

Assessing the breakeven success rate of the Mentalization Based Therapeutic Programme from the Early Years Parenting Unit

Jon Franklin – Pro Bono Economics March 2016

#### Foreword – Diane Coyle

On behalf of Pro Bono Economics and the Anna Freud Centre, I'm delighted to introduce this excellent report prepared by economist Jon Franklin, a volunteer from the Valuation Office Agency.

The report undertakes a cost analysis of a therapy programme for parents and estimates the success rate needed for the programme's benefits (in this case, reduced consumption of taxpayer services) to outweigh the costs.

As a PBE Board member, founder of Enlightenment Economics and an academic at the University of Manchester, I know the value of economics as a lens through which we can better understand society, but am also aware of its shortcomings. I have been part of discussions for some time on how economics can be more purposefully employed to examine complex societal issues. This report is a perfect example of how this can be done.



Jon Franklin analysed the costs of one of the centre's therapy programmes and used these figures to undertake a breakeven analysis; a methodology that uses the economic principles of costbenefit analysis but in this instance has been used to calculate the proportion of cases that need to successfully complete the treatment programme in order for taxpayer savings to offset direct costs.

However, the real value of this project is not just in the analysis of the data currently available but in developing a framework for future analysis and in the identification of those areas of the evidence base that will need to be strengthened over time in order to make this work more robust.

I am pleased to see economics being used to evaluate the success of programmes that have clear and tangible benefits for a considerable number of beneficiaries. I would like to extend thanks to Jon Franklin for his hard work and effort on what has certainly been a most challenging project. I hope that under the auspices of Pro Bono Economics, we will see even more excellent additions to the growing body of PBE reports on the value of mental health interventions undertaken by expert economist volunteers.



### Outline

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- Structure of the project
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- Approaches to developing the evidence
- Key conclusions



#### Foreword



### Background to the project

What is the Early Years Parenting Unit?

The Early Years Parenting Unit (EYPU), provided by the Anna Freud Centre, is a clinical assessment and treatment programme for parents with personality difficulties and their children under five who are on the edge of care.

The EYPU offers an 18 month treatment programme for families who attend a day unit for two full days a week, using Mentalization Based Therapy (MBT) in individual and group therapy, multi-family therapy, and parent/child therapy.

What was the purpose of this project?

The EYPU commissioned Pro Bono Economics to:

- Assess the minimum treatment success rate required for the costs of the programme to be offset by savings to the public purse.
- Provide recommendations about how to improve data collection in the future to evaluate the project's success rate more robustly



#### How was the project structured?

The project was structured into two broad stages:

**Stage 1: Cost analysis** The taxpayer cost of services consumed by families treated at the EYPU was assessed by linking anonymised case level information to widely available public service cost databases. Stage 2: Assessing the breakeven success rate The cost analysis was used to identify the proportion of cases that need to successfully complete the treatment programme in order for taxpayer savings to offset the direct costs.

The approach taken and the key conclusions for each stage are discussed in the following slides.



### Stage 1: What are the costs to taxpayers of participant service usage?

Three cases were identified as having sufficient information to assess implied costs to taxpayers from participant use of health care, social care and criminal justice systems:

Estimated costs to taxpayer (£ per month, excluding direct costs of EYPU programme)

	Prior to treatment	Months 0-6 of treatment	Months 6-12 of treatment
Participant 01	£1,600	£1,800	£900
Participant 02	£5,000	£3,700	£600
Participant 03	£1,100	£800	£200
Average	£2,500	£2,100	£500

In all cases there was a decline in the implied costs to taxpayers, ranging from 40% to 90% over the first 12 months of treatment.

> On average there was a decline in the cost to taxpayers of around £2000 per month

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## Stage 2: What approach was taken to assessing the breakeven success rate?

In order to assess the breakeven success rate we need information about three scenarios:

1. What outcomes do we see for participants that successfully complete the whole programme?

2. What outcomes do we see for participants that are unsuccessful and do not complete the programme?

3. What outcomes would we have seen had the treatment programme not existed?

The evidence analysed in Stage 1 of the project only relates to scenario 1, therefore we need additional evidence to support this stage of the project.



# Stage 2: How reliable is the evidence we have available?

The diagram below, summarises the quality of available evidence for each of the required scenarios:



# Stage 2: What were the key assumptions required?

The following key assumptions were made to support the analysis:

- That observed outcomes persist over the whole period of the analysis (up to five years after the start of treatment).
- That the outcomes had the treatment programme not existed are the same as for unsuccessful candidates that drop-out of the treatment programme.
- That service consumption by unsuccessful candidates was the same prior to treatment as for successful candidates.
- That case notes for three successful cases provided is representative and does not under-report

The impact of these assumptions is discussed in detail in the project technical documentation and assessed here using a sensitivity analysis.



# Stage 2: Over what timescale was the programme assessed?

The EYPU programme incurs up-front costs for long-run benefits so the breakeven success rate depends on the time horizon over which the programme is reviewed:



This project shows the breakeven success rates for a range of time horizons; from 6 months after the start of the programme to 5 years



# Stage 2: What is the breakeven success rate?

The following graph summarises the conclusions about breakeven success rates:



## Stage 2: How sensitive is the breakeven analysis to the assumptions made?

We review the impact of each of the key assumptions using the following sensitivity tests:

- **Sensitivity 1**: That 40% of successful outcomes do not persist for more than 12 months after treatment finishes
- **Sensitivity 2**: Negative outcomes had the treatment programme not existed are 25% less severe than for unsuccessful candidates
- **Sensitivity 3**: That service consumption by unsuccessful candidates was 20% higher than for successful candidates
- **Sensitivity 4:** That service consumption by successful candidates is under-reported and should be in line with highest example available

Full details of the assumptions used in the sensitivity tests are available in the project technical documentation.



## Stage 2: How sensitive is the breakeven analysis to the assumptions made?

The following graph summarises the impact of the sensitivity tests on the implied breakeven success rate in comparison to our Central Case:



# How could this analysis be further developed?

There are a number of ways that the evidence base could be strengthened that would make future analysis of the programme more robust, in particular:

- Building an understanding of what would happen in the absence of the treatment programme through analysing outcomes for similar families in areas not supported by the EYPU or cases from prior to the existence of the EYPU.
- Building more detailed evidence about the service consumption of unsuccessful candidates.
- Increasing the number of cases that can be reviewed at a detailed service-by-service level to more than 30 for both successful and unsuccessful cases



#### Key conclusions

Estimated costs to taxpayer (£ per month, excluding direct costs of EYPU programme)

	Prior to treatment	Months 0-6 of treatment	Months 6-12 of treatment
Participant 01	£1,600	£1,800	£900
Participant 02	£5,000	£3,700	£600
Participant 03	£1,100	£800	£200
Average	£2,500	£2,100	£500

This project has successfully linked data about EYPU participants to standardised cost information and shown reductions in consumption of taxpayer funded services of between 40% and 90% during the treatment programme.



On the basis of the available evidence, we conclude that a success rate of just 10-20% is consistent with the EYPU breaking even in terms of taxpayer costs over the life-time of the treatment programme.



This analysis is dependent on a number of assumptions that the EYPU should seek to develop an evidence base for. In particular, around what would have happened to participants had the EYPU programme not existed?



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**Pro Bono Economics** matches highly skilled **economist** volunteers with charities who need their expertise. If you have any questions about this project or would like to know more about how we can help you then please contact us at info@probonoeconomics.com.

