

Briefing: Economic Evaluation of Marie Curie Services in the UK

June 2024

1. Introduction

In 2021, Marie Curie commissioned the York Health Economics Consortium (YHEC) to carry out an economic evaluation of our services.

It is important to emphasise that the purpose of the services that Marie Curie delivers is to provide the care and support that people need at the end of life, to make them comfortable, relieve their pain and other physical and psychological symptoms, reduce distress, and to provide the best possible experience of end of life. The economic value of our services is interesting, and relevant to commissioners and other partners who enable the delivery of these services, but is not the primary metric through which value is derived.

2. Using the report

It is recommended that the evidence contained in this report is used in combination with other data sources, to describe Marie Curie's wider impact.

The calculations for return on investment can be used to provide indication of potential economic benefit of Marie Curie services not used in the report analysis but that bear an appropriate level of similarity to those included in the report. This can include service innovations. This may be useful for service evaluation, or for developing funding or commissioning partnerships or other relationships. Colleagues should note that economic benefit is not the primary metric through which commissioners or the wider health and care system derive value from Marie Curie services.

If using the report in this way it is important to make sure that any extrapolation of the calculations in the report for use for other services is on the same basis as the report, which

uses the full operational cost of the service – including both commissioner contribution and Marie Curie contribution - to calculate the return on investment.

3. Findings

The total return on investment, including benefits to productivity and quality of life, in relation to total running costs estimated for all the analysed Marie Curie services taken together is 372%. Productivity refers to the amount of work time lost by patients or carers as a result of the patients' condition or death, and health-related quality of life (HrQOL) relates to the impact a medical condition and/or treatment has on a person's functioning and well-being.¹

Looking at the **ROI in relation to statutory funding only, the total for all services is estimated to be a substantially higher 671%.**² It is worthwhile to compare the total return on investment to the ROI calculated for solely statutory funding as the comparison shows the value of the charitable contribution Marie Curie makes, thanks to supporters' donations, to the provision of its own services.

Looking at health and social care costs alone – removing the assessments about benefit to quality of life and productivity – the return on investment still stands at a healthy 54%. The report sets out that this figure changes depending on what is identified as the alternative within the statutory sector to a given Marie Curie service. For example, if the number of hospital admissions, ICU admissions and ED visits avoided are increased by 20%, the estimated ROI for all services increases from 54% to 71%.³

The report calculates the total costs of delivering Marie Curie's services in 2019/20 to be just under £99 million per year, while generating an estimated benefits value of around £470 million per year.

This provides an 'incremental value' which we can describe as **a net benefit of £368,209,690.** The authors break this down as follows:

Service	Costs	Value of outcomes					Incremental value
		Healthcare resource use	Social care resource use	QALY ⁴	Productivity	TOTAL	
Totals	£98,910,874	£77,683,509	£15,563,522	£362,906,162	£10,967,372	£467,120,564	£368,209,690

¹ See UK report page 4

² See UK report page 29

³ See UK report page 31

⁴ Quality Adjusted Life Years **reference required**

It is important to assess these findings in context, and to bear that in mind when making decisions about their implications and utility.

As is to be expected, the picture becomes more complex when we begin to break down these figures into the components of different services.

Hospice Care at Home

The report uses the umbrella term 'nursing services' to describe all of Marie Curies Hospice Care at Home services for which data were provided.

The ROI from statutory funding shows high levels of return for the nursing services, particularly when benefits relating to social care resource use are included.

Activity, cost, impact and estimated return on investment of Marie Curie nursing services in 2019/20

Service	Activity (cases)	Costs	Value of total outcomes	ROI (Healthcare resource use only)	ROI (Healthcare and social care resource use)	ROI (All outcomes)	
				Statutory funding only	Statutory funding only	Statutory funding only	Total costs
Nursing	44,380	£44,838,353	£403,092,248	117%	161%	1,297%	799%

When considering the impact on healthcare resource use, the ROI for nursing services is 117%. Including the impact on social care services increases this to 161%.

Hospices

The report uses the term 'hospice services' for all services carried out within a hospice for which data were provided. No service models developed after 2019 - for example virtual wards - were included in the analysis.

For hospices, the return on investment picture appears quite different. The ROI is less than zero when considering the health and social care resources (-52% for healthcare resources only, -44% for health and social care resources). This reflects the net cost shown in the final column of Table 4.4. When considering all outcomes, including societal outcomes, the ROI for hospices increases to 82%, incorporating statutory funding only. When total funding is used, the ROI is 8%.

