



The Parents as Partners programme: An economic appraisal

A report for The Tavistock Centre for Couple Relationships

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Foreword

On behalf of Pro Bono Economics, I am delighted to introduce this report for Tavistock Centre for Couple Relationships (herein TCCR). We would like to thank Dr. Allan Little for working on this project independently from start to finish.

Increasing interest in valuing social impacts has created many challenges for economists, and for charities trying to evidence the social return on their projects. It is fair to say that valuing many social impacts is not yet a fully-developed field in economics. Dr. Little has sensibly taken a conservative approach to valuing the impacts of the Parents as Partners (PAP) programme. Nevertheless, what comes clearly out of this report for TCCR is that – even adopting a cautious approach - there is a clear economic case for PAP (a group-based scheme that strengthens couples' relationships and encourages greater parental involvement in family life). Using a central set of assumptions, Dr. Little estimates a social return of around £3.50 per £1 spent, or as much as £7 per £1 under a best case scenario across three programme impacts (reduced levels of clinical depression; improved child conduct and behaviour; and reduced risk of domestic violence).

However, what Dr. Little has noted is that returns on investment could well be higher when additional evidenced impacts such as improved relationship quality and reductions in parenting stress are considered. Because these impacts do not have robust economic values in the literature, he has not included them in his assessment of social return. He also suggests that in the longer-term, TCCR might be able to evidence reduction in the use of public services and the reduced risk of child abuse and neglect as possible positive outcomes of these additional factors.

PBE's project for TCCR is proving useful for the organisation, and is also useful for us as economists. Interventions like PAP are complex and have many short and longer-term potential impacts. There can be a tendency for the value of the benefits to be overstated and for estimates of social return to lose credibility as a result. I believe Dr. Little has adopted an analytically robust and credible approach to estimating the social return on investment for this programme. The standards he uses in his work are ones that I, as patron and Pro Bono Economics, believe should be more consistently used. In the longer term, charities, their beneficiaries and the public discourse around the value of charities' work can only benefit.

Dame Kate Barker CBE

Executive summary

Benefit-to-Cost Ratio (BCR)

The Parents as Partners (PAP) programme is a group-based approach to strengthening couple relationships, with a focus on encouraging parents' involvement with family life. The programme has been piloted and evaluated by the Tavistock Centre for Couple Relationships (TCCR) and Family Action. Evaluation evidence indicates several statistically significant impacts across a range of outcome measures. TCCR asked Pro Bono Economics to assess the programme's economic value, in light of these impacts. We have estimated a range for the programme's potential Benefit-to-Cost Ratio (BCR), as follows.

£ benefit : £1 cost 12 11 10 Non-monetisable impacts 9 8 High (£7:£1) 7 Reduced incidences of 6 domestic violence 5 4 Central (£3.5:£1) Improved child conduct 3 and behaviour 2 Break-even (£1:£1) Reduction in clinical levels 1 of depression 0 Central O High

Figure 1: Potential Benefit-Cost Ratio for the Parents as Partners (PAP) programme

Our assessment of the pilot evaluation evidence suggests - with a reasonably high degree of confidence - that the costs of the programme are outweighed by the economic benefits associated with three impacts: (1) reduced levels of parents' clinical depression; (2) improved child conduct and behaviour; and (3) a reduced risk of domestic violence.

The duration, persistence and frequency of these impacts are uncertain, reflected in the graded range of benefit-cost scenarios above. Our 'central' scenario indicates an economic return of £3.50 for every £1 spent on the programme; potentially rising to a £7 under a 'high' scenario.

Since this initial economic assessment was made, TCCR have undertaken further follow-up evaluations, one year after the participants began the study and six months after the group-work ended. Parents' psychological well-being still showed significant increases at this point; a decrease in parenting stress was maintained; as was the decrease in violent problem-solving; and decreases in children's emotional and behavioural difficulties. In short, the impacts that underpin the BCR have

not disappeared 6 months after the group work finished. This improved our overall confidence in the central estimate and signalled that the higher end of the range remains plausible.

There follows a brief summary of: the programme costs; three 'monetisable' benefits; and the 'non-monetisable' impacts of the PAP programme.

Costs

The PAP pilot is estimated to cost around £3,325 per parent, or £332,500 per programme based on 10 groups of 10 parents (5 couples) in each locality. TCCR anticipate that the unit costs will continue to fall as the programme beds in – the set-up costs for each programme should fall, whilst overheads can be spread over a greater number of programme participants.

Monetisable benefit #1: Reduction in clinical levels of depression

Nearly one in five parents moved from above, to below clinical levels of depression by the end of the programme's group work, a statistically significant improvement. The chart above illustrates the economic return if parents remain below the clinical level for an average of 12 months (our central scenario) this would offset 70 pence of the programme cost. If we assume the impact lasts for an average of 24 months (high scenario) this would accrue a benefit of £1.40 for every £1 spent.

Monetisable benefit #2: Improved child conduct and behaviour

The proportion of children obtaining scores within the 'abnormal' range of behaviour, on Goodman's Strengths and Difficulties Questionnaire, decreased from around 40% initially, to 27% after the programme. We estimate that this could yield an economic return of between £1.78 (central scenario) and £3.55 (high scenario) for every £1 spent on the programme. These returns accrue both from reduced use of public services and benefits to the child later life. Randomised trials on a U.S. version of the intervention also show significant improvements in child development at least 10 years after the intervention, indicating that these behavioural impacts can be sustained and yield sizeable economic gains.

Monetisable benefit #3: Domestic violence

The social cost of domestic violence (DV) is estimated to be around £7,800 per incident. This suggests that the programme would 'break-even' if it resulted in 42 fewer incidents of DV. TCCR's evaluation found a statistically significant reduction in the <u>risk</u> of DV, although it has not been possible to translate this into a quantifiable number of <u>incidents</u>, at this stage. Our central scenario assumes 42 fewer incidents, in line with this 'break even' point, whereas the 'high' scenario assumes double this number of incidents. We consider this to be a plausible range, noting that each family at high risk of DV would typically suffer from multiple incidents. We recommend that TCCR continues to develop its evidence around this risk factor to achieve greater certainty around this indicative range in the benefit-cost ratio.

Non-monetisable benefits

In line with good practice in cost-benefit appraisals, our analysis only uses the most robust economic valuations available. This has meant we have not been able to put economic values on some

important impacts of the programme. Our estimates of the ratio of economic benefit per £ of cost therefore significantly underestimate the likely real value of the programme.

