending services and of providing informal family care, while they may also benefit from reduced expenditure on harmful products like alcohol and cigarettes.

Taking a broad view of the potential social benefits and costs of an intervention, can you identify the "stakeholders" who will be affected by and benefit from the intervention you are considering?

Consulting Stakeholders: A Social Impact Matrix

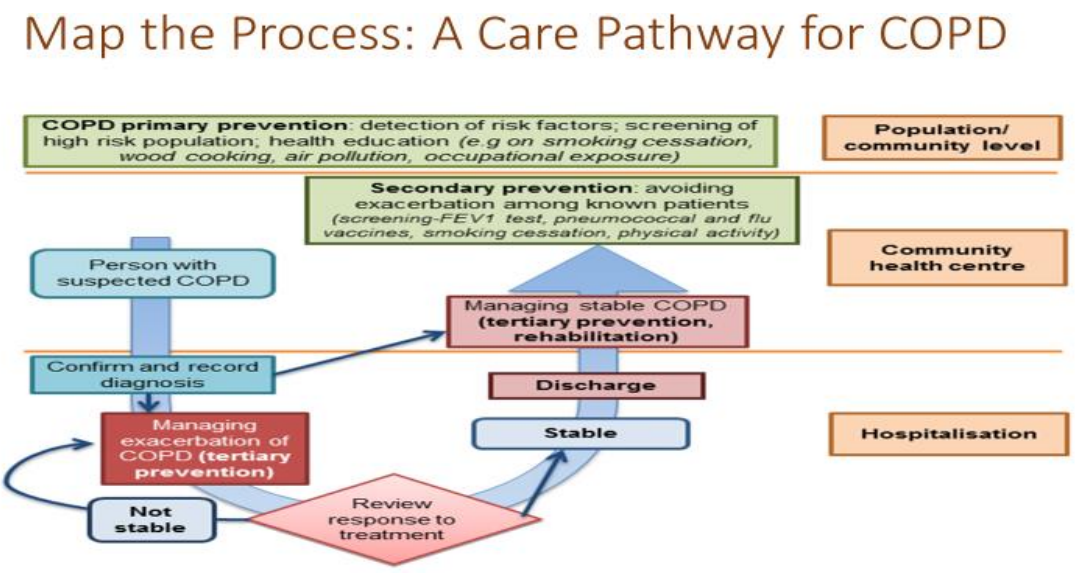
Objectives → / Stakeholders ↓	Health and Wellbeing Improvement	Culture change in NHS, LA and society to whole person, whole community care	Improve equity of health and wellbeing and access to support	Improve social capital, personal and community support for H&W
People with health and wellbeing concerns	Encouragement and specific information to stimulate and enable behaviour change	Increased confidence self efficacy better relationship with NHS/LA other staff	Reduced access barriers for disadvantaged people for language, culture or other reasons	Better access to support services and support groups to help initiate and sustain behaviour
NHS /LA staff and volunteers delivering MECC	Stimulus to improve their own H&W	Whole person care as a culture for all staff & vol Better relations with public. Pride in Whole Person Care	Confidence in working with people who find it difficult to express needs or access services.	Bonds within work groups providing support for their own health and wellbeing improvement.
NHS, Trusts, and CCGs	Achievement of H&W goals better coordination with community resources	Reorientation from treatment to health and wellbeing - the fully engaged services.	Achievement of NHS goals for reduced inequity in health access and outcomes	Bridges between organisations and groups reducing professional and organisational barriers for health and wellbeing.
Other organisations supporting H&W inc LA,and Community Organisations	Better use of signposted services and community support groups Wider wellbeing goals including social capital	Shared goals for H&W Opportunities for working together Co-production with community groups	Engagement with groups previously considered "hard to reach" reduced stigma and better shared understanding.	Links across organisation groups and individuals as a community network for health and wellbeing
Wider society	Community support for health and wellbeing	Whole community culture that supports health and wellbeing inc community groups and employers	A fairer more equitable society with a common purpose of improving health and wellbeing.	A fully engaged society

A Social Impact Matrix (SIM) can provide a useful starting point for consulting stakeholders. Set out on the top line the values and objectives you are pursuing. Then consider what these values and objectives mean for each stakeholder group. In this example, taken from a review of the national "Making Every Contact Count" initiative. It sets out the different stakeholders to be consulted and the overall values and objectives of the service change to be introduced – in this case providing training to facilitate NHS , LA and volunteer participants in discussing health and wellbeing issues with members of the public they met in the course of their work, to enable them to provide simple advice and encouragement to make use of available local support services and community groups, while also benefiting those trained. This provides a basis for consulting stakeholders to investigate what the objectives of the proposed service change might mean to them. It also emphasizes the social values that the change is seeking to achieve.

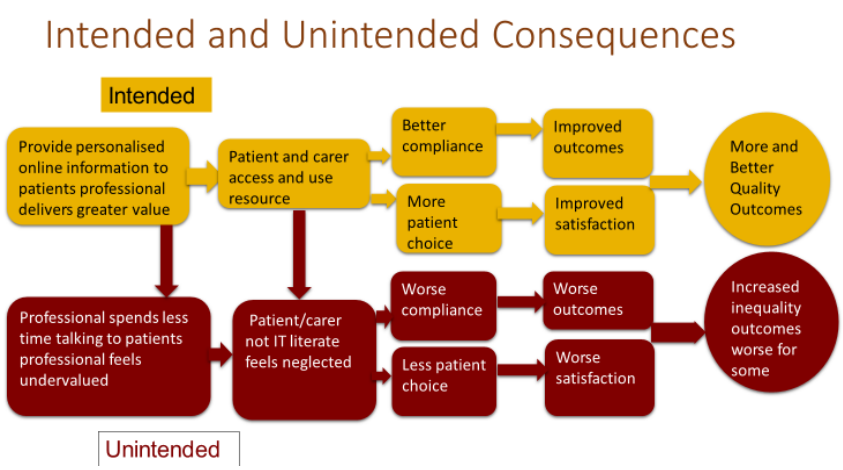
It is important to stress that this is only a starting point for discussions with stakeholders you will also need to talk through the process and its intended and possible unintended consequences, the measures of outcome and the final evaluation of qualitative and quantitative outcomes to ensure that the evaluation is a shared process. For training in aspects of stakeholder engagement see 36.

To prepare a SIM for the change to your service that you are considering. First identify the objectives of the changed service, then identify the key groups affected by the change. This will include as stakeholders: patients/clients, their carers, those who deliver the service and those managing and funding services. Identify what the change might mean for each stakeholder group in respect of each objective, in other words what does the change mean for them. Consult with representatives or undertake a survey or hold a focus group for each stakeholder group.

Could you prepare a SIM for your proposed service improvement?



A process map or "care pathway" has several important functions. First it can provide a way of analyzing the process from the patient/client perspective, highlighting delays and/or causes of anxiety. Secondly it can highlight provider costs, delays, duplications and stages at which different types of healthcare provision are required, as in this example for Chronic Obstructive Pulmonary Disease (COPD) patients. And third it can map the intended and the potential unintended consequences of the change process. A care pathway will show different paths depending upon the patient's needs and choices, it may include estimates of the probability of different actions and outcomes.

