Society's return on investment

A proposed standard for measuring and unlocking the true value of health and care

December 2016

EY
Building a better working world

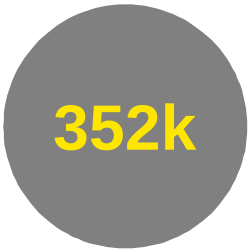
About this paper

From 2015 to 2016 EY worked with Macmillan Cancer Support on their strategy for 'A Cancer Open London'. We undertook a literature review and modelling exercise to quantify the costs and benefits of innovative social interventions informed by sources such as the UK Social Value Bank and the Manchester New Economy Model. This paper outlines a generalised approach to understanding Society's Return on Investment for new health and care initiatives.

A key aspiration for today's health leaders and policy makers is to move health and care beyond the traditional biomedical model. Excellent clinical care needs to continue, but also needs to be augmented with broader social and preventative initiatives which support the whole person. For example, improving clinical prognosis for cancer patients has exposed a whole new set of needs for people living with and beyond cancer. One of the key obstacles is that new social interventions rely upon far broader networks of organisations across the public, private and voluntary sectors working together than traditional clinical treatments do. These organisations often struggle to work together as they operate in different regulatory and economic climates and have different objectives. What is currently missing is a universally accepted approach to deciding whether initiatives are worth investing in from the perspective of society as a whole, which also illuminates each organisation's potential costs and benefits and what it would take to get them to engage. Society's Return on Investment (SROI) is a way of capturing and measuring the full range of benefits – financial, economic and personal – across all sectors and stakeholders. This paper proposes a standard approach to calculating SROI which can form the basis of consistent business cases at the system and organisational level. Our view is that this is an essential enabler to transforming health and care.

Cancer in the UK

Cancer is no longer purely an issue of clinical treatment; it is becoming a more complex social issue. Many of the challenges facing people affected by cancer, and their solutions, are bearing an increasing resemblance to those associated with areas such as mental health and wellbeing, care of the elderly and other long term conditions.



352,197 new cancer diagnoses per year, and 163,444 deaths[1]

10 year survival at rates more than doubled over the last 40 years to 50%[2]

2.5mn people are now living with cancer - this has grown by 400k in the last five years[3]

25% of diagnoses as a result of trip to A&E, disproportionally BMEs[4]

E.g., women recovering from breast cancer 1.5x more likely to be unemployed[5]

25% of survivors live with conditions like pain, fatigue and mental health issues[6]

Health and care are changing rapidly; it's time to think more about people, less about patients

As recognised in the NHS Five Year Forward View, the healthcare market, and the health needs of people, are rapidly changing. Some of these changes are deliberate improvements to the way in which we care for people, and others are driven by shifting demographics and technological developments.

We believe that one of the key changes over the next five years will be a shift from thinking about the healthcare an individual needs for the small amount of time they spend as a patient, to thinking more about their health and other needs for the majority of the time they spend as a person.

Cancer care is a good example of this. Cancer survival rates have more than doubled over the last 40 years to 50% of patients surviving for more than 10 years post diagnosis[7]. This, however, creates a new set of challenges. Through a series of engagement events – 'Capital C taskforce' – Macmillan illuminated these challenges for people affected by cancer living in London. These included the isolation and loneliness caused by the disease and exacerbated by the fragmented nature of London's communities. Another challenge was financial burdens, such as difficulties in returning to work once treatment has ended or accessing benefits. Even areas where the main concern is improving clinical outcomes, such as improving early diagnosis, dealing with complex social issues must be part of the solution. In England 25% of cancer is diagnosed – too late – as a result of a visit to A&E. In London the equivalent figure is 30%, with some minority ethnic communities disproportionately affected as they are often frequently excluded through traditional public health programmes[8].

Macmillan's proposed response is the creation of 'a cancer open London' – a London where the city's diverse resources are leveraged to help people affected by cancer. This includes:

- Subsidised transport
- Coaching back into work
- Repurposing the Corporate Social Responsibility (CSR) agenda of large corporations
- Peer support and advocacy enabled by technology
- Community outreach and championing
- Increased access to cultural and entertainment assets

Case study: the wide ranging needs of a person living with and beyond cancer (Susan's story)[9]

I was diagnosed with mouth cancer two years ago. At the time of diagnosis I was in **extreme shock**. The hardest part was having to undergo treatment immediately; having really **invasive oral surgery**.