These impacts are all measurable and statistically significant, but it proved more challenging to value the associated economic benefits, in monetary terms. The report explores the potential economic impacts across this wider range of outcomes, recommending how future PAP evaluations might better support their inclusion within a benefit-cost framework in future. As such, the current BCR estimate described above should be treated as a partial assessment of the programmes' intended impacts.

The main body of this report provides detail on: the programme; an economic approach to its appraisal; analysis of programme costs; cost-benefit / cost effectiveness analysis for each programme impact; comparisons to other programmes; and recommendations for future evaluations.

Introduction

TCCR, together with Family Action, are running a small number of pilot *Parents as Partners* (PAP) groups for couples aimed at developing and supporting couple and parent-child relationships.¹ Participants recruited to the programme came from diverse backgrounds and tend have high levels of psychological distress.

The programme is based on a much larger number of couples groups run in California, some of which were evaluated using randomised control trials, with statistically significant outcomes on relationship quality, child attainment and family income.² In the UK, the Early Intervention Foundation (2014) concluded that the *Supporting Father Involvement Programme*, a closely-related US intervention, offered "...promise as a targeted Early Intervention programme for groups at risk of domestic violence and abuse"³. More recently Parents as Partners received a Level 3 rating from the EIF, "indicating an effective intervention at improving couple/interparental outcomes".⁴

Our appraisal is based on the second stage of the delivery of the UK programme during 2014/15, by which time the programme had been expanded into additional London boroughs and, for the first time, to Manchester.⁵

Box 1: Case study for a family supported through the Parents as Partners programme

Robert and Teresa are a married couple with three children, who were referred to the Parents as Partners programme after their oldest daughter had begun self-harming. Knowing their arguments were upsetting the children, the couple had decided instead not to speak at all, and on several occasions Robert had moved out temporarily.

In the Parents as Partners group, they both felt very relieved to find others in similar situations and began to work together to explore their disagreements without either fighting or ignoring the other. They also discussed the very different parenting styles that each had inherited from their original families and wondered how they could work together better as co-parents.

By the end of the programme, they reported that things were much better at home. Robert was spending more time with the children, who were thriving, and Teresa had found a part-time job which she enjoyed, so was feeling much less depressed:

"Some relationships they hurt each other so much and so badly – we were like that. We've learnt so much from the group – no matter how much hurt you're feeling, you have to stop and say, what's the most important thing here? And the important thing is our family. And the group really helped us see that."

¹ PAP was initially funded by the Department for Education through a contract for the delivery of relationship support. Funding is now provided by the Department for Work and Pensions.

² Cowan, P.A., Cowan, C.P., Pruett, M.K, Pruett, K., & Gillette, P. (2014). Evaluating a couples group to enhance father involvement in low-income families using a benchmark comparison. Family Relations, 63(3), 356-370.

³ Guy, Feinstein and Griffiths (2014), Early Intervention in Domestic Violence and Abuse, Early Intervention Foundation, http://www.eif.org.uk/wp-content/uploads/2014/03/Early-Intervention-in-Domestic-Violence-and-Abuse-Full-Report.pdf

⁴ Harold, G., Acquah, D., Sellers, R., & Chowdry, H. (2016). What works to enhance inter-parental relationships and improve outcomes for children. Early Intervention Foundation, London. (p.73).

⁵ During 2014, Manchester City Council included PAP in their strategic planning of evidence-based practice interventions for families with multiple needs.

Economic approach

To appraise the programme from an economic perspective, we have adopted the following typology of approaches:

• Cost Analysis (CA)

Analysis of the full economic cost of delivering the programme. The drawback of using this approach alone is that it gives no consideration to the benefits of the programme;

• Cost-Effectiveness Analysis (CEA)

Assesses the cost of the intervention against its 'effectiveness', defined by measures of outputs or outcomes. In principle, CEA offers a means by which PAP can be compared to similar programmes that deliver the same outputs or outcomes;

• Cost-Benefit Analysis (CBA)

Compares the cost of the intervention and economic benefits expressed in monetary terms. Monetary returns can be estimated to the commissioner of the programme (e.g. a public sector agency), participants, or society as a whole. We consider all of the perspectives, as appropriate.

Cost-Utility Analysis (CUA) and the Quality Adjusted Life Years (QALY) approach

These are similar to CEA or CBA, but the outcomes of the programme are translated into a standard measure of economic 'utility'. The most common application is in health economics, where the benefits of an intervention can be expressed in terms of their impact on quality-adjusted life years (QALYs), allowing for more consistent comparisons across a wide range of interventions acting on different aspects of health and wellbeing. Each QALY carries an estimated monetary value, so the health benefit of a programme can be compared to its cost. The QALY approach is adopted by, for example, the National Institute of Health and Clinical Excellence (NICE), to evaluate the value for money of physical and psychiatric interventions.

The rest of the report demonstrates that some of the programme's outcome measures are conducive to CBA and others to CEA. It is preferable to undertake a full CBA wherever possible but the limiting factor is whether a robust method can be established, to quantify and then monetise the impacts of the programme.⁶ We also briefly explore the potential to translate programme measures into QALY impacts. However, it is worth noting that the recent research has found that QALYs are relatively insensitive to changes in mental health outcomes⁷, which has proven to be a drawback in our assessment (see below).

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Where we do fall back on cost-effectiveness approaches, it is important to note that this remains firmly-grounded in the best practice guidance for economic evaluation. For example, the HM Treasury's 'Green Book' recommends: "...when the benefits of an intervention are measured in 'natural' units (e.g. reduced incidence of a disease or lower blood pressure rates), it may be appropriate to undertake an appraisal on the basis of its cost effectiveness." (HM Treasury, Green Book, p60, Annex 2, Valuing Health Benefits)

http://www.ncbi.nlm.nih.gov/pubmed/9050347

Cost Analysis

Approach

We have tested the robustness of TCCR's estimated programme costs against the best practice approach, outlined in Speilhofer et al.'s (2014) *Relationship Support Interventions Evaluation*, prepared for the Department for Education.⁸

Speilhofer et al. recommend adopting three principles, when estimating the costs of delivering relationship support (see p139, Section 6.5, Approach to estimating costs):

1. Full economic cost

Account for financial and non-financial costs, including unpaid staff or in-kind support;

2. Blended costs

Estimates exclude exceptional items, but should include a share of costs occurring infrequently and central/infrastructure costs incurred across the organisation. In practice, this has involved a judgement about the anticipated costs of the PAP programme in future, based on information collected from inception;

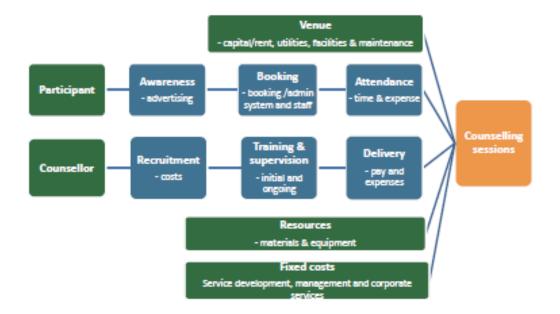
3. Average unit costs

Dividing the total cost by the number of programme participants. This is distinct from marginal costs, e.g. for each additional parent participating in PAP. Where overheads are shared among multiple programmes run by TCCR, each programme should be allocated a proportionate share of these overheads.