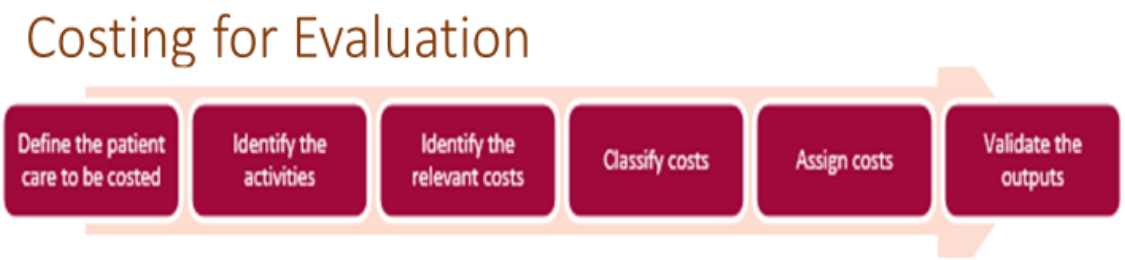


In the example shown here providing personal online resource for patient/clients may be intended to support **social prescribing** to encourage the use of local support groups and activities. But if the patient and carer are not comfortable with online information it could detract from their experience and the provider may also feel undervalued.

For a more detailed view of patient /client care pathways you may wish to view the NHS England Rightcare Pathways resources at 37 . It is important to start by plotting the care pathway in your particular field as it is currently experienced and then to consider improvement options from that point.

In consulting with stakeholders it can be helpful to draw maps of the current and proposed process on large sheets of paper, for example, pinned up on the wall of a meeting room. Stakeholder can then be encouraged to comment on their view of the process and their experience of each stage, perhaps by pasting post-it notes with positive and negative comments in different colours. This should help you define your Theory of Change -the process whereby health and wellbeing will be improved.

Can you prepare a process map or patient care pathway for your current health or care process and the improvements you wish to evaluate? What are the intended and unintended consequences?



A patient care pathway, before and after change, provides a useful starting point for defining the elements of patient care to be costed, activities required to deliver the service, types of cost and their associated outputs. The guidelines for costing patient services shown above are provided by Monitor at 38 The costs of making the change to a new model of care may be treated as a one-off "capital" cost to be spread over the lifetime of the proposed revised service model. Other costs of providing the service are calculated as annual operating or "revenue" costs.

Unit costs for health and social care professionals time can be found at the Personal Social Services Research Unit web site site, see page 14, overall service delivery costs can be compared with reference costs of inpatient and outpatient procedures published by the NHS, see page 14. In some cases, the revised processes may use additional facilities, if facilities would otherwise be unused this may not incur an economic cost but if they are diverted from other uses they should be costed. Managerial input may be regarded as a cost of the operation only if there is an additional requirement. The principle applied is to consider "marginal" cost increases or decreases, see the NICE Manual for Assessing Cost Impact at 39.

If the current and future patient care pathway involves the possibility of different paths and activities, depending upon the condition and choices of patients you will need to estimate the probability of such differences and estimate the cost impact (by multiplying alternative costs by their probability).

In your field you may be familiar with measures that include a description of interim outcomes for the patient, a method of assessing this and professional standards that apply to service provision and assessment. If your service revision is aimed at improving the cost per intermediate outcome or per Weighted Activity Unit (WAU), then this level of assessment may be satisfactory to give a measure of the incremental improvement in the cost effectiveness ratio (INCER).

If the aim is to demonstrate the full cost benefit in terms of the Social Return on Investment (SROI) then it is necessary to demonstrate the full cost to society of the proposed change and the long term social and economic cost to all stakeholders. In the long term, of course, reducing societal costs as a result of reducing one health risk will result in longer lives and potentially greater costs to the NHS and care system from other causes. However, by convention such potential additional costs are usually ignored.

Estimate current and future costs of your proposed service improvement and the incremental costs.

Identifying Input and Outcome Measures Using A Logic and Data Model

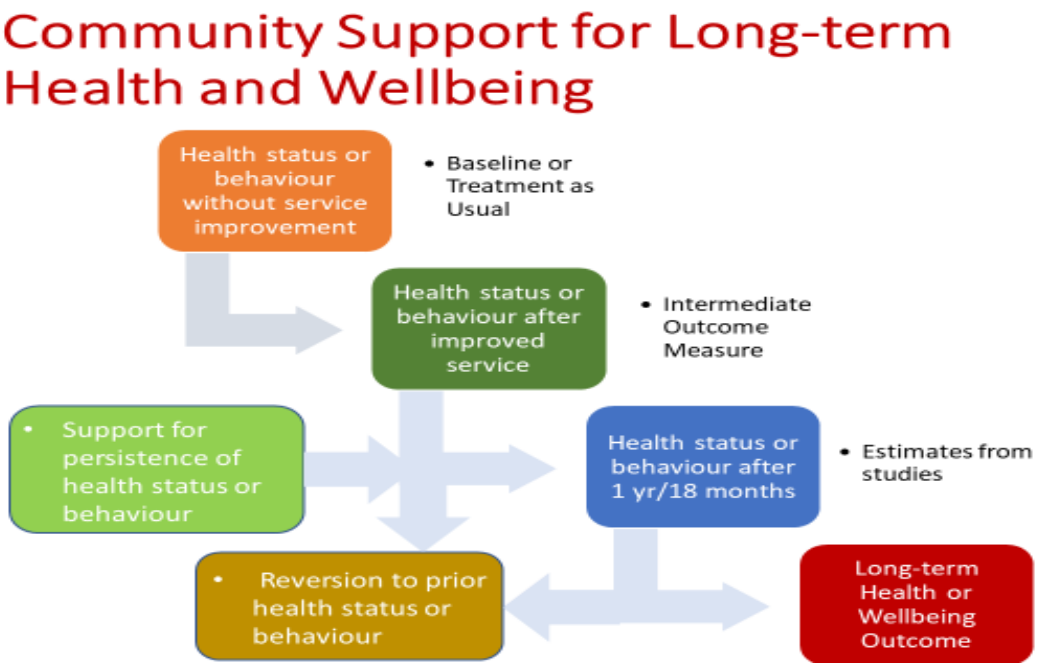
Measures → Elements ↓	Inputs	Interventions	Intermediate Outcome Measures	Long Term Impacts
Preparation Baseline	Current health & wellbeing Behaviour change services and their costs. Relationships between staff public and organisations	**Data on current H&W status and behaviour risks and cost implications for NHS LA etc.** Mapping of local services and community groups i.e. a directory of support services	Discussions with and feedback from staff public and support services on current barriers to action for health & wellbeing	**Health and wellbeing outcomes, for example as assessed by the IHME and relevant NHS, LA and other costs.**
Preparation Organisation	**Set up actions and costs inc staff time, resources and training**	Leadership action Engagement of staff groups Training offered by level Discussions with public and local behaviour change orgs	Expressions of support and Commitment Number of people trained by level and topic. Contacts between services and community re MECC	Improved morale **Staff H&W improvement** Self help support groups Extent of culture change Improved cooperation across organisations
Delivery of MECC	Staff input to deliver MECC **Costs of delivering MECC** Learning updates and info Additional appointment time Support for contact with disadvantaged people	**Number of MECC interventions by: smoking, activity, alcohol, diet, mental wellbeing weight management and other.** **No of signposts made for each** **Costs of MECC for signposts**	No of people initiating action for H&W behaviour change **No contacting signpost** **No disadvantage people aided** **Reduced unplanned and A&E** Positive response from public	**Public H&W improvement** **Reduced health and care costs, to NHS and LA** **Reduced family costs** **Increased use of support services and groups**
Ongoing Support	Leadership engagement Quality of evaluation process Time and cost of evaluation Feedback & shared learning	Action to build on lessons Innovations in delivery & topics Positive feedback from staff Public and other LA services	Staff and volunteer attitudes Take up of training offered Increased volunteering Public attitudes Awareness/ interest in H&W	Attitudes of staff at all levels and professional cadre Relationships across organisations and community
Further Development	PHE Support for innovation NHS investment support Shared learning opportunities	Development and extension of MECC principle to Engage LA/Community groups GPs and other self care groups	Public attitudes to staff and to H&W self care Social capital for H&W	Improved culture for H&W Less stigma Greater involvement in H&W from all sectors & community