Because of the type of cancer I had the treatment plan was a slow process as I had to have multiple surgeries around my mouth and I had to have skin removed from other parts of my body to recraft areas around my mouth. I was therefore left with considerable **scarring** around other parts of my body. The **physical and visible changes** have greatly affected my **confidence** and **self-esteem**.

Although I live with my daughter, over the past couple of years I feel that I have become really **isolated and lonely**. I found that people who once knew me were uncomfortable to approach me because my illness is visible.

At the same time I was going through this I was really **anxious and worried** about a benefits assessment that I had to attend. During this time I was **unable to speak** due to the surgery so had to communicate through text messages or writing things down. I felt really vulnerable about the idea of going to the **benefit assessment** mainly because I would not have been able to communicate my problems on my own.

I also felt that as a woman my illness has affected my views on my **'physical image'**. The **stress** has caused me to have **alopecia** and this has again had a profound effect on me as I have started to feel really **self-conscious**.

However, to affect this change Macmillan faces a huge challenge of its own, as delivering this strategy will require the coordinated cooperation of organisations as diverse as:

- Taxi firms
- Community and religious groups
- Museums, galleries and cinemas
- Large and medium sized businesses
- Individual volunteers
- Other voluntary sector organisations
- Local government and the NHS

To enable investment in new types of care, we need to better articulate their value

When a private sector organisation seeks to raise funds from a bank or private equity fund there are well established ways of them presenting their value proposition such as cash flow forecasts, return on investment (ROI) or payback period calculations. While the particular assumptions and evidence underpinning a forecast ROI are heavily scrutinised, the validity of ROI as a means of demonstrating value in itself is rarely called into question. This is of huge benefit as it instantly establishes the terms under which a deal can be done. Should the ROI be high enough compared to established benchmarks, and should the evidence supporting the calculation be viewed as credible, the parties can move forward. Because the measures of success in business tend to be financial – revenues and profits – the financial forecasts which make up the ROI are also a good basis for later evaluating whether the investment has been successful.

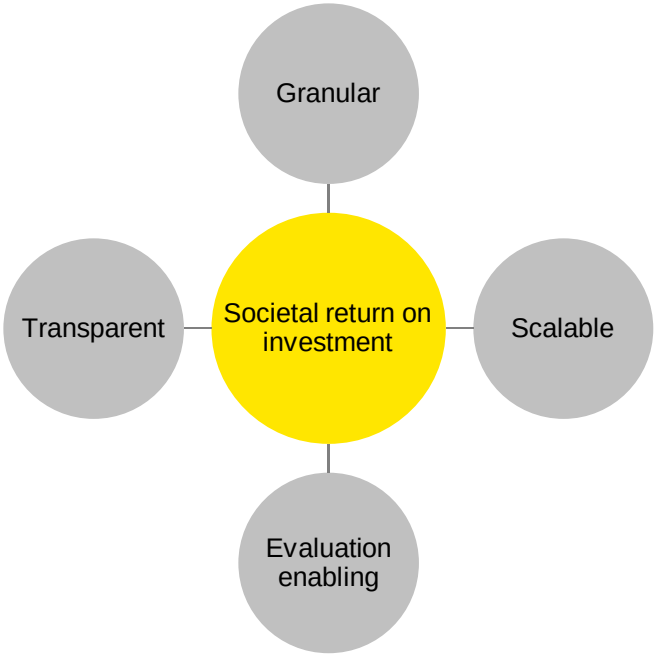
Similarly, in the public sector, the Treasury Green Book sets out a standard approach to calculating economic returns when applying for funding. Similarly NICE has long established cost-benefit measures (e.g., QALYs) to determine whether the NHS should fund new drugs and medical devices. For these traditional healthcare interventions randomised control trials are an effective means of evaluating efficacy.