To capture these principles, Speilhofer *et al.* (2014) developed a conceptual framework for couple counselling, based on the typical 'journey' followed by both counsellors and participants.

Figure 2: Spielhofer et al. (2014) model for costing relationship support interventions

⁸ Spielhofer, T., Corlyon, J., Durbin, B., Smith, M., Stock, L. and Gieve, M. (2014). Relationship Support Interventions Evaluation. Department for Education.



TCCR's approach closely follows Speilhofer *et al.*'s (2014) framework, representing a robust approach to establish the total cost of a programme. They assessed the average unit cost on a *per parent* basis, blending fixed and recurrent costs for each constituent process (see Annex for details).

TCCR also applied a costing framework associated with parenting programmes, recommended in the Personal Social Services Research Unit's (2013) *Units Costs of Health and Social Care 2013*. This framework is instructive when estimating the staff costs of face-to-face work with parents and the running costs associated with family group work. TCCR extended the PSSRU's framework to ensure organisational overheads were covered, such as:

- · pre-group costs such as staff recruitment and training;
- active outreach¹⁰ and referral generation¹¹ activity;
- running costs including venue hire, materials/equipment; and
- post-group costs, e.g. research and evaluation.

The PAP programme uses paid-for staff only, so the non-financial costs of volunteer time were not applicable.

PAP programme cost

The cost per participant is estimated to be £3,325. On this basis, the cost of running the full programme model, in one local area, with 10 group and family support programmes per year, and reaching 100 parents, would be £332,500.

⁹ Personal Social Services Research Unit's (2013) Units Costs of Health and Social Care 2013, http://www.pssru.ac.uk/project-pages/unit-costs/2013/

¹⁰ Including presentations to multi-disciplinary professionals, a poster/leaflet campaign, and newspaper advertising.

¹¹ Including press and internet publicity, posters and postcards and meetings/briefing sessions with partner agencies (Children's Services, adult mental health teams, GPs, schools, Children's Centres, community groups, health providers etc.).

Table 1: Parents as Partners estimated programme costs

Unit cost per person	£3,325
Per group (10 people)	£33,250
Per local area (10 groups)	£332,500

Programme costs (Table 1) are based on:

- 16 x 2-hour weekly group sessions;
- 3 pre-group meetings with each couple;
- one x 2-hour post group meeting; and
- weekly support to each couple from a Family Case Worker.

Each group session requires two group workers, one male and one female. The completed groups during 2014/15 were co-run by an experienced group worker, working with, and mentoring, a new group worker. This is the first phase of the development of TCCR staff skills to enable them to become the trainers and supervisors of the UK programme as it is rolled out in the future.

The estimated cost does not include activities to lay the groundwork for the 2015/16 programme, to avoid double counting. It is important to note that the unit costs of a relatively new and expanding programme, such as PAP, could change over time. We might typically expect the average unit costs (per participant) of this type of intervention to fall, as set-up costs are reduced and other processes become more efficient. TCCR have taken this into account, such that the £3,325 average cost represents their best estimate of the future cost of the programme, discounting some of the items that incurred higher costs during the set-up phase. More recently, TCCR have noted that unit costs are indeed falling as the programme has expanded further, corroborating their estimate.

Finally, we note that the estimates represent *gross* costs – they do not 'net off' public service cost savings, such as the reduced use of other local authority services during the 16-week group sessions. In a benefit-cost analysis, any public cost savings are better captured on the 'benefit' side of the assessment.

Cost-benefit and cost-effectiveness analysis

Pre- and post-group outcome data has been collected on 119 parents in eight areas of London. ¹³ To align our analysis to the costs of one local area programme, we assume that the outcomes for these 119 parents would apply, pro-rata, to any group of 100 parents going through the programme.

Outcomes improved across a number of quantitative evaluation metrics (parentheses indicate whether each impact has been included as a monetary benefit our cost-benefit analyses):

Parents' psychological wellbeing (monetisable benefit #1)

¹² During 2014/15, resources were also channelled into preparatory activities for the following year, to develop and expand the programme further: outreach and referral generation activity continued; the PAP team in Family Action recruited and trained additional Group Workers and Family Case Workers; and the TCCR team began to develop their roles as mentors, supervisors and trainers.

¹³ Two groups in each of Lewisham/Greenwich, Southwark and Camden, with a further group in Islington, and one in Westminster.

- Domestic violence (monetisable benefit #2) and child abuse (non-monetisable)
- Children's psychological wellbeing and development (monetisable benefit #3)
- Relationship quality (non- monetisable)
- Labour market outcomes (non-monetisable)
- Use of health and other public services (non-monetisable)

More qualitative evaluation measures have not been carried forward into the economic appraisal, but a survey completed by each parent at their final group session shows high levels of satisfaction with the programme. Parents' responses to the following statements were as follows (% refers to agreed/strongly agreed unless otherwise stated):

- Overall, how beneficial would you rate your experience of the Parents as Partners programme?: 94.9% (useful/very useful)
- Members of our group helped and supported each other: 97.5%
- We covered useful topics during the group sessions: 97.4%
- I benefit from the activities we've done as part of the group: 94.9%
- The group has met my needs as a partner and a parent: 81.6%
- Since I started the group, my feelings about myself have changed: 81.3%
- Since I started the group, my relationship with my child has changed: 76.9%
- Since I started Parent as Partners, my relationship with my child's other parent has got better: 80.5%

Parents' psychological wellbeing

Impact

After attending the groups, parents reported a statistically significant reduction in psychological distress, as measured by the CORE (Clinical Outcomes in Routine Evaluation) questionnaire, one of the most established metrics in clinical psychology. This reduction - from an average score of 11.7 prior to attending PAP groups, to 9.2 after the groups ended – is noteworthy, given the standard CORE clinical cut off of a score of 10. Parents obtaining a score of 10 or above are considered to be responding in a way that reflects a clinical, help-seeking population. After attending the groups, parents on average resemble a non-clinical population in term of psychological wellbeing.