A Logic and Data Model as shown here for the "Making Every Contact Count" programme, helps to identify the data required to evaluate a change to the patient care pathway. The model sets out the measures required at every level; measuring and describing "inputs", "interventions", "intermediate outcomes" and "long term impacts" and at every stage in the process of change, that is the "preparation baseline" (i.e. before change), "preparation organization" (the actions required to introduce change), "delivery", "ongoing support" (in this case leadership action) and "further development" (next steps).

A similar model can be prepared to guide the identification of qualitative and quantitative descriptions and measures of change and outcome for most projected changes. A false distinction is sometimes drawn between qualitative and quantitative measures, but of course it is essential to be able to describe every quantitative measure and estimate the likely occurrence of every qualitative outcome described.

Intermediate outcome measures for health and social care are very variable they range from little more than evidence that a relevant professional has spent time with a patient/client to indicators of improvements in the patient/client health, behavior or satisfaction. The 2013 Francis report at 40 recommended the wider use of comparable outcome data to measure, benchmark and evaluate all services, for example, see the guidelines on the commissioning of rehabilitation services at 41.

Prepare a logic and data model for your proposed service improvement and identify relevant intermediate and long term outcomes.



The relationship between intermediate/short term results and long-term outcomes depends upon the persistence of changes in health and behaviour. Changes in outcomes are quite likely to occur in the period immediately following treatment or behaviour change intervention. Thereafter over a longer period the probability of changes in outcome, such as medical complications or reversion to harmful behaviour may be at a lower level and will depend on age. For example, of those smokers self-reporting that they have achieved a 4-week quitter target only 14% will not resume smoking within a year, and over the long term about 1% per year will revert to smoking. The probabilities of outcomes are described by Markov Chain Models. These models calculate probable outcomes of a chain of events where the probability of each event depends upon preceding events. A simplified version of a Markov chain is to estimate the probability of outcomes over the first year, the next 4 years and each subsequent year, I used this approach in my Ready- Reckoners for aspect of health behaviour change.

The most important factor determining the persistence of changes in health and wellbeing behaviour is the degree and quality of support provided in the years following an intervention. Even simple telephone follow ups have been shown to be effective and represent extremely good value for money. In many cases support for behaviour change is provided by community organisations that bring together people facing similar issues to normalize and support their behaviour and add to their wellbeing. So for example: a Food Bank can provide short term relief from debt anxiety and the need to feed children, but social contacts made at the Food Bank can help people to share their worries and address their lifestyle issues together. Community support is key to many aspect of long term health and wellbeing.

Another way of estimating the long-term relationship between Intermediate Measures and long-term Health Status for behaviour risks, such as smoking, alcohol and obesity is to compare health outcomes in current years with behaviour trends over the preceding 10-40 years. Studies showing health outcomes due to various risk factors are available from the Institute of Health Metrics and Evaluation see 42. Data showing health risk behaviours in past years can be obtained from UK Data Services see 43.

Review the Intermediate Outcome Measures for your service and search for research evidence to examine evidence of the link to long-term health outcomes.

Comparing Long Term Costs and Benefits

$$NPV = \sum_{t=0}^{\infty} \left\{ \frac{CI_t}{(1+r)^t} - \frac{CO_t}{(1+r)^t} \right\}$$

- don't worry about maths this will be calculated for you

- To compare costs and benefits occurring at different times
- We discount future cost or benefits to current values
- Future costs and benefits are less valued so they are discounted
- The Treasury Green Book guides public investment methods
  - It sets discount rates for future costs and benefits at 3.5% for 30 years and 3% thereafter
- The net present value of benefits is divided by the Net present value of costs to give the cost/benefit ratio
- This shows the economic and/or social benefit value per unit cost
- Costs are usually an addition to current costs – incremental
- So Cost/ Benefit Ratio = ICER (Incremental cost effectiveness)

You need to discount future costs and benefits to the current year value to provide a cost/benefit ratio. To support this see the tool available at 44 which will generate discount factors for one off costs or continuing cost streams. .

Sensitivity analysis, should be used to show the range of outcomes that would result from different assumptions about this relationship. Long term studies are required to show the relationship between Intermediate Measures and final Health Status, but even where studies are available there must be considerable uncertainty as to the relationship with long-term health outcomes. Thus you need to consider the range of possible values applying to each estimate and assumption you make. The National Institute of Health and Clinical Excellence propose that the discount rate should be varied say from 1.5% to 6% to show the impact of different rates, the tool noted above will facilitate this. Note that, if carried to extremes, sensitivity analysis can produce so wide a range of outcomes as to be meaningless.

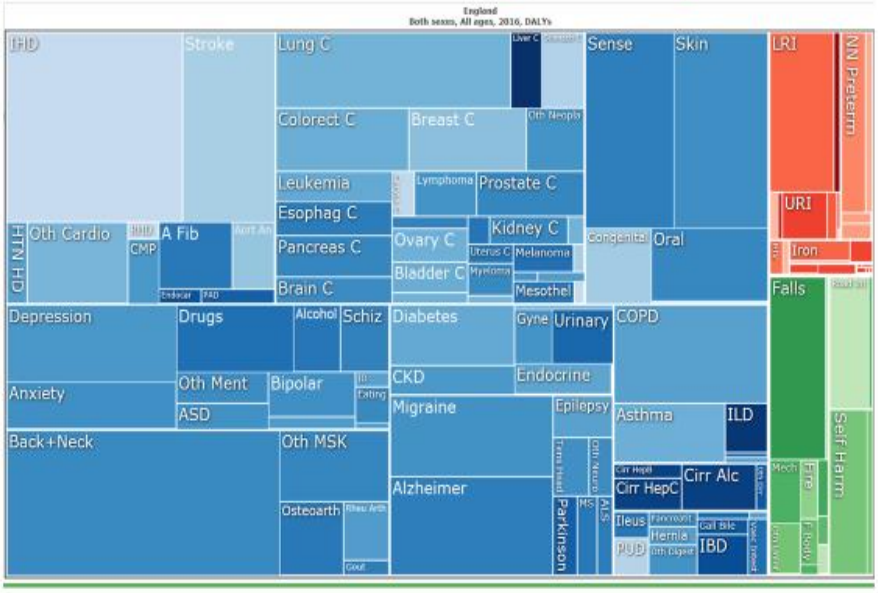
Discuss your evaluation results with stakeholder, the results of any evaluation depend upon the assumptions you have used about the cost of change, the impact on long term outcomes and the value that you attribute to outcomes. These should be discussed with stakeholders to ensure a shared understanding of the reason for introducing the changes you propose. It is also necessary to consider the political/economic/social/technical/legal and environmental climate in which the investment decisions are made. If this is likely to be crucial you may wish to review PESTLE analysis tools at 45. The most important issues may include: the policy and values relevant to the service, availability of capital and revenue resources, how the service is perceived by staff and patients, changes in technology which could offer alternative solutions, legal rights and potential environmental impacts of change.