For programmes such as that described in Macmillan's strategy for a cancer open London, no such suitable framework exists. Approaches such as ROI focus too myopically on the financial costs and benefits to single organisations to engage a whole system of complex stakeholders. Nor do they capture the range of benefits from such initiatives – from real cash savings to the NHS and local authorities to reducing the isolation, loneliness and anxiety experienced by people affected by cancer. Conversely, traditional economic and social impact assessment approaches provide an overarching view of the costs and benefits of new initiatives, but they do not provide the granular, organisation level information required to align the costs and benefits of new initiatives across multiple stakeholders.

Because the expected benefits of such interventions are often qualitative in nature, and because they are often difficult to isolate, evaluation is also challenging compared to something like the benefits of a new drug. Nevertheless these benefits are real.

Through our work with Macmillan we identified the need for a new approach – building upon the best elements of these traditional approaches – to considering society's return when investing in new health initiatives, especially those with a complex, social aspect. In order to drive change and enable multiple, complex stakeholders to work together, we determined that this approach to Society's Return on Investment has to be:

- **Granular:** a wide range of costs and benefits need to be measured in detail to be a meaningful basis for decision making to organisations individually and collectively.
- **Transparent:** the evidence upon which assumptions regarding the efficacy, costs and benefits should be clearly articulated and their relative strengths and weaknesses honestly assessed in order to build trust across complex groups of stakeholders.
- **Scalable:** the approach needs to take account of the population that initiatives are to be applied to, so it remains relevant as it is applied to new organisations and new geographies.
- **Evaluation enabling:** expected benefits need to be measured in terms of both financial and non-financial impact, as the latter can often be more easily isolated and measured; enabling retrospective evaluation.



What we found: the benefits we usually measure are just the tip of the iceberg

Given the stated difficulties in measuring the costs and benefits of new social models of care, much less implementing them, it is natural to question whether they are worth pursuing at all.

Our work with Macmillan (as summarised in the graph below) suggests the scale of potential benefit to the health system, to the wider economy, and to individuals. This demonstrates that these opportunities are certainly worth pursuing.

When considering the benefits of out of hospital care the NHS is often focused on a narrow set of cost reduction opportunities centred on managing down in-hospital demand. Our research uncovered many such opportunities related to supporting people affected by cancer, such as reduced use of A&E, fewer missed outpatient appointments, and earlier diagnosis leading to better reduced treatment costs. We found that these direct, financial benefits to the health system would save £2.5 for every £1 invested if implemented. However, they are the tip of the iceberg.

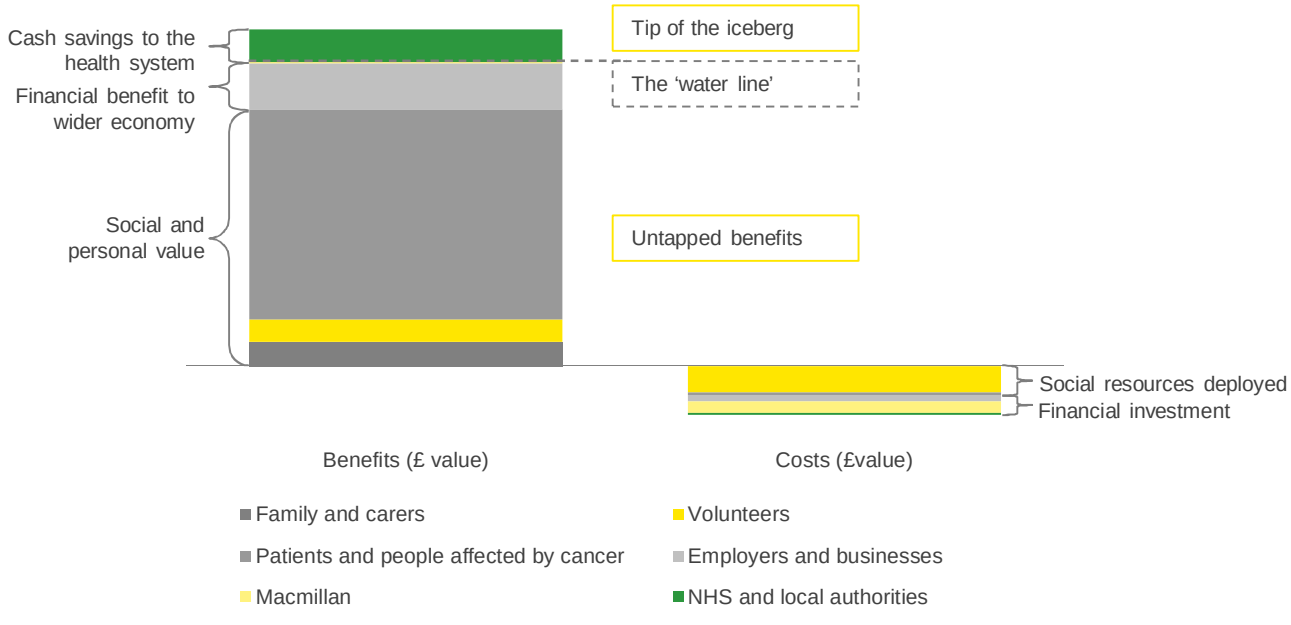
When social costs such as the donated time of volunteers, and social benefits such as reduced depression and anxiety, greater sense of agency and the economic and experiential benefits of returning to work are considered the programme returns increase to £7 for every £1 invested.