The reduction in overall psychological distress was predominantly accounted for by mothers, who reported a significant decrease from an average of 12.8 to an average of 9.4.

Of the 55.5% of parents who obtained CORE scores high enough to be considered within the clinical range prior to attending groups, 48.5% were no longer 'cases' when the groups ended. Furthermore,

36.6% showed a reduction in scores sufficient to be considered reliably and clinically significant after completing the group sessions.

TCCR have converted the CORE scores (general psychological distress) into Beck Depression Inventory (BDI) scores, one of the most widely used measures for depression. The clinical levels of depression referred to here are such that, were those clients to visit their GP, they would be eligible for services under the NHS.

There is an estimated 19 percentage point reduction in the proportion of clients reporting clinical levels of depression on the BDI (Table 2). This is the key finding carried forward in the economic analysis below.

Table 2: BDI depression severity, % parents above / below clinical case level

	At intake	Post-group	Change
Non-clinical case (Minimal)	32%	51%	19%
Clininal case (Mild/Moderate/Severe)	68%	49%	-19%

Mothers and fathers also reported reductions in their levels of stress in relation to parenting, using the Parenting Stress Index (PSI) questionnaire. The proportion of parents reporting clinical levels of stress decreased from 44.4% to 37.3% after attending PAP group sessions. Mothers reported a statistically significant reduction of stress in relation to parenting from a score of 89.9 to 83.6 on average.

We have been unable to identify the economic costs of stress specifically relating to parenting, and we therefore concentrate on the CORE / BDI measures in the rest of our analysis. Even if we had been able to monetise the impact on the PSI measure, there would be a considerable risk of 'double-counting' the economic benefits between the (overlapping) outcomes associated with the PSI, CORE and BDI measures.

Cost-benefit and cost-effectiveness

The Kings Fund $(2008)^{14}$ estimated that average service cost for people with depression was £1,355 in 2007/08. The average cost associated with lost employment was estimated at £9,311 per person, in 2007/08. We uprate these figures to account for inflation 16, suggesting the total economic saving could be around £12,606 in 2015/16 prices.

The Kings Fund's estimates relate to the cost of severe, moderate or mild depressive disorders, which is in line with the Beck Depression Inventory tool. Hence this economic valuation corresponds well with the programme impacts reported above.

¹⁴ Kings Find (2008), Paying the Price: the cost of mental health care in England to 2026, p.118 http://www.kingsfund.org.uk/sites/files/kf/Paying-the-Price-the-cost-of-mental-health-care-England-2026-McCrone-Dhanasiri-Patel-Knapp-Lawton-Smith-Kings-Fund-May-2008 0.pdf

¹⁵ The average service cost for people with depression and in contact with services was £2,085. However, around 35% of working age adults with depression were not in contact with services, so we have downrated the average service cost to £1,355 = $(65\% \times £2,085) + (35\% \times £0)$. We assume a zero cost saving in 35% of cases who are not accessing provision, or diagnosed by a GP with a mental health condition. Note that parents on the PAP programme may have a higher or lower propensity to contact these services – further information on this propensity would allow for a more accurate weighting.

¹⁶ HM Treasury, GDP deflators at market prices, and money GDP: December 2014 (Quarterly National Accounts)

Based on the preliminary BDI impact, we anticipate that 19 parents (19% of 100 going through the full programme) would move from above, to below the clinical threshold. The total economic benefit of the programme would therefore be £252,144 p.a. This suggests that the BDI impact alone could be sufficient to cover 72% of the total £332,500 PAP programme cost (a benefit-cost ratio of 0.72).

Table 3: Cost-benefit analysis based on impact of PAP on depression

Economic benefit per parent			
Average annual service cost for people with depression (2007/08)	£1,355		
Average annual cost of lost employment per person (2007/08)	£9,311		
Economic benefit per avoided case of depression, p.a. (2007/08)	£10,666		
Economic benefit per avoided case p.a. in 2015/16 prices	£12,606		
Economic benefit of the PAP programme (100 parents)			
Estimated reduction in clinical cases of depression for a PAP course	19		
Total economic benefit of PAP depression impact	£239,508		
Cost - benefit analysis			
Total PAP programme cost	£332,500		
Benefit - cost ratio	0.72		

The Kings Fund report is referenced in New Economy's (Greater Manchester) widely-used Unit Cost Database, and represents the most reliable UK estimates they were able to identify. ¹⁷ New Economy applied an 'amber' flag to these estimates, in recognition of the age of the original source data. We recommend that the same degree of caution is applied when interpreting the cost-benefit analysis above.

We also note that our duration assumption - that the BDI impact persists for 12 months - is somewhat arbitrary. Cost savings may accrue over a shorter or potentially much longer period. The analysis could be strengthened by repeating the CORE evaluation at a later stage, perhaps 12 or 24 months after completion of the programme.

From a prospective commissioner's perspective, it is also worth considering how the public service cost savings break down. The Kings Fund estimated that psychiatric inpatient care and residential care together account for 20 per cent of costs. Non-inpatient health care, excluding GP time, accounts for one-third of all costs (Figure 3).

¹⁷ New Economy (Greater Manchester) have developed a Unit Cost Database to assist local commissioners and others, who are developing cost benefit analysis of new interventions and programmes. The project is funded by the Department for Communities and Local Government's (DCLG) Troubled Families Unit, and delivered by Greater Manchester and Birmingham City Council. The database is quality assured by New Economy in co-operation with HM Government.

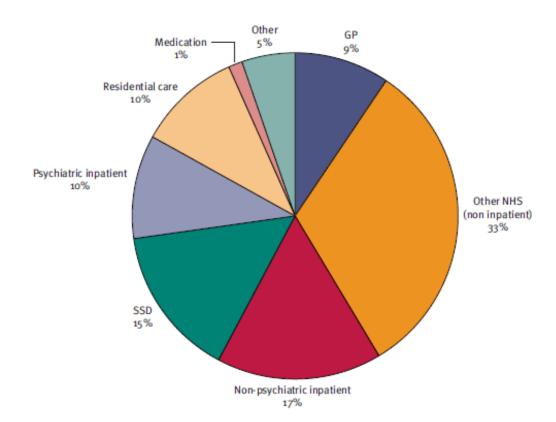


Figure 3: Distribution of service costs for Depression (Kings Fund, 2008, p25)

Quality-Adjusted Life Years (QALY) approach

We have also considered whether QALYs would offer a route to monetise economic outcomes, consistent with a range of clinical health interventions. Particular thanks are due to Clara Mukuria (University of Sheffield), who advised on the how to translate the CORE (Clinical Outcomes in Routine Evaluation) measure of impact into an impact on QALYs.