Leading change, economic evaluation must be seen as a component of the leadership of change, it involves much more than simply working out a cost/benefit equation. Those involved must be engaged in the process and committed to the values and goals of changes proposed in the planning and implementation of change. For more insights into the process of leading innovation and change you may wish to see the teaching material that can be downloaded at 46.

Consider potential costs and benefits of a project, how certain they are and who will be affected.

Measures of Health and Wellbeing for England

- The Burden of Physical and Mental Health by disease/condition in DALYs for England is shown in this chart from the Institute of Health Metrics and Evaluation.
- Estimates of personal well-being in the UK, with analysis by country, age and sex are provided by the Office for National Statistics



Measures of the Burden of Disease or health loss, used by the Institute of Health Metrics and Evaluation (IHME) include Deaths, Years Lived with Disability and Disability Adjusted Life Years as shown above. When the WHO introduced this measure an age weighting was applied, on the basis that the burden of poor health depended on the age of those affected, but the IHME does not apply this weight. Thus these DALYs are similar in value (but inverse) to QALYS though they are based on patient values rather than expert views used by DALYS. IHME is a great source of information on health outcomes and causes at 47.

The Office of National Statistics (ONS) measure wellbeing using 4 questions from the Annual Population Survey (APS) sample size 320,000. You can find the 2020 -2021 National result and analysis by Local available at 48. These data can be used to form a 10 point scale measure of Wellbeing Adjusted Life Years (WELLBYs) see later.

Personal well-being is assessed through 4 measures, often referred to as the ONS4:

Next I would like to ask you 4 questions about your feelings on aspects of your life. There are no right or wrong answers. For each of these questions I'd like you to give an answer on a scale of nought to 10, where nought is 'not at all' and 10 is 'completely'.

Measure	Question
Life Satisfaction	Overall, how satisfied are you with your life nowadays?
Worthwhile	Overall, to what extent do you feel that the things you do in your life are worthwhile?
Happiness	Overall, how happy did you feel yesterday?
Anxiety	On a scale where nought is 'not at all anxious' and 10 is 'completely anxious', overall, how anxious did you feel yesterday?

If you are interested in comparing health and wellbeing at national or local level the IHME, PHE and DH websites provide insight into local, national and international comparisons.

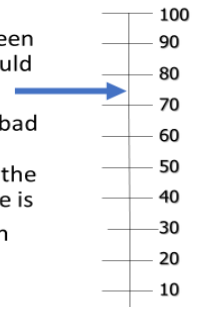
Applying Health Outcomes Measures to Your Project

- EQ–5D is the most commonly used instrument for QALY evaluation.
- EQ 5D assess health status in 5 dimensions
  - mobility, self care, usual activities, pain/discomfort, anxiety/depression
- Health Outcomes may be assessed at 3 or 5 levels:
  - no problems, slight problems, moderate problems, severe problems, and extreme problems
- Also applying a visual analogue scale:
  - 'the best health you can imagine' - 'the worst health you can imagine'
- A tool translates EQ5D scores e.g. 13223 into QALY outcomes
- In some QALY measures, 0 is equated with death but for EQ5D a negative outcome may represent a period of extreme bad health

The EuroQol site provides an introduction see 49. Please note you must register to use this tool.

Visual Analogue Scale used in EQ 5D

- Individuals are asked to indicate where on the line between the best and the worst imaginable health states they would rate a pre-defined health state e.g.
- We would like you to indicate on this scale how good or bad is your health today, in your opinion. Please do this by drawing a line from the box below to wherever point on the scale indicates how good or bad your current health state is
- You will see that this is only a general indication of health



The EQ 5D tool uses patients' perceptions of their health condition and values the outcomes by relating these values to the results of a "Visual Analogue Scale" by evaluating their health condition on a simple scale between the best and the worst imaginable.

This produces measures of the QALY health impact of improvements in health outcomes perceived by patients. The examples shown here illustrate the assumption that some health conditions may be worse than 0 (i.e. Death) but may be acceptable if endured for a limited period of time.

QALYs are the most used measures of health outcomes, based on surveys of subjective patient perceptions. Note perceptions change, for example, someone with quadriplegia may rate their condition very bad at first but may rate it higher in later years

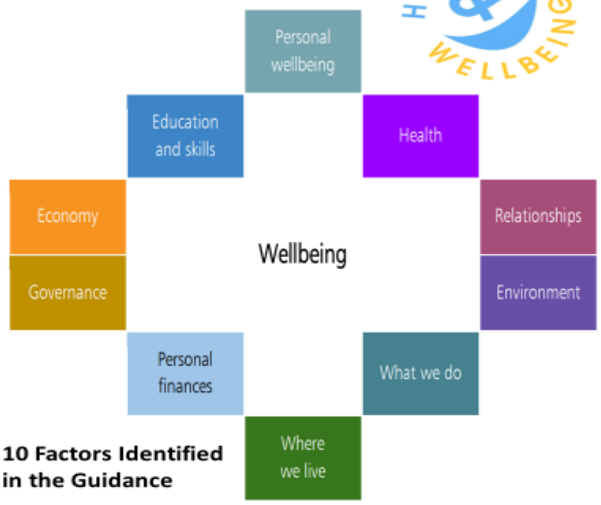
Examples of EQ 5D-3L Scores

Health State	Description	Valuation
11111	No Problems	1.000
11221	No problems walking about; no problems with self-care; some problems with performing usual activities; some pain or discomfort; not anxious or depressed	0.760
22222	Some problems walking about; some problems washing or dressing self; some problems with performing usual activities; moderate pain or discomfort; moderately anxious or depressed	0.516
12321	No problems walking about; some problems washing or dressing self; unable to perform usual activities; some pain or discomfort; not anxious or depressed	0.329
21123	Some problems walking about; no problems with self-care; no problems with performing usual activities; moderate pain or discomfort; extremely anxious or depressed	0.222
23322	Some problems walking about, unable to wash or dress self, unable to perform usual activities, moderate pain or discomfort, moderately anxious or depressed	0.079
33332	Confined to bed; unable to wash or dress self; unable to perform usual activities; extreme pain or discomfort; moderately anxious or depressed	-0.429

Think through the QALY gain produced by your service in terms of EQ 5D 3L scores, bearing in mind that your perception of health gains may differ from that of a sample of patients.

Measuring the Wellbeing Impact of Your Project

- Before you can measure wellbeing outcomes you need to describe the experience and impact on the patient/client and on their carers and others. You need to consider intended and unintended consequences, with and without the intervention proposed.
- The 2022 Treasury Green Book supplement "Wellbeing Guidance for Appraisal" suggests 10 key contributory factors.
- Wellbeing can be measured using the ONS 4 (see earlier) ti derive the Wellbeing Adjusted Life Years – WELLBYs impact of your project



A starting point for measuring the impact of an intervention or situation designed to improve wellbeing is to describe the patient/client and the factors that may cause them to have lower wellbeing before the intervention and higher after or during the period of the intervention. The factors identified by the Green Book Supplementary Guidance see 50, could lead to a change in wellbeing. You should consult all those affected by the project to ensure you measure what is important to them.