This scale of untapped opportunity is not unique to supporting people with cancer. For example, in their 2012 paper Pro Bono Economics found that while the direct cost of treating people with eating disorders in England is £80mn-£100mn, the economic impact is £0.2bn-£2.9bn per year, and the social cost in terms of lost lives and health is £1.0bn-£6.6bn[10]. Across a range of conditions the opportunity is vast.

However, our work with Macmillan did also reinforce our view that implementation of this type of programme is made challenging by misalignments of costs and benefits. For example, the largest input or 'cost' of implementation is the donation of their time by volunteers. This is a key source of benefit accruing to the NHS and the wider economy, but the public sector has historically struggled to harness volunteerism while the private sector has very little experience of this. Conversely the largest cash cost of implementing the proposed interventions would fall to Macmillan. However, despite being the UK's sixth largest charity, Macmillan's entire turnover (c. £214mn for 2016[11]) is equivalent to that of a small CCG. The voluntary sector acting alone simply does not have the resources to implement at scale.

Despite this there has been significant interest and engagement in the Cancer Open London agenda since we completed our work. All this reinforces the need for a granular and transparent approach to measuring costs and benefits.

Illustrative example: the full societal costs and benefits of providing Macmillan's seven proposed interventions to an individual



What we learned: our generalised approach to calculating Society's Return on Investment

Through our work with Macmillan we have developed a method for calculating SROI which we believe satisfies the requirements of a standard approach.

The diagram below sets out how SROI (the yellow chevrons) fits into a wider context of designing and implementing new care initiatives.

When we began our work, Macmillan had already made substantial progress in understanding the unmet needs of people with cancer which they were seeking to address, and had begun designing initiatives to meet these needs.

As a rule of thumb this is the ideal juncture to begin the SROI work as there is sufficient information to guide and focus research efforts, but there is also still scope to influence the final service model based on the research findings.

As we developed our SROI model, we worked closely with a range of teams from Macmillan who would have eventual responsibility for implementing the initiatives. This type of joined up working is critical to the success of this type of programme, as it helps to ensure that the services, costs and benefits described in the SROI model reflect reality.

The involvement of evaluation teams from the outset is also crucial. All too often in healthcare we evaluate initiatives based on the data we have, rather than defining the data we collect based upon how we want to measure outcomes. Engagement with evaluation teams allows us to identify gaps in current data collection and take action to fill them early enough to take baseline readings before initiatives are put in place and then measure success against them. The usefulness of data evaluation teams already hold to the SROI process should also not be underestimated.

The three steps through which we undertake the SROI calculation itself are:

- Defining the costs and benefits for each potential initiative and classifying these
- Researching likely efficacy and impact of each intervention
- Applying costs and benefits across the relevant population to understand society's return on investment in aggregate

Over the next three pages we describe the key features of each step in more detail.