A QALY is a measure of the state of health of a person or group in which the benefits, in terms of length of life, are adjusted to reflect the quality of life. One QALY is equal to 1 year of life in perfect health. QALYs are calculated by estimating the years of life remaining for a patient following a particular treatment or intervention and weighting each year with a quality of life score (on a zero to 1 scale). It is often measured in terms of the person's ability to perform the activities of daily life, free from pain and mental disturbance.¹⁸

The CORE-6D¹⁹ utility scores in the baseline and follow-up evaluations were translated into QALY impacts, assuming that the utility gains/losses would persist for 6 months.²⁰ Preliminary analyses from TCCR's six-month follow up evaluation suggests that this is the case. The average improvement in QALYs per parent²¹ was 0.004715, which represents a relatively small gain. The recent literature

Across a sample of 114 parents with complete CORE-6D evaluation data.

¹⁸ https://www.nice.org.uk/Glossary?letter=Q

¹⁹ Mavranezouli, I., Brazier, J. E., Rowen, D., & Barkham, M. (2013). Estimating a Preference-Based Index from the Clinical Outcomes in Routine Evaluation—Outcome Measure (CORE-OM) Valuation of CORE-6D. Medical Decision Making, 33(3), 381-395.

²⁰ Using CORE-6D, and assumes that the impact in the follow-up evaluation, shortly after the programme, persisted for 6 months.

has highlighted that the QALY measure is, arguably, not sufficiently sensitive to changes in mental health²², which might explain why the significant impacts on the CORE and BDI measures convert into relatively marginal QALY gains.

The National Institute for Health and Care Excellence (NICE) threshold assumes a willingness to pay of £20-30,000 per QALY, suggesting the monetary benefit associated with the QALY impact for PAP would not be large in relation to the cost of the programme. However, an extrapolation based on the impact above is not recommended. Firstly, we don't have a clear counterfactual and are assuming participants' QALY outcomes in the baseline survey would remain the same at 6 months if they do not receive the intervention. Secondly, net monetary benefits are rarely reported as direct values – these are usually estimated using a more complex 'bootstrapping' method to account for uncertain impacts.

A recent review by Wisloff et al (2014)²³ highlighted that QALY gains can often be small in cost-utility analyses, with a median incremental QALY gain of 0.06 across the studies they reviewed, which translates to 3 weeks in best imaginable health. They find that the gains can be particularly small in cost-utility analyses relating to mental health, which again suggests the QALY measure is less suited to an economic assessment of relationship support interventions, such as PAP

Domestic violence and child abuse

Impact

Parents of the completed programmes were evaluated against the Brief Child Abuse Potential Inventory (BCAP), a widely-used measure of parental child abuse/neglect risk.

Elevated BCAP scores are related to characteristics frequently found in identified child physical abusers, including the childhood experience or witnessing of physical abuse, low levels of social support, low self-esteem, and increased negative affect and physiological reactivity in response to stressful stimuli.

After attending the groups, parents reported a statistically significant reduction in BCAP scores²⁴. The proportion of parents scoring above the recommended 'at risk' cut-off score of 12 decreased from 35.6% to 24.6% after attending the group sessions. The reduction in BCAP scores was predominantly accounted for by mothers.

Extrapolating from this finding, we estimate that, on average, 16.5 parents in a full programme (11% of 150 parents) might move from above to below the 'at risk' level of child abuse and neglect.

The amount of conflict between parents, and their approaches to resolving conflict with one another are measured using the Couple Communication questionnaire. Following group sessions, there was a decrease in the overall amount of conflict in parental relationships as reported by mothers

²² http://www.ncbi.nlm.nih.gov/pubmed/9050347

²³ Torbjørn Wisløff, Gunhild Hagen, Vida Hamidi, Espen Movik, Marianne Klemp, and Jan Abel Olsen, Estimating QALY Gains in Applied Studies: A Review of Cost-Utility Analyses Published in 2010 Pharmacoeconomics. 2014; 32(4): 367–375. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3964297/

(significant at the 5% level), but not by fathers. With regard to ways of managing conflict, both mothers and fathers reported a statistically significant reduction in their use of violence as a means of dealing with couple problems.

Cost-benefit and cost-effectiveness

The economic returns associated with reduced domestic violence and abuse proved particularly challenging to estimate. It has not been possible to establish robust links between the BCAP and Couple Communication metrics, and the probability or incidence of violence or abuse. The economic benefits are, however, likely to be substantial and merit further consideration, even if the economic returns cannot be valued precisely.

The World Health Organisation $(2004)^{25}$ reviewed the literature on the economic impacts of interpersonal violence, concluding that the costs of a programme to prevent child abuse through counselling equalled just 5% of the costs of child abuse itself. Similarly, the Early Intervention Foundation $(2014)^{26}$ reported:

• "Based on existing estimates of prevalence, the overall costs to the public purse of domestic violence remain substantial. If one adds to this the wider long-term impact on mental health and intergenerational effects on child development, not captured in these estimates, there is an overwhelming argument for a preventative approach."

Walby (2009) provide perhaps the most robust estimates of the total cost of domestic violence (DV) in England and Wales. Based on the Walby's research, New Economy's Unit Cost Database reports the average fiscal cost per incident, over the lifetime of the victim to be £2,470 (2008/09 prices). We have uprated this figure to £2,848 in 2015/16 prices. Walby also estimated the average economic 27 and societal costs per incident, as shown below.

Table 4: Average cost per incident of domestic violence

	2008/09 prices	2015/16 prices
Fiscal cost	£2,470	£2,848
Economic cost	£1,473	£1,698
Social cost	£6,795	£7,834

Social costs are based on the human and emotional cost associated with domestic violence. Walby derived an estimate of what people would be willing to pay, to avoid injuries and trauma relating to domestic violence. ²⁸

²⁵ Waters H, Hyder A, Rajkotia Y, Basu S, Rehwinkel JA, Butchart A. The economic dimensions of interpersonal violence. Department of Injuries and Violence Prevention, World Health Organization, Geneva, 2004.

http://whqlibdoc.who.int/publications/2004/9241591609.pdf?ua=1

²⁶ Guy, Feinstein and Griffiths (2014), Early Intervention in Domestic Violence and Abuse, Early Intervention Foundation, http://www.eif.org.uk/wp-content/uploads/2014/03/Early-Intervention-in-Domestic-Violence-and-Abuse-Full-Report.pdf

²⁷ New Economy state that this: "comprises costs to the individual of £818, and to employers of £655, related to time off work due to injuries (and also, for individuals, travel/lost wages for GP visits, prescription charges, the cost of setting up new homes/re-possession following divorce and separation due to DV, and civil/legal costs)."