Measures of wellbeing commonly use the ONS 4 survey questions as shown at page 21. Scoring results of the four questions out of 10 gives a score out of 40 which is converted into a value out of 10 and a gain or loss of one unit over a one year period is called a WELLBY (a wellbeing adjusted life year), similar in concept to a QALY (quality adjusted life year) used in health impact assessment (but a QALY is 0-1).

The ONS 4 is sometimes simplified using only the first question on life satisfaction. This question and the third question on happiness reflect a "hedonic" or "pleasure" perspective. But a capability approach implies that wellbeing should free people to achieve personal and community goals this requires a "eudaimonic" approach, valuing contribution to society, the second question therefore ask how "worthwhile" people feel the things they do in their lives are. The third question on anxiety, may reflect how free people feel to pursue their personal and community goals. Thus I suggest that while ONS 4 is a useful standard it is important to develop measures of wellbeing relevant to the specific situation.

The "What Works for Wellbeing Centre" (see 51), provides a useful guide to measuring wellbeing impact and provide a list of some 44 outcome measures relevant to the 10 determinants of wellbeing shown above. It also serves as secretariat of the "All-Party Parliamentary Group (APPG) on Wellbeing Economics". This cross-party group of MPs and Lords in the UK Parliament that considers public policy on the measurement and value of wellbeing, so it provides some formal recognition of such measures.

To apply these measures surveys of key stakeholders should be undertaken before and after the intervention, it is also recommended that follow up surveys should be undertaken after 18 months and if possible 2 years. Surveys should cover all categories of stakeholder affected using randomized sampling (or perhaps all those most affected). While it is possible to ask people to remember and compare their situation before and after the intervention, this will of course bias the outcome.

Review the What Works for Wellbeing guide "Measure Your Wellbeing Impact " available at 51 and plan the steps necessary to evaluate your project, for a simple guide to outcome evaluation see 52.

Evaluating Mental Health and Wellbeing

The Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) see 53 is an important measure of this aspect of wellbeing. Guidance on how to apply it, can be found on the web site.

The tool applies a 14-item scale with 5 response categories, summed to provide a score from 14-70. The items are positive statements about how the respondent may feel such as "Over the past two weeks: "I've been feeling optimistic about the future". Responses may range from "None of the time", to "All of the time". There is also a short form (SWEMWBS) with a 7-item scale see below.

The Warwick-Edinburgh Mental Well-being Scale was funded by the Scottish Executive National Programme for improving mental health and well-being, commissioned by NHS Health Scotland, developed by the University of Warwick and the University of Edinburgh, and is jointly owned by NHS Health Scotland, the University of Warwick and the University of Edinburgh. Please note that, though they are free of charge, you will need to register to use these scales.

Below are some statements about feelings and thoughts. Please tick the box that best describes your experience of each over the **last 2 weeks.**

STATEMENTS	None of the time	Rarely	Some of the time	Often	All of the time	SCORING EXAMPLE
1. I've been feeling optimistic about the future	1	2	3	(4)	5	=4
2. I've been feeling useful	1	2	(3)	4	5	=3
3. I've been feeling relaxed	1	(2)	3	4	5	=2
4. I've been feeling interested in other people	1	2	(3)	4	5	=3
5. I've had energy to spare	1	2	(3)	4	5	=3
6. I've been dealing with problems well	1	2	3	(4)	5	=4
7. I've been thinking clearly	1	2	(3)	4	5	=3
8. I've been feeling good about myself	1	(2)	3	4	5	=2
9. I've been feeling close to other people	1	2	(3)	4	5	=3
10. I've been feeling confident	1	(2)	3	4	5	=2
11. I've been able to make up my own mind about things	1	(2)	3	4	5	=2
12. I've been feeling loved	1	2	3	4	(5)	=5
13. I've been interested in new things	1	2	3	4	(5)	=5
14. I've been feeling cheerful	1	2	(3)	4	5	=3
SCORING EXAMPLE	=0	=8	=18	=8	=10	SCORE =44

STATEMENTS	None of the time	Rarely	Some of the time	Often	All of the time
I've been feeling optimistic about the future	1	2	3	4	5
I've been feeling useful	1	2	3	4	5
I've been feeling relaxed	1	2	3	4	5
I've been dealing with problems well	1	2	3	4	5
I've been thinking clearly	1	2	3	4	5
I've been feeling close to other people	1	2	3	4	5
I've been able to make up my own mind about things	1	2	3	4	5

If your project produces mental wellbeing outcomes consider how you could apply this technique.

Evaluating Adult Social Care

Until 1999 evaluation of social care services for adults was focused on indicators of services delivered. This made it possible to evaluate cost effectiveness in terms of costs per service delivered. However, it did not recognise the varied impacts of social care on the wellbeing of clients and carers, which requires a cost consequences approach or social return on investment. Nor did it reflect underlying values of social care, which may be summarised as: supporting people's capability to take control of their lives. In 2001 the Government established the Social Care Institute for Excellence. In 2011 they published guidance by Jennifer Francis and Sarah Byford see 54. They suggest:

1. Economic evaluations should consider impacts on all stakeholders, including clients and their families.
2. Outcomes should be defined and evaluated from the perspective of clients and their carers.
3. Costs of unpaid care should be considered, if it is not valued then justification is required.
4. When studies in different settings are used as evidence, their applicability should be considered.
5. To address equity, the costs and benefits for different subgroups should be shown.

The 2005 green paper "Independence, Wellbeing and Choice", identified social care outcomes valued by older people. This formed the basis for the Adult Social Care Outcomes Framework and Toolkits (ASCOF) and (ASCOT) by the Personal Social Services Research Unit and University of Kent. These toolkits provide measures of Social Care Related Quality of Life (SCRQoL), in 8 domains for users and 7 for carers:

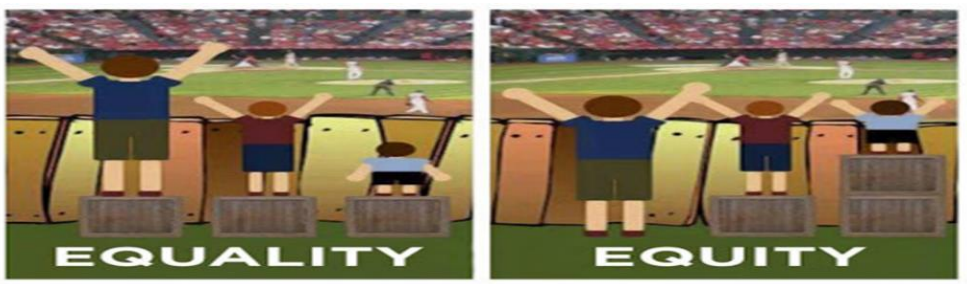
User measures (8)	Carer measures (7)
Food and Drink	Looking after yourself
Personal Cleanliness and comfort	
Accommodation cleanliness and comfort	
Personal safety	Safety
Occupation	Occupation
Social participation	Social participation
Control over daily life	Control over daily life
Dignity	
	Space and time to be yourself

There are different tools relevant to different situations and stakeholders. The ASCOT tools measure SCRQoL at 3 or 4 levels. They allow a weight to be applied to the scores achieved in each domain, reflecting the social preferences attributed to each outcome (based on surveys of social care users and informal carers). This provides a cost utility measure comparing the increase in SCRQoL score achieved before and after intervention or the "gain perceived by clients" comparing actual and expected scores.