Calculating SROI step 1: defining and attributing types of cost and benefit

The first step in our approach is to take the qualitative ideas about what the costs and benefits of the initiatives under consideration are and:

1. Categorise them
2. Assign them to particular organisations or groups
3. Define KPIs to measure benefit and form the basis of valuation

Categorising costs and benefits

The diagram below shows our framework for categorising costs and benefits. In getting a range of individuals and organisations to work together it is important to build trust by being extremely clear on:

- Which of these are real cash benefits/costs stakeholders within the system under consideration;
- Which are financial benefits/costs but rest with a broader range of stakeholders; and
- Which are non-financial benefits/costs to society but can be expressed in terms of financial value.

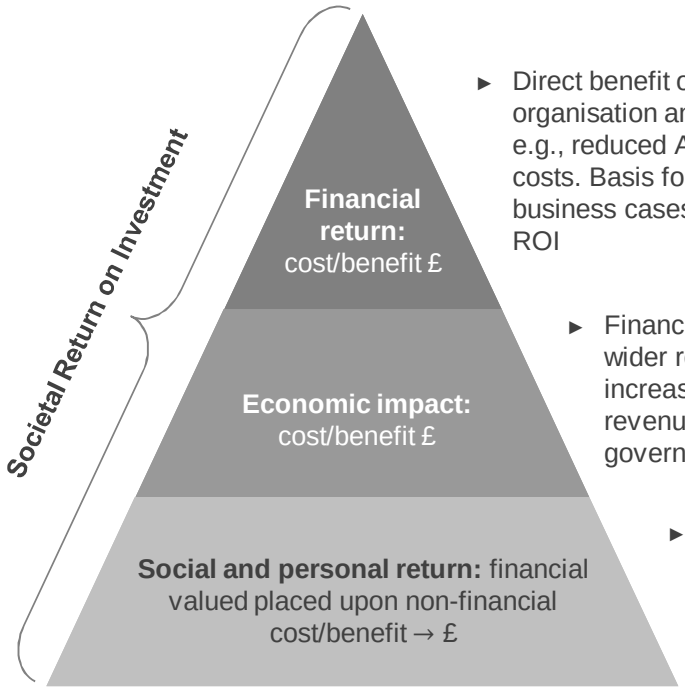
This helps make clear the distinction between what is worth doing due to the value it creates for society, and what the implications are for resource use and constraints in narrower, budgetary terms.

Assigning costs and benefits

If the aim of establishing a standard approach to forecasting SROI is to enable a wide range of stakeholders to work together, then defining very clearly who we'd expect costs and benefits to accrue to under current funding and governance arrangements is an important enabler. Such attribution is an enabler of meaningful conversations on how to realign those costs and benefits. Where possible these will be individual organisations (e.g., a government department) or groups (e.g., people with cancer aged over 75, care home providers). For example, understanding that the benefit of reduced demand for hospital services accrues to the NHS as a result of a local authority investment in sexual health screening through reduced STI infection rates is a good starting point for negotiating joint funding.

Defining KPIs to support valuation and evaluation

Making benefits measureable in non-financial terms supports both later evaluation of the success of an initiative, but also helps underpin forecast valuation for a business case. For example; additional months of employment for a person recovering from cancer can be measured in its own right (and if a baseline level of employment is captured, impact on this evaluated), and it can also be valued in economic terms.



- Direct benefit or cost to own organisation and key partners, e.g., reduced A&E use or staff costs. Basis for internal business cases and traditional ROI
- Financial benefits and costs to the wider region or UK system, such as increased economic output and tax revenues. Of interest to central government and devolved bodies.
- E.g., gain in quality adjusted life years, reduced anxiety and depression, the cost to volunteers of donating their time. Articulates achievement of core mission to partners and the public.

Calculating SROI step 2: researching impact and efficacy

Once we have understood qualitatively the types of cost and benefit expected to result from each initiative, the next step is attaching a financial value to them as accurately as possible. This involves research into the likely efficacy, impact and resource requirements of the interventions under consideration using the best sources available.

However, as these interventions are often new and innovative, the level of evidence available can be highly variable. As such it is important that the research method is rigorous and systematic, and that the findings are presented in a transparent and consistent manner. It is important not to mislead partners or the public over how certain or scientific the findings of an analysis are or trust will be lost. This means actively identifying any weaknesses or gaps in the evidence base. As highlighted by the quote below, this type of approach is regarded as good practice in the most scientific of fields.