²⁸ New Economy assume that the fiscal, economic and social costs are, in the main, likely to be expended relatively soon after the incident, and can therefore be considered as an annual cost per incident. They note that social costs may be longer-term, particularly in

In Table 5, we use the social cost above to estimate a 'break even' analysis. If the PAP programme prevented 42 incidents of domestic violence, the social benefit generated may be sufficient to offset the cost of the programme. Families at risk of DV would tend to suffer multiple incidents, so the PAP programme need only reduce the risk amongst a small number of families to offset the cost of the programme.

Table 5: Break-even analysis: reduction in domestic violence to cover PAP programme costs.

Social cost per incident of domestic violence	£7,834
Total cost of the PAP programme	£332,500
Reduction in number of incidents to cover programme cost	42

The early outcome data associated with BCAP and Couple Communication suggests the programme is going some way towards achieving this level of impact, although it remains unclear whether the impact partially, fully or more than offsets the programme costs. One of our recommendations is that TCCR consider whether there are ways in which their metrics can be linked more precisely to the number of incidences of interpersonal violence. This would facilitate a more robust cost-benefit analysis.

Children's psychological wellbeing and child development

Impact

Children's emotional and behavioural difficulties were measured using the Strengths and Difficulties Questionnaire (SDQ), based on reports by mothers and fathers. The proportion of children obtaining SDQ scores considered to be within the 'abnormal' range decreased from 40.2% initially, to 27.1% after attending the groups. Fathers (but not mothers) reported statistically significant improvements in their children's internalising behaviours (e.g. emotional and peer problems) after attending groups.

Where children are exposed to discordant conflict between parents, this can exert negative effects on child development (e.g. Cummings and Davies, 2010; Rhoades, 2008). For PAP, the post-group outcome data does not provide a longer-term perspective on cognitive development and educational attainment. Randomised trials in the U.S. assessed the impact of relationship support programmes on child development, showing statistically significant improvements over a longer period.³⁰ The US intervention on families with a child making the transition to parenthood (School

assumptions involved and the lower level of confidence that can be attached to the data used to derive the per incident values.

29 This was based on 96 parents from whom pre- and post-group SDQ data was available. TCCR encourage parents to think about the same child (their youngest child) when they are completing this questionnaire. This means outcome data is available for 48 children, reported on by both parents. TCCR consider each parents' own perspective on the child, and as such there are 96 individual observations.

30 In a trial on approximately 100 couples with / without the course intervention, children were assessed by their teachers for better behaviour and higher academic achievement following the course. The Cowans also ran a larger study of 300 couples from low income groups divided into 3 groups – the first group was for fathers only and involved 16 weekly meetings; the second group was for couples also involving 16 meetings; the third group involved only one meeting for couples. The first (fathers only) group maintained stable children behaviour, but the parent relationship declined. The second (couples) group showed stable child performance and improved parental

relationships; the third (one meeting) group saw a decline in both the couple relationships and the performance of their children. This

study was repeated with 1 other group of 300 couples and the results were statistically significant.

terms of mental health issues, which could endure over the victim's lifetime. They apply an 'amber' flag to the costs, given the

Children and their Families; SAF) generated a positive impact on children ten years after the intervention.

Cost-benefit and cost-effectiveness

A report presented by Pro Bono Economics (2013)³¹, on behalf of the charity Chance UK explored, in detail, the monetary benefits of children's conduct disorder. The report suggests that conduct problems in young children lead directly to an additional £22,000 in public service costs, per child, between the ages of 10 and 28³². They estimate that the total cost to individuals arising as a result of conduct problems in childhood at £142,800 per child over their lifetime.³³ We uprate to 2015/16 prices, implying public service costs of £24,100 and individual costs of £156,200.

For PAP the 'break even' reduction in cases of conduct disorder would be 1.84, estimated by dividing the programme cost (£332,500) by the reduction in individual and public service costs associated with conduct disorder (£180,300) above. That is, a reduction in the negative outcomes for just two children outweighs the cost of a PAP programme delivered to 100 parents.

Table 6: Break-even analysis: reduction in child conduct disorder to cover PAP programme costs.

Cost per child with conduct disorder	
Public services	£24,100
Individual	£156,200
Total	£180,300
Breakeven analysis	
Total PAP programme cost	£332,500
Reduction in cases of conduct disorder to cover	
programme cost	1.84

Father's reported pre- and post-group ratings on their youngest child only may represent an upper bound to the economic impact of the programme. This would imply a 13.1% reduction (=40.2% - 27.1%) in negative outcomes associated with conduct disorder, across 50 children per programme. Our lower bound is zero, assuming no statistically significant improvements (as reported by Mothers). This suggests an economic return between £0 and £1.2million, with a mid-point of £590,000. Compared to the cost of the programme, this represents a return of £1.78 (in the range £0 to £3.55) for every £1 spent on the programme.

Table 7: Cost-benefit analysis: economic benefit associated with SDQ impact

Pro Bono Economics (2013), Α break-even analysis of the Chance UK mentoring http://www.probonoeconomics.com/sites/probonoeconomics.com/files/files/reports/2013-11%20Chance%20UK%20final%20%20_0.pdf 32 "A breakdown of these costs is: Education-related public services - £5,700: these costs arise through additional remedial help at school, being permanently excluded, social workers for truancy, and adult literacy classes. Increased use of the criminal justice system - £10,200: this is based on the conservative assumption that there are no additional costs incurred past the age of 28. Public health services - £1,000: between the ages of 10 and 28. Social care services - £2,800. Benefit payments - £2,200: we treat benefit payments as a cost to the public purse but a benefit to the individual, so that in the overall calculation they cancel each other out. Domestic abuse and divorce services -£100: between the ages of 10 and 28." Pro Bono Economics (2013), A break-even analysis of the Chance UK mentoring programme.