A further capability-based quality of life measure was developed by a team from Birmingham University Investigating Choice Experiments for the Preferences of Older People – CAPability (ICECAP-O), It applies 5 dimensions: Attachment, Security, Role, Enjoyment and Control. ICECAP-O and ASCOT have similar levels of replicability to EQ-5DL but provide a wider view of wellbeing beyond health, suitable for residents of social care homes or clients of integrated care services for elderly people.

The evaluation report of the Children's Social Care Innovation Programme 2017, also takes a broader view of outcomes. Outcome measures similar to ASCOT are being developed. While social care outcomes are not intended to reflect social value in social return evaluation, this is a potential next step. **You can register at the ASCOT** web site at 55 **to share experience and participate in training.**

Equity as a Social Value



While it can be argued that everyone's health and wellbeing is equally important and therefore should be valued in the same way, it is also true that equity is an important objective for health and wellbeing services (see page 8). Progress toward reducing health inequity has been slow, with the result that people living in the poorest neighbourhoods will on average die 7 years earlier than people living in the richest. Life Satisfaction Scores vary across areas of England from 6.8 to 8.5 on a ten point scale (25% difference). The cost of treating illness and disease arising from health inequalities has been estimated at £5.5 bn per year. It leads to productivity losses to industry of between £31–33 bn each year. Lost taxes and higher welfare payments resulting from health and wellbeing inequalities cost in the region of £28–32 bn, as identified by Frontier Economics (2010) for the Marmot Review see 56.

The impact on Equity is most often measured as the percentage of those benefiting who live in the most disadvantaged 20% of areas, as shown by the Index of Multiple Deprivation (IMD) for England see 57. This works well for general services in urban settings. But other disadvantaged groups can also be identified such as people with disabilities, disadvantaged racial groups and isolated rural people, who will not necessarily be living in areas scoring high levels of Multiple Deprivation as shown by IMD scores.

A way of accounting for equity was developed by Matrix Consulting for Health England who asked 99 Directors of Public Health to value a range of health policies with different impacts on: the % of people the policy would Reach, the % from most Disadvantaged 20% and the Cost Utility (cost per QALY) of the policy. This was used to derive a three-dimensional Utility curve described by the equation:

- $\text{Utility} = e^{(-0.0000586x\ C + 0.0435987\ x\ R + 0.119895x\ D)}$

This formula developed by Matrix (2009) reflects DPH values (utility) in choosing between options that would improve cost utility (C), options that reach a higher proportion of people (R) and those that are most successful in serving people from disadvantaged areas (D). This varies with the extent to which each objective is satisfied (think how much you would value the first piece of cake you eat and how much you would value your fifth slice). It can be used to derive a weight that would be positive for projects with the same Reach and Cost Utility if more than 20% of beneficiaries are from the most disadvantaged quintile and a negative weight if there are less than 20%, i.e. a service less accessible to most disadvantaged. The weight is derived by dividing the utility score as above by the utility score that would arise if 20% of those served were from the most disadvantaged area. The Ready Reckoner tools I developed for NSMC and the Department of Health provide this weight as an option.

This approach is not accepted by NICE, who argue that health gains should be valued at the same level for everyone, though they do support analysis of impacts on disadvantage. An example of a balanced approach to cost effectiveness and equity by Brendan Collins and colleagues, can be found at 58. Public Health England suggest that it may be appropriate to weight outcomes for impact on disadvantage, though they do not explain how this is best done.

Consider the impact of your project on equity and quantify this as far as possible.

What is Social Capital: Is it part of Wellbeing?

- Social capital is the framework of values and norms that fosters bonds within community groups, bridges between groups and links with formal and informal organisations. – it is part of what defines who we are.
- Social capital is essential to health, wellbeing and equity
  - Most care (70%) is from community resources
  - Most behaviour is determined by community norms
  - Equity requires community trust and engagement
  - Low social capital results in greater loneliness, poor health and wellbeing
- Social capital was an invaluable resource in responding to the Covid Pandemic as support groups and neighbours sprang into action.

The UK Annual Population Survey assesses Social Capital by locality, sex and other determinants by asking some 320,000 respondents a range of questions about their lifestyle and feelings relating to four aspects of social capital: personal relationships, social network support, civic engagement, trust and cooperative norms.

A key measure used to assess social capital in neighbourhoods is the degree to which respondents feel: people in their neighbourhood can be trusted, are willing to help one another, get along with each other, belong to their neighbourhood and feel safe walking alone after dark. The results of the analysis of the 2020/21 Annual Population Survey summarised at 59 include:

- Most people felt positively about their neighbourhood, (65%) trusted others and felt a sense of belonging (63%) to their neighbourhood, people felt others were willing to help their neighbours (71%) and felt safe walking alone in their local area after dark (74%). Only 8% of people felt people do not get along with each other in their local area.
- Those with higher levels of social capital tended to live in rural areas, have better environmental conditions, were retired, identified their ethnicity as “White” or “Asian” and were from higher income socio-economic groups.

You will also find regional breakdowns of these results as well as an associated analysis of perceptions of Personal Wellbeing, this shows that self-reported health has the strongest association with all the measures of personal well-being, the second strongest association was employment status and the third was relationship status. Living alone is negatively related to personal well-being, regardless of relationship status. Ethnicity and religion were also important drivers of Life Satisfaction Scores.

For an example of a project to develop social capital for new migrant women and measure the social values achieved see 60. The NHS Confederation initiative on social value is available at 61.

Consider whether your project will contribute to or draw on social capital.

Wellbeing and

E S G

Ethical investment is an essential force for human wellbeing. The demand for ethical investment based on Environmental, Social and Governance standards can be traced back to UN Secretary-General Kofi Annan, who launched the U.N. Global Compact in 2000, an initiative based on a set of human rights, labour, environmental, and anti-corruption principles. In 2006 this led to the U.N.-backed "Principles for Responsible Investment". This recognises that most of the major companies in the world are owned by shareholders through pensions and other investments. If investors can be informed and mobilised this can transform corporate behaviour, after all, what is the point of investing in a pension if climate change and social unrest destroy the conditions for human wellbeing and make our world unsustainable?

Investment advisors are increasingly noting that even if investors are not themselves concerned with the impact on the wellbeing of planetary health and wellbeing, others are, and so the value of their investment might decline. They warn that there is a risk that governments might take action to protect the environment and regulate harmful health and social impacts and failures of ethical governance, again risking the value of any investment. Thus companies like S&P assess and monitor compliance with their interpretation of ESG standards see 62 and consulting companies such as McKinsey and PwC advise their clients on how to demonstrate high ESG standards. The B Corp Movement is a global and regional network of not-for-profit organisations developing standards and tools to help businesses monitor their impact on wellbeing and the environments and to demand legislative changes for social accountability, There are so many standards and sources of advice that the European Securities and Markets Authority, the EU's securities markets regulator, has called for legislation to clarify and define ESG.

Some groups are taking positive action to apply ESG ethical standards. An example is shown by FAIRR (Farm Animal Investment Risk and Return) working with a network of investment companies managing $66 trillion of investments. They engaged with leading international restaurant chains to raise awareness of the risks posed by the factory farming of animals. When made aware of the dangers posed by factory farming many international restaurant companies adopted standards to guard against the risk to their customers and their businesses. Another example of ESG standards is set out in the Alan Barlow's book "Purpose Delivered" which shows how ethical governance can lead to both greater benefits to society and higher profitability.