> *"You should not fool the layman when you are talking as a scientist … I am talking about a specific, extra type of integrity … bending over backwards to show where you might be wrong."*[12]
>
> ***Richard Feynman, Nobel Prize winning physicist***

Moreover, while this level of honesty in exposing the weaknesses in one's own work is likely to feel uncomfortable, it can often become a virtue. Our experience is that this type of honesty will encourage partners to help identify alternative sources or assist in gathering new evidence, generating collaboration and engagement.

Our approach to self assessing the quality of each piece of evidence is through a simple hierarchy of evidence framework. As per the diagram opposite, our standard framework has two axis – credibility and proximity of evidence.

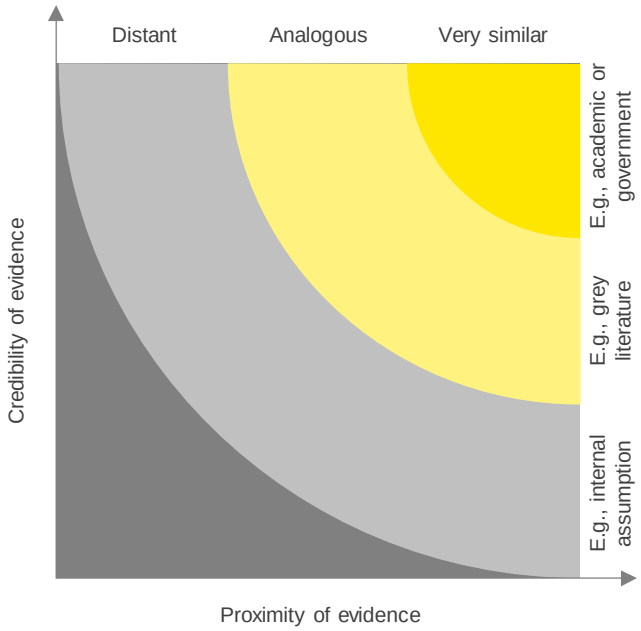
Credibility of evidence

This is an assessment of the sources used. We would view the most credible sources to be governmental or peer reviewed academic sources, such as the UK social value bank and peer reviewed research papers.

Grey literature from bodies such as think tanks and voluntary sector organisations are less robust but often the best source available when considering innovative interventions.

Internal assumptions, inferences and one off case studies are the least credible sources and should only be used where absolutely necessary.

Hierarchy of evidence



Proximity of evidence

Social interventions are very different from something like a drug trial, in that there are shades of grey as to how relevant a piece of evidence is. Where trialling drugs only a trial of that specific drug could be considered evidence of its efficacy, whereas for social interventions it is almost impossible to create two identical services, and as such evidence from services which are as similar as possible needs to be used to estimate potential costs and benefits. Proximity of evidence is a measure of how similar the initiatives the evidence is based upon are to those under consideration.

For example where a peer support service for people diagnosed with cancer is under consideration, there may be no credible evidence of similar services being offered to people in similar circumstances. Instead the most proximate evidence available might be a peer support service for people recovering from a mental health crisis. Where such extrapolations are made they need to be explicit.

Trade offs between credibility and proximity

Where multiple sources of evidence are available it may be unclear which is best to use. We suggest pragmatic compromise trading off credibility and proximity of evidence and presenting a range of values where possible. The rationale for selecting one source over another should always be clearly stated.

Calculating SROI step 3: application to a population or programme

For ease of comprehension, the valuations derived in step 2 are often best presented at the level of each intervention applied to a single suitable individual. However, when developing a business case it is important to think about the population an intervention or package of interventions will actually be applied to. This will drive the overall levels of cost and benefit experienced by society. There are several important components to this which should be considered.

Relevant population

New services may require a certain scale to be economically viable; otherwise the cost and benefit assumptions may break down.

As such it is important to consider the potential demand for a new service. For example, an initiative to help people go back to work after surviving cancer would likely be limited to individuals of working age within a certain geographical region who have become sufficiently healthy to do so.