³³ This breaks down into: Reduced educational attainment - £12,700. Additional crime - £90,700: from stolen or damaged property, crime prevention measures and emotional impact. Benefit payments – (£2,200): benefit to the individuals offset by the cost to the public purse above. Family costs - £41,600: from damaged property, missed work and additional time needed for household tasks.

Programme impact and economic benefit per child	
Economic cost per child with conduct disorder	£180,300
Fathers reported reduction in children on 'abnormal' SDQ range	13.1%
Total economic benefit of the programme	
High scenario (=13.1% reduction x 50 children x £180,300 benefit per child)	£1,180,965
Central case	£590,483
Low scenario (no significant impact)	£0
Cost - benefit analysis	
Total PAP programme cost	£332,500
Benefit - cost ratio (High)	3.55
Benefit - cost ratio (Central)	1.78
Benefit - cost ratio (Low)	0.00

The Chance UK study provided a breakdown of the individual and public service costs. Some of these savings accrue directly to local authorities (e.g. a reduction in the use of foster and residential care, valued at £3,100 per case) and others to crime, education, and health services.

Table 8: Additional costs incurred by public services and individuals as a result of conduct problems and conduct disorder

	Public S	ervices	Indivi	duals
	2010 prices	2015/16 prices	2010 prices	2015/16 prices
Education	£5,700	£6,200	£12,700	£13,900
Crime	£10,200	£11,200	£90,700	£99,200
Health	£1,000	£1,100	-	-
Foster & residential				
care	£2,800	£3,100	-	-
State Benefits	£2,200	£2,400	-£2,200	-£2,400
Relationships	£100	£100	-	-
Family	-	-	£41,600	£45,500
Total	£22,000	£24,100	£142,800	£156,200

Source: Pro Bono Economics (2013) calculations based on data from Scott et al. (2001)³⁴, prices uprated to 2010 values

Relationship quality

Impact

Mothers and fathers responses on the Quality of Marriage Index (QMI) indicate that their perception of their relationship improved after attending group sessions. The maximum score on the QMI is 45, with greater scores representing higher relationship quality. Mothers reported a statistically significant increase in the quality of their relationship with their co-parent, from an average of 24.2 before attending groups to an average of 27.4 after attending groups. Fathers also reported a significant increase from an average of 26.5 before attending groups to an average of 28.9 after

³⁴ Scott, S., Knapp, M., Henderson, J. & Maughan, B. (2001), Financial cost of social exclusion: follow up study of antisocial children into adulthood, British Medical Journal, Vol. 323

attending groups. A score of 29 on the QMI is the recommended cut-off to distinguish distressed from non-distressed relationships. The proportion of parents reporting a 'distressed' couple relationship' decreased from 68.1% to 48.3% after attending PAP group sessions.

The improvement in marital satisfaction needs to be evaluated in the context of (1) previous literature on longitudinal follow-ups of couples without intervention and (2) previous intervention trials of the precursor of Parents as Partners. A meta-analysis reveals that without intervention, average couple satisfaction scores decline over time (Twenge, Campbell, & Foster, 2003). Randomized control trials of the intervention on American samples all show significant intervention effects in that the control condition couples declined in marital satisfaction while the intervention participants remained stable. By contrast, the Parents and Partners results show a statistically significant *increase* in couple relationship satisfaction.

Cost-benefit and cost-effectiveness

We have been unable to identify a precedent for monetising the economic value of improved quality of marriage. The economic literature in this area has, more commonly, focussed on the costs of divorce. Couple relationship satisfaction does not correlate highly with divorce rates. Whilst more satisfied couples tend to stay together, so do unsatisfied couples, particularly given their concern for the impact of separation on their children.

The QMI evaluation indicates that 20 parents, in a programme of 100 participants, might be expected to move from above to below the 'distressed' threshold on the QMI. Given the cost of a programme is estimated at £332,500, this implies that the cost per parent that moves out of the distressed category would be £16,625. One possible interpretation is that PAP would break-even if parents would be willing to pay this amount, to move their relationship out of the 'distressed' state.

Table 9: Quality of Marriage cost-effectiveness analysis

Total PAP programme cost	£332,500
Parents in the programme	100
Parents expected to move from 'distressed' to 'non-distressed' on QMI	20
Cost per parent moving into the 'non-distressed' category	£16,625

This may well be a plausible value on parents' willingness to pay but we have not pursued this particular approach to economic valuation further, noting the risk of 'double-counting', having already estimated the returns from more general improvements in both parents' psychological wellbeing and children's behaviour.

Labour market outcomes

Impact

Qualitative feedback from parents to Group Leaders suggested additional changes taking places in parents' lives, especially in relation to training and employment. These changes have not been fully

³⁵ Twenge, J. M., Campbell, W. K., & Foster, C. A. (2003). Parenthood and Marital Satisfaction: A Meta-Analytic Review. *Journal of Marriage and Family*, *65*(3), 574-583.

captured in the outcome data although TCCR's research team are looking at ways of collecting this in future. There are several reasons to consider that the programme could be impacting positively on labour market performance, given the significant impacts on reduced depression, stress, domestic violence and improved relationship quality; all of these impacts can be linked to improved productivity and lower sickness and absence.

Cost-benefit and cost-effectiveness

One benchmark for the potential impact of the PAP programme comes from the larger number of groups run in California, where family income increased by approximately \$5000 after 6 months. Using HM Treasury exchange rates, this would equate to £3,200 per family. The following unit costs also provide an indication of the potential benefits associated with improved labour market performance. Employment outcomes are not the principal objective of PAP but, from an economic perspective, there may be a case for tracking employment outcomes more closely, to take these into account within a cost-benefit framework.

Table 10: Annual fiscal benefit from a workless claimant entering work

	2012/13		2015/16
	pric	es	prices
Job Seeker's Allowance	£	9,800	£10,361
Employment and Support Allowance / Incapacity Benefit	£	8,632	£9,126
Income support	£	7,570	£8,004

Use of health and other public services

Impact

7.9% (9/114) of parents reported that their use of health services had decreased when asked immediately after the final session of the PAP programme. For these parents, the following details were collected by TCCR about the use of health services prior to starting the programme:

- On anti-depression medication
- Attending family therapy
- Cognitive Behavioural Therapy from the NHS
- Seeing a clinical psychologist
- Attending individual or couple therapy
- Treatment for bipolar disorder (details are unclear)
- Attending Alcoholics Anonymous

Cost-benefit and cost-effectiveness

We would recommend that TCCR continue to evaluate the reduced use of health services. This presents a useful route to monetise the economic returns, and in particular the benefits accruing to local commissioners. Whilst the impacts immediately after the programme are promising, sample

HM Treasury Monthly Exchange Rates, January 2015. Reports \$1.56 to £1. https://www.gov.uk/government/uploads/system/uploads/attachment data/file/398034/exrates-012015c.csv/preview

sizes are relatively small, once the use of public services is broken down by the type of service. For example, only one parent saw a reduction in services relating to alcohol misuse, whereas other parents who had reduced their service use tended to report that these related to their mental health conditions. We therefore need to be cautious to avoid 'double-counting' the cost savings associated with these services, given that the impact of reduced levels of depression has already been estimated above.