Activity, cost, impact and estimated return on investment of Marie Curie hospice-based services in 2019/20

Service	Activity (cases)	Costs	Value of total outcomes	ROI (Healthcare resource use only)	ROI (Healthcare and social care resource use)	ROI (All outcomes)	
				Statutory funding only	Statutory funding only	Statutory funding only	Total costs
Hospice IPU planned	1,524	£22,446,429	£25,362,759	-55%	-46%	90%	13%
Hospice	1,524	£22,446,429	£26,488,944	-48%	-37%	99%	18%

IPU unplanned							
Hospice Day Case	7,865	£8,526,662	£5,984,391	-55%	-55%	18%	-30%
Hospice Total	10,913	£53,419,520	£57,836,094	-52%	-44%	82%	8%

The finding of a negative economic return on investment for hospices is notable, especially when juxtaposed with the very positive return on investment found for the other, community based services. We should note, however, that the ROI increases to a substantial positive when the economic benefits to quality of life and productivity are taken into account.

The comparison used in this report is not a direct correlation to the specialist, multidisciplinary team found in a hospice, but a proxy of NHS hospital services which, taken together, do not provide the level and quality of care and support that a patient and their family receive in a Marie Curie (or any other) hospice. There is a wider literature about the impact and value of hospice care which is the context within which this report should be read and used.

4. About the report

Economic value is an aspect of service provision to which commissioners, governments and other decision makers are ascribing increasing importance as pressure on resources grows ever greater. The measures taken to address the Covid 19 pandemic were such that Marie Curie could anticipate that the importance of the economics of service provision would grow in significance in the decision making of partners in funding our services, and we have been proven correct in that expectation in the time between the commissioning and the publication of this analysis.

The objectives of this economic evaluation at the outset were:

- To understand the economic benefit of services Marie Curie provides, to inform and influence future funding decisions for Marie Curie services across the UK.
- To inform national and local Government discussions and policy and open conversations around dying, death and bereavement, to enable everyone to have an end of life experience which reflects what is most important to them.

The report provides some important insights which will be really useful in informing Marie Curie's work across strategy and policy, and in informing our stakeholders about one measure of how they might make decisions about Marie Curie's services.

The aim of this analysis is to demonstrate to stakeholders, such as service users and funders, the economic value of the services provided by Marie Curie, based on an analysis of the value of the impact of these services on health and social care resources and on society in a wider sense, including productivity and health-related quality of life.

This evaluation only addresses the impacts to which it has been possible to ascribe an economic value.

The term 'impact' is used to refer to all the results or consequences of using Marie Curie services for patients and their families or carers. This includes direct consequences on the use of alternative services (such as fewer hospital admissions), as well as indirect impacts such as less time taken off work by family or carers because of poor mental health due to the death of a loved one.

However, 'impact' can also include consequences to which it is not possible, within the methodology used by the researchers at YHEC, to assign an economic value, such as being better informed about an illness, pain reduction, or experiencing lower anxiety. The purpose of Marie Curie's work, which we share with other hospices and charities supporting people with terminal illnesses and at the end of their lives - is these impacts described which have no intrinsic or calculable economic value. Any economic evaluation is therefore only ever going to provide a very partial account of the value of the range of services Marie Curie delivers.

Marie Curie's mission is to close the gap in end of life care, to achieve a vision that everyone has the best possible end of life experience. Our services exist to deliver this; they are not designed to create economic value, but rather to ensure that the people who are cared for and supported by Marie Curie have the best possible end of life experience, reflecting what is most important to them. The economic benefits that this report identifies are secondary to this purpose.

The data shared by Marie Curie colleagues on the type and level of services provided for the year 2019/20 are the basis for this analysis. New service models implemented after March 2020 are not included in this report's analysis. The services included in the analysis are described in four categories:

- Nursing services
- Hospice services: Planned admissions
- Hospices services: Unplanned admissions
- Hospice services: Day care

The authors of the report describe the limitations of their analysis. This includes discussion about their assumptions, and also the following important point:

In ascribing economic values to the benefits, there is an implicit assumption that the health and social care system has the capacity to provide the services that have been potentially avoided by the provision of Marie Curie services. For example, the avoidance of hospital admissions and social care packages. In reality, the absence of Marie Curie service may mean that people go without care. In this case, the benefits described here represent proxy values for the benefits the people gain from these services [reference].

5. Reflections

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they are not designed to create economic value, but rather to ensure that the people who are cared for and supported by Marie Curie have the best possible end of life experience, reflecting what is most important to them.

It is important to emphasise that the purpose of the services that Marie Curie delivers is to provide the care and support that people need at the end of life, to make them comfortable, relieve their pain and other physical and psychological symptoms, reduce distress, and to provide the best possible experience of end of life. The economic value of our services is interesting, and relevant to commissioners and other partners who enable the delivery of these services, but is not the key metric through which value is derived.