This is likely to overlap with the relevant populations for other interventions under consideration, and careful thought should be given to the risk of double counting benefits across a package of interventions.

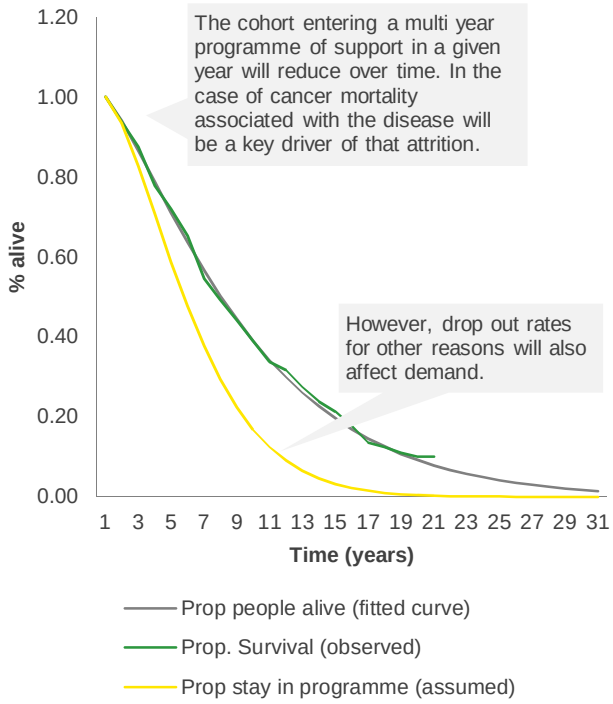
Entry and attrition

When thinking about a multi-year programme the number of additional people demanding a service each year will vary. In the first year a service is introduced there may be abnormally high demand as latent demand which had previously gone unmet may surface, while in future years incremental demand may become more predictable – e.g., be a function of the expected number of new cancer diagnoses.

Conversely people will also stop demanding services over time. As set out in the survival curve diagram opposite, for a condition such as cancer some people will exit services because they die, and the maximum number of people who could still be expected to be accessing a service after a given number of years is limited by the probability of them still being alive. In the diagram this is demonstrated by the red curve, which shows the actual observed survival rates of people with cancer over time, and the grey curve which mathematically extrapolates these observations.

However, people will leave services for other reasons, e.g., the service ceases to be relevant to them or they stop experiencing incremental benefits.

Example: cancer survival curve



Estimated probabilities of whether a service will or will not work for an individual over time, and the probability with which they will exit the service should be researched along with impact and efficacy (step 2) and applied to the surviving population to understand the absolute attrition of demand. This approach is drawn from pharmacoeconomics.

This assumes all people can access a service for as long as they want to. However, budget constraints may mean that access may have to be limited, which would cap the time over which any individual can accrue costs and benefits.

Time value of money

As with traditional ROI and economic impact approaches, we believe SROI should take account of the way in which people value things over time. In general, people prioritise current costs and benefits over those expected further into the future, and as such our view is that when applying costs and benefits to a population over time to forecast SROI, they should be deflated, e.g., by prevailing interest rates. This gives a truer picture of the value created for the population as a whole over time.

Summary and next steps

Health and care are changing, and systems much wider than those traditionally engaged in providing healthcare services will need to work together if the great financial, economic and personal benefits associated with this change are to be realised.

Our view is that a standardised SROI approach would be an important tool in driving this kind of cooperation. This is because it has the potential to identify the full value of new interventions, and also the costs and benefits facing individual organisations if they are implemented. In short it is a means to articulating why different groups should work together, and the terms upon which they are likely to do so.

This document has set out our view of what this standardised approach to SROI should look like. Our next steps will be to socialise this with interested parties across the public, voluntary and private sectors to stimulate debate and allow us to further refine our thinking. This will include a roundtable event for senior stakeholders from multiple organisations and industries.

We believe that while an eventual standard may not be identical to the methodology outlined in this paper, that any standard approach should still exhibit the four key features presented here.