Comparison to the economic evaluation of other interventions

There are few direct comparators to the PAP programme. Cost-benefit estimates have been published for: parenting programmes, where the focus is on the parent-child relationship, including Parent Child Interaction Therapy (PCIT), and the Incredible Years Parent Training programme; and therapeutic interventions with the whole family, including Functional Family Therapy (FFT) and Strengthening Families (see Table 11).

Table 11: Published cost-benefit analyses: parenting and family interventions

	Cost	Benefit	Benefit minus Cost	Benefit Cost Ratio	Rate of return on investment	Risk of loss
Parent Child Interaction Therapy (PCIT) for						
Families in the Child Welfare System	£1,273	£2,583	£1,310	2.03	11%	2%
Strengthening Families (10-14)	£730	£472	-£258	0.65	-	93%
Incredible Years - Parent Training	£1,211	£1,654	£443	1.37	6%	33%

Source: Social Research Unit at Dartington, http://investinginchildren.eu/search/interventions/?f[0]=im_field_outcomes_affected%3A342

At £3,325 per person the cost of PAP is higher than these programmes, which merits further explanation. PAP is longer and more intensive than most parenting programmes, owing to a stronger focus on psychological intervention. In PAP, the client is the 'couple' and the outcomes are primarily for the adults; the reverse tends to be the case in parenting programmes.

Table 11 illustrates also the wide range in benefit-cost ratios associated with these other interventions. They are based largely on a translation of economic benefits associated with U.S. versions of these programmes. Again, this suggests that the existing CBA evidence for these interventions is not directly comparable.

Recommendations: improving the economic evaluation of the PAP programme in future

The report sets out some of the highly-promising post-group outcomes. We have applied a combination of cost-benefit, cost-effectiveness and cost-utility analysis to each of these measures as appropriate. At this stage, the overall conclusion is that the economic benefits of PAP are likely to outweigh the costs of the programme, and the programme may yield a sizeable economic return. It has, however, proved difficult to pin down the scale of this economic return. There are a number of ways that TCCR could further develop this economic evaluation. Our main recommendations are:

1. To review the economic evaluation of the programme based on TCCR's planned follow-up evaluations.

Planned follow-up evaluations, several months after the completion of the programme, will help to establish the duration of any impacts and the size of the economic return.

2. To build on the analysis of the economic impact of reduced depression, above.

To our knowledge, this report is the first time that the cost-per-QALY metric has been applied to this or similar relationship support programmes. A more suitable next step may be to focus on depression free days, or cost per 'remission' case rather than QALYs. The latter can be imputed from economic analyses in the literature that address both.

3. Develop a stronger understanding of the programme's impact on domestic violence and abuse

The economic literature is likely to improve in this area. In 2014, both NICE and the Early Intervention Foundation³⁷ published authoritative reviews of the evidence on 'what works' in addressing and preventing domestic violence and abuse. The EIF highlighted a great deal of new and emerging evidence both on the impacts and costs of preventative interventions.³⁸

4. Review new economic studies on how to value the impact of improved relationship quality

During this project we did not find a suitable valuation method that could be linked with the Quality of Marriage Index. However the economic literature is burgeoning on the economics of happiness and wellbeing and it may be possible to reconsider this aspect of the programme in future

5. Continue to monitor the labour market outcomes of parents

There are early indications that the programme is facilitating some participants to return to work. Others may see improvements in productivity or hours worked. The literature on he economic benefits associated with labour market outcomes is well-developed, so these could potentially be incorporated into a benefit-cost framework.

³⁷ Guy, Feinstein and Griffiths (2014), Early Intervention in Domestic Violence and Abuse, Early Intervention Foundation, http://www.eif.org.uk/wp-content/uploads/2014/03/Early-Intervention-in-Domestic-Violence-and-Abuse-Full-Report.pdf

³⁸ Including: research by HMIC and the College of Policing; the IMPROVE study on the cost effectiveness of intervention programmes for children experiencing domestic violence and abuse (September 2014); project Mirabal at the Centre for Research into Violence and Abuse which plans a research launch in January 2015; research by Professor Walby, the UNESCO Chair of Gender Research at Lancaster University, who has been funded by the ESRC to extend her work on the costs of domestic violence and abuse.

Annex A: TCCR Unit Cost estimates

PROGRAMME COSTS (5 couples/10 parents)	
Total practitioner cost (includes session time, preparation and supervision) per programme* *A Parents as Partners programme comprises an assessment phase where each couple is seen individually 3 times, a group work phase, where there	
are 16 weekly 2 hour group meetings, and an ending phase, where the couples are seen individually twice Each programme has 2 x Group Workers and 1 Support	
Worker, working with 10 parents.	
Assumes 2 Group Workers x 1 day (0.2) x 6 months.	£10,352
1 Support Worker x 1 day (0.2) x 6 months	£4,000
Practitioner training and supervision time and fees (2 GWS)	£2,400
Venue hire	£2,000
Food and refreshment	£320
Childcare	£2,700
Materials / Publicity materials	£1000
Outreach and recruitment costs	£2,772
Total cost per programme	£25,544
Total per person assuming 10 per group	£2,554
AREA COSTS TO DELIVER 10 GROUPWORK PROGRAMMES	
(100 parents)	
Cost of 'Think Couple' preparation work in a local area (Conference and presentations to 10 local professional teams)	£3,772
Per person estimate assuming 100 participants in area* *These area costs would diminish on subsequent iterations of the programme	£57
Organisational costs	
Management costs, organisational infrastructure, office costs etc.	£30,000
To support an operation running 10 programmes per year (100 parents). Per person estimate assuming 10 per group	£30
Plus research and evaluation programme	
Evaluation programme including Research Officer (0.5) and admin support (0.4)	£43,400
Per person estimate assuming 10 programmes (100 parents per year)	£434
Total area programme costs (100 Parents)	£77,172
Area costs per person	£771
Area costs per person	£//1
Per person estimate (including proportion of area programme	£//1