The data analysis in the report does indicate an economic value of Marie Curie's services which will be of real interest to commissioners and decision makers for whom that is a necessary factor in their decision making. The report finds that this is particularly true for Marie Curie's Hospice Care at Home services – which are referred to in the report under the umbrella of 'nursing services', and also when the entirety of the analysed provision is taken as a whole. It is worth noting that the report analyses specific nursing and hospice services, and does not include Marie Curie's Information and Support offering, or any services developed since 2019.

As the number of people dying across the UK is projected to increase year on year, so is the need for palliative care⁵. The importance of identifying economically viable ways of meeting this palliative care need therefore becomes increasingly important as the years progress. Considering this now, in the design of structures, services and partnerships, and in strategic and workforce planning, is crucial for the commissioning and delivery bodies across the UK if they are to future-proof our health and care systems.

The most obvious and explicit limitation of this analysis is that it is, intentionally, solely an economic analysis. It was commissioned to begin to develop knowledge about an aspect of the impact of what Marie Curie does that is not well understood by us or our external stakeholders. In that regard we are similar to many other health and care providers. However, what we do know and understand – and what the communities we work with know and understand – is the value of our services beyond their economic impact. We know, from the feedback we get from patients and their families, and the support we receive in communities and among stakeholders, that Marie Curie services are valued in ways that an economic analysis is not even designed to identify.

What this report adds is another clear argument for sustained investment in palliative care.

6. Methodology

⁵ <https://www.mariecurie.org.uk/globalassets/media/documents/policy/policy-publications/2023/how-many-people-need-palliative-care.pdf>

The researchers used established methods to make assumptions about the impact on the use of existing health and social care services, of the Marie Curie Services described to them. Published literature and statistical documentation were used as the basis for estimating the value of these impacts, in relation to the conditions and populations served. These elements were incorporated into an economic model, which produces an analysis of the value of the impacts.

To conduct the analysis, Marie Curie services were grouped based on advice from Marie Curie staff about how services are used and operate.⁶

There is an important assumption which is described by the researchers as “implicit” in their report, that the health and social care system has the capacity to provide the services that have been avoided by the provision of Marie Curie services. The report states that “Whether these services would actually have been provided, in the absence of Marie Curie, is not possible to test”.⁷ This is important to note particularly when assessing the findings about specialist palliative care services that have no direct equivalent in public sector health and care provision, such as inpatient hospice services.

The YHEC methodology is deliberately conservative and relies substantially on proxy values for outcomes and assumptions in its calculations. The YHEC report models what is likely to have happened in terms of economic impact, rather than what actually happened.

The report authors describe:

*A focussed literature review was carried out to identify evidence on the benefits that can be attributed to the types of service provided by Marie Curie. [...] The evidence gleaned from the literature review was incomplete, in that it did not relate to the full range of services provided by Marie Curie and, in many cases, the evidence related to similar, but not identical services.*⁸

The authors are particularly cautious about their assumptions about volunteer services, which have not been broken down by type, have changed significantly since the year being analysed, and about which ‘*there is little good quality, published evidence on the benefits of volunteer services to which an economic value can be ascribed.*’⁹

The report presents nuances in the data and the recommendations are explicitly cautious. It is therefore important to understand these nuances and the limitations of the assumptions made before drawing conclusions from the data, findings and recommendations presented in the report.

No analysis was attempted of the economic benefits of Marie Curie’s Information and Support service as the authors could find no evidence to base calculations to ascribe economic value of these services.

⁶ See UK report pp 18; 20 (paragraph 2)

⁷ See UK report Page 11 paragraphs 2 & 3

⁸ See UK report page 15 paragraphs 1 & 5

⁹ See UK report page 23

Return on Investment

The Return on Investment (ROI) is a measure of the efficiency of a service and is calculated by taking the net benefit (benefit minus cost) and dividing by the cost. This is expressed as a percentage, such that an ROI of 50% means that each amount spent on the service produces a 50% *greater* amount of benefit as a result. A 0% ROI would therefore be neutral, and a negative ROI means that there is an overall cost to delivering the service.

The ROI of Marie Curie services was calculated using the following formula:

$$\frac{\sum \text{Total benefits} - \sum \text{costs}}{\sum \text{Total costs}}$$

This provides a percentage value to describe the economic benefit referred to above.

Further information

Full report

The full report from the York Health Economics Consortium is available at <https://www.mariecurie.org.uk/globalassets/media/documents/research/research-impact/yhec-final-report-marie-curie-economic-evaluation-uk-final-22.03.23.pdf>

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