Required features for a standard SROI approach

- **Granular:** a wide range of costs and benefits need to be measured in detail to be a meaningful basis for decision making to organisations individually and collectively.
- **Transparent:** the evidence upon which assumptions regarding the efficacy, costs and benefits should be clearly articulated and their relative strengths and weaknesses honestly assessed in order to build trust across complex groups of stakeholders.
- **Scalable:** the approach needs to take account of the population that initiatives are to be applied to, so it remains relevant as it is applied to new organisations and new geographies.
- **Evaluation enabling:** expected benefits need to be measured in terms of both financial and non-financial impact, as the latter can often be more easily isolated and measured; enabling retrospective evaluation.

For more information or discussion, please contact the team

Dr Richard Lewis

UK lead partner, healthcare

rlewis1@uk.ey.com

- Richard leads EY's healthcare team and served as engagement partner for our work with Macmillan.
- Before joining EY he led the health team in the Prime Minister's Delivery Unit, was a senior fellow at the King's Fund and held several board level positions in the NHS.
- He is an acknowledged authority on integrated care and a Senior Associate at the Nuffield Trust.

George Agathangelou

Director, healthcare economics

gagathangelou@uk.ey.com

- George is the author of this document, and leads EY's work on pricing, measuring value and whole system modelling within the healthcare sector.
- He holds a bachelors degree in economics and is a qualified accountant (CIMA).
- In 2013 George was recognised as one of the 35 top finance professionals under the age of 35 by Accountancy Age for his work with the NHS.

Varun Malhotra

Healthcare economist

vmalhotra@uk.ey.com

- Varun served as lead analyst for our engagement with Macmillan.
- Varun Malhotra holds an MSc in Health Economics with specialisation in Econometrics and Mathematical Economics from LSE where he studied as a Rotary Foundation Scholar.
- He specialises in modelling and statistical analysis for pharmaceutical, government and non-government health organisations.

Our thanks to:

- Jagtar Dhanda, Allan Cowie, Robin Maginn, Selina Mehra and the rest of the Macmillan team
- Joanne Rule
- Incisive Health and Swarm
- Kath Parson, the OPAAL (UK) staff and Susan
- The EY Think Tank and EY Foundation

References

[1,2,7] Cancer research UK, Cancer Statistics, 2016 (http://www.cancerresearchuk.org/health-professional/cancer-statistics)

[3] Macmillan, Cancer a Colossal Challenge (http://www.macmillan.org.uk/images/getinvolved/campaigns/generalelection2015/25-million-infographic-full-jan2015.jpg?origin=GE2015-RHS)

[4,8] Based on research collated by Incisive Health

[5] The Daily Mail (http://www.dailymail.co.uk/news/article-2615528/Study-shows-30-percent-breast-cancer-survivors-unemployed-four-years-treatment.html)

[6] Macmillan, the consequences of Treatment, 2013, http://www.macmillan.org.uk/documents/aboutus/newsroom/consequences_of_treatment_june2013.pdf

[9] Patient case study compiled by OPAAL (http://opaal.org.uk)

[10] Pro bono economics, Costs of eating disorders in England: Economic impacts of anorexia nervosa, bulimia nervosa and other disorders, focussing on young people

[11] Top 10 charities by voluntary income, 2016, Charities Aid Foundation (http://www.charitytrends.org/KeyCharts.aspx)

[12] Surely You're Joking Mr Feynman, 1985

In addition we reviewed c. 75 academic and grey literature articles as part of our work supporting Macmillan's strategy for a Cancer Open London

EY | Assurance | Tax | Transactions | Advisory

About EY

EY is a global leader in assurance, tax, transaction and advisory services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

EY refers to the global organization, and may refer to one or more, of the member firms of Ernst & Young Global Limited, each of which is a separate legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients. For more information about our organization, please visit ey.com.

Ernst & Young LLP

The UK firm Ernst & Young LLP is a limited liability partnership registered in England and Wales with registered number OC300001 and is a member firm of Ernst & Young Global Limited.

Ernst & Young LLP, 1 More London Place, London, SE1 2AF.

ED NONE

EY-000015593 (UK) 11/16. Creative Services Group.

In line with EY's commitment to minimise its impact on the environment, this document has been printed on paper with a high recycled content.

ey.com/uk