As investment funds, consultants and international firms jump on this bandwagon there is a danger of "greenwash" –it becomes a public relations exercise, rather than positive action. So it is important to move beyond promises of ESG compliance to develop management tools to measure and manage action that threatens environmental, social and governance standards and ultimately human wellbeing.

You may wish to consider your own definition of ethical ESG investment, how it relates to human wellbeing and most importantly how it can be applied in practice and monitored in public.

Cost Effectiveness

- Cost effectiveness compares the cost to the provider organisation
- To measures of outcome which reflect the organisation's objectives
- They therefore reflect the values of the organisation
- But not necessarily the wider goals of society

Cost effectiveness compares the cost to the organization providing services to the outcomes achieved per unit of QALYS, SWEMWBS, ASCOTS, WELLBYs or other outcome units.

NICE guidelines, see 63 do not specify a cut off point for intervention to be cost effective for the NHS. But they suggest that interventions with an incremental cost effectiveness ratio of less than £20,000 per QALY in 2012 prices are effective, while from £20,000 to £30,000 (and even up to £70,000 in special cases) factors such as: impact on patients who cannot benefit from other interventions, the uncertainty of health outcomes, impact on wellbeing of patients and carers and benefits of technical innovation may be decisive. There have been studies showing that some QALY outcomes can be achieved at lower incremental costs, however, while it may improve efficiency to focus on such areas NHS services cannot neglect health needs, where it is not possible to achieve these outcomes.

There have also been studies which estimate the correspondence between ASCOT measures of Social Care Related Quality of Life outcome measures and QALYs see 64 , these show a close correspondence. (in detail EQ-5D-3L= −0.04044 + (0.964883xASCOT)). Another study see 65 has estimated incremental costs to social care services of achieving one ASCOT or QALY outcome at about £19-21,000, considering direct impacts on service users and £15-16.000 if impact on carers is taken into account (in 2014 prices).

Cost effectiveness in improving wellbeing can be assessed using WELLBYs derived from a survey of Life Satisfaction. In practice there are several different questionnaires that can be used to assess life satisfaction in WELLBYs before and after an intervention. The simplest measure is to use the first of the ONS 4"Overall how satisfied are you with your life nowadays?" on a scale of nought to 10, but as noted this is a limited hedonic view which does not consider the value to the individual and society as demanded by John Stuart Mills (see page 2).

I suggest this measure should be refined using the complete ONS 4 question and related to the specific impact of a project on the quality of the lives of individuals and communities. Questions can be developed using a Social Impact Matrix to enable respondents to value outcomes in terms of their aims and contribution to society.

While there are various rating systems for assessing ESG outcomes there is no clear unified measure that can be used for cost effectiveness a cost consequences approach will be needed to show the impact of investment on a range of ESG outcome measures.

How would you use these values in assessing cost effectiveness ?

Managing Social Values

Using the HACT

Social Value Insight Tool

During the 1990s the evaluation technique "Social Return on Investment" was developed in the USA to measure the performance of not-for-profit organisations with social goals. This approach spread to Europe and specifically the UK, where in 2009 the Cabinet Office published a Guide to Social Return on Investment available at 66 to compare the full costs to society to the social values created. It can be argued that there is no reason why the same approach should not be applied to private sector activity.

One of the key supporters of this approach at the Cabinet Office, Daniel Fujiwara, later helped the Housing Associations' Charitable Trust (HACT), to develop estimates of the social values arising from a range of factors that relate to wellbeing such as: membership of a social group, keeping fit, frequent mild exercise, feel belonging to a neighbourhood, feel in control of life and regular volunteering. The HACT social value database showed values derived from multiple regression analysis of British Household Survey relating household income and behaviour to Life Satisfaction Scores (LSS).

This approach has now been revised to apply Fujiwara's three stage approach see 67 to using wellbeing outcomes to value non-market goods. This takes into account both the marginal value to recipients of increases in wellbeing and the marginal value associated with increased household income. It notes that LSS scores relate to relative levels of household income and this is best represented by an association with the Log of incomes. This produces lower values for wellbeing changes, which are more closely aligned to values derived in other ways.

The current HACT "Social Value Insight Tool" provides a range of measures of the expected wellbeing value of services and activities relevant to Housing Associations, but also to other community organisations, such as food banks, homeless shelters and advice centres. More than this, the tool provides a way of monitoring, costing and evaluating the wellbeing value created by the organization.

This shows the potential to apply the approach more widely across public, private and community organisations as a way of tracking measuring and valuing impacts on service users, staff and other stakeholders (in terms of Life Satisfaction/ Wellbeing). A similar approach might also be applied to broader community and environmental issues. It could provide a tool for Company Boards to enable them to manage the Environmental, Social and Governance impacts for which they are responsible.

Please note that, while the HACT resource is free, for Housing Associations and some Community Organisation, you need to register to use it. And there may be costs for users You may also wish to consider signing up for training in the use of these resources see 68.

While these are valuable tools you may find that the complex explanation of the rationale for the three stage approach is rather beyond the understanding of most users. Consider the need for a consensus on how social values can be ascribed to factors that increase wellbeing, and, equally important, how they can be explained to the public and politicians.

Social Costs and Values

- Social cost benefit analysis measures the Social Return on Investment
- Cost should include the incremental contribution of all stakeholders
- And the value of benefits should include all outcomes
- Including intended and unintended outcomes
- Over the lifetime of the project and its outcomes
- Discounted to current values

For cost benefit analysis or social return on investment, the wider social value of a QALY, ASCOT or WELLBY can be estimated in three different ways: you can ask people what they would pay to achieve a year of better health or better wellbeing (1 stated preference or willingness to pay), you can observe how much people spend to improve their health or wellbeing (2 revealed preference), or you can match how the intervention improves their wellbeing with the increase in household income associated with the same level of increase in reported wellbeing (3 subjective wellbeing value). This approach has recently been revised by its originator Daniel Fujiwara applying a "Three- Stage Wellbeing Valuation" approach. this considers the value of wellbeing outcomes in terms of increase in income associated with a marginal change in Life Satisfaction Scores (wellbeing) equivalent to the impact of the intervention, derived from a multiple regression analysis of factors affecting wellbeing and household income. These different approaches are summarized in a discussion paper released by the Treasury see 69 . in 2006 HACT and Simetrica, estimated suggested social values for Mental Health Wellbeing scores SWEMWBS see 70, this may be updated using the three stage approach.

The Treasury Green Book see 71.suggests a social value of £70,000 per QALY in 2019 prices. The Green Book Supplementary Guidance (see 72) notes that a change of 1 QALY outcome from "as bad as death" to "no health problem" over a one-year period can be equated to a 7 point change in Life Satisfaction Score, or 7 WELLBYs. If a QALY is valued at £70,000 in 2019 prices this equates to a value of some £10,000 per WELLBY. Alternatively, if a WELLBY is valued using the subjective wellbeing approach, this suggests a value of some £16,000. The guidelines suggest using a value of £13,000 per WELLBY in 2019 prices as the mid-point of these estimates. There is growing consensus on the use of these values.

Improvements to health and wellbeing may be only one outcome of an intervention, for example, while volunteering can increase the wellbeing of the volunteers, it may also benefit society by replacing the need for public services for those benefiting from the service provide by volunteers. Thus the time input of volunteers could be considered to generate a benefit for agencies that would otherwise need to provide staff time for the services. This time could be valued at the Minimum Wage equivalent cost. The use of economic and social return on investment is demonstrated by the House of Good Report (this uses a lower value for WELLBYs than recommended by the Green Book) see 73. As shown in the example pages the outcome values and Social Return on Investment could be adjusted to apply the Treasury approved value of WELLBYs.

It is crucial to explain the assumptions and sources of values used to evaluate health and wellbeing.

Avoid bias in assessing Health and Wellbeing

- Your assessment of health and wellbeing may be biased because:
  - You are hoping for positive outcomes
  - You ignore possible negative outcomes
  - Respondents want to participate so score low at the start
  - And score higher health and wellbeing later to please the researcher
- So be aware of your own natural bias and that of the respondents
  - Make sure your measures are comprehensive
  - And are not the result of anyone's bias

It is important to ensure that as far as possible your evaluation avoids the possible bias you bring as a researcher. For example you may be assuming that respondents will benefit from any changes introduced by an innovation. If so you may be asking questions that assume certain attitudes of the respondents and you may ignore possible negative responses. So explore your own attitudes and assumptions at the outset of an evaluation and try to evaluate all possibilities.

You should also be aware of potential bias introduced to respondents by the evaluation process. For example, low health and wellbeing reported at the outset of an evaluation may be their way of a signaling their need at the start of a project, in other words they hope to show that they should participate in the project. Higher outcome scores reported at the end of a project may signal their enjoyment of participating in the project (rather than real benefit) and/or their desire to please the researchers/staff.

The bias due to participation in a study is well known as "The Hawthorn Effect" see 74 to avoid this you should consider using a range of different ways of evaluating outcomes so that the results are not solely dependent on responses to questions, try to measure outcomes in ways that are not directly related to the project you are evaluating and perhaps use a "control group" to shown the difference between those benefiting from an intervention and others.

Nevertheless despite your best efforts to avoid personal and respondent biases they may still affect your evaluation outcomes. It is therefore important to acknowledge possible sources of bias in your findings.

Make sure you think through and reveal potential bias in your evaluation of outcomes.

Values for Money Analysis for Health and Wellbeing

- Is not an exact science
  - Different techniques produce different results
  - Long term outcomes depend upon assumptions
- It requires both descriptions and measures
  - Qualitative and quantitative methods
- But most importantly a shared understanding
  - Of what health and wellbeing means for people
  - So engagement must be part of the process
- So make clear measures used and assumptions

As I hope you will have realized the economics of health and wellbeing is an emerging field, there is debate as to the assumptions and estimates of values to be applied and different evaluation methodologies are still being developed. For this reason it is essential to state the assumptions and estimates you use.

This requires both a qualitative description of the intervention and the outcomes achieved and measures of the volume and value of outcomes. It must build a shared understanding of what health and wellbeing means for the people concerned. In this sense evaluation is part of the engagement process to involve people and manage the process of change and its outcomes.

Short- term, estimates of the outcomes of health, social care, behaviour change or other services may be derived from academic studies or from specific surveys to assess perceptions of health (in QALY terms) or Life Satisfaction (in terms of WELLBYs) or other measures. But the impact on long-term health and wellbeing is difficult to predict as they always depend upon assumptions about subsequent behaviour and conditions. Even when long term studies of outcomes are available it is not always clear that they apply, because the results of intervention depend not just on what is done but how it is done.

For all these reasons it is essential to explain clearly the approach taken and the estimates and assumptions applied in any evaluation of health and wellbeing. Evaluation should be thought of as providing a basis for shared understanding and decisions rather than impersonal judgement. Discussions with stakeholder should ensure that the method and assumptions are understood. If there are different views **sensitivity analysis** should be used to show the effect of changing assumptions on the outcome.

The growing science of wellbeing and happiness continues to develop a new understanding of human progress, in this country and worldwide. Much is owed to Lord Layard who has been a champion and pioneer in this field see his latest report on world wide happiness at 75.

Essentially socio-economic analysis is a way of applying an agreed framework of logic and values. I hope that in the next few years greater consensus will emerge as to the relevant assumptions and values to apply to health and wellbeing outcomes as Health and Social Care services and support for communities are jointly commissioned by Integrated Care Boards, as required by the 2022 Health and Social Care Act. This is a political as well as a technical decision, but in the words of a famous management guru Peter Drucker “If you can't measure it, you can't manage it.” And to quote our most famous economist John Maynard Keynes, “It is better to be roughly right than precisely wrong”.

Make sure you explain the approach and evidence base you use for your socio-economic evaluation.

Evaluation and Change

- Evaluation by itself will not achieve the changes in practice required
- Equally mere rhetoric without evidence will not convince professionals
- Evaluation must be part of a process of leading change
- This will require you to:
  - Respect the values of the organisations and professionals involved
  - Engage all those affected in the evaluation and change process
  - Develop your own skills in leadership based on your strengths and weaknesses
  - Understand the perspectives of others – patients/professionals /carers /funders
  - Develop both convincing evidence and arguments for change
  - Show the courage and persistence required to achieve change

Evaluation is crucially important for the management of the changes required to achieve the transformation of health and care services and the provision of community support. But it is not enough to demonstrate in theory that certain changes would be beneficial. The staff delivering services, patients and carers must all be persuaded and helped to contribute to new ways of working. The accompanying module for Health and Care Professionals Leading Evaluation and Change provides a starting point for thinking through the steps necessary to plan and lead change.

It is important to note that this requires leadership at every level to engage people in the process of change while respecting the values of the NHS, Local Authorities, the professionals and the people they serve. Resources that could help you to think through the leadership of change include:

The NHS England (2019) "Change Model at 76 poses key questions in 8 areas relevant to managing change, as shown in this diagram:

NHS England (2012) "Leading Change, Adding Value, A framework for nursing, midwifery and care staff" at 77 provides guidance relevant to managing change led by Nurses and AHPs.

My own courses: "Leading Innovation" and "Leading Change"at 78– provide material for two sessions you could lead yourself.

If you spot any improvements that can be made to this learning tool or need more explanation contact me at g_c-lister@msn.com I will be happy to help and to learn from your experience.

Resources

This discovery learning programme is intended to provide readers with an introduction to a wide range of resources that can help in socio-economic evaluation for health and wellbeing. I have provided links to a range of resources I have found helpful, but these continually develop, please check latest versions and let me know of any new sources. Resources are listed in the order of the pages they are introduced.

Page 2

1 Eamon n Butler (2011) "Condensed Wealth of Nations" The Adam Smith Institute available at https://www.adamsmith.org/the-wealth-of-nations/

2 Graham Lister, (2016) "An Introduction to Behavioural Health Economics" available from https://www.building-leadership-for-health.org.uk/evaluating-behaviour-change/health-trainers-health-economics-behavioural-economics-new-media/

3 J J O'Connor and E F Robertson (2003) "Florence Nightingale Biography" University of St Andrews Scotland available at https://mathshistory.st-andrews.ac.uk/Biographies/Nightingale/

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4 Office of Budget Responsibility (2018) "Extract from the July 2017 Fiscal risks report: Health and adult social care services" available at https://obr.uk/docs/dlm_uploads/Healthandsocialcare.pdf

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5 Measure Wellbeing, What Works for Wellbeing "World Health Organisation Five Well-Being Index (WHO-5)" this provides a link to download the index available at https://measure.whatworkswellbeing.org/measures-bank/who-5/

6 Dahlgren and Whitehead (1991) "Policies and strategies to promote social equity in healthy" available at https://core.ac.uk/download/pdf/6472456.pdf

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