The Evidence Base for Family Nurse Partnership

Family Nurse Partnership is a preventive programme for vulnerable first time young mothers. It offers intensive and structured home visiting, delivered by specially trained nurses, from early pregnancy until the child is two. The Family Nurse Partnership began in England in 2007 with initial testing in 10 sites. There are now over 50 sites across England offering places to over 6,500 families with the Government committed to increasing the number of families in the programme at any one time to 13,000 by 2015.[1]

A Strong Evidentiary Basis

Family Nurse Partnership (FNP), known as Nurse Family Partnership (NFP) in the US has been developed by Professor David Olds and colleagues at the University of Colorado on the basis of over 30 years of extensive research. Three large scale randomised control trials have tested the programme with diverse populations in different contexts starting in Elmira, New York in 1977, then in Memphis Tennessee in 1988 and in Denver, Colorado in 1994. These have showed a range of benefits for children and mothers over the short, medium and long term.[2] Long term follow up of the children and mothers in these studies continues.

NFP has one of the best evidence bases for preventive early childhood programmes, being identified by many rigorous evidence reviews as having the highest quality of evidence and best evidence of effectiveness – see for example The Coalition for Evidence Based Policy[3], Blueprints for Violence Prevention,[4] Society for Prevention Research.[5] It has also been shown to result in significant economic savings to the Government and to society more generally.[6] A recent review of home visiting programmes by the US Government identified NFP as having 64 positive effects across 7 different domains, many of which were long lasting, making it the most effective preventative home visiting programme.[7] In England, the Parenting Programme Commissioning Toolkit has recently evaluated FNP and rated it as having the highest quality of evidence, one of only a few programmes rated at this level.(http://www.commissioningtoolkit.org/)

Programme Outcomes

The US randomised control trials have identified a range of positive effects over the short, medium and long term. The programme effects that have the strongest evidentiary foundations are those that have been found in at least two of the three trials;[8] these are:

- Improved prenatal health
- Fewer childhood injuries
- Fewer subsequent pregnancies
- Greater intervals between births
- Increased maternal employment
- Improved school readiness

Many of the outcomes were strongest for or restricted to, the most vulnerable -- notably women who were low income, young and unmarried or had low psychological resources[1] at intake to the programme.

In addition to the above, longer term effects on children's emotional and behavioural development and on their involvement in crime have been observed in Elmira trial which is the only one of the trials that has so far followed the children through their teenage years to age 15 and age 19.[9,10]

Improved pregnancy health and behaviours

The programme aims to improve pregnancy outcomes by supporting mothers-to-be to make informed choices about healthy pregnancy behaviours. Improved outcomes observed in the trials include:

- Decreases in smoking during pregnancy,[11],[12]
- Improvements in prenatal diet, [11]
- Fewer hypertensive disorders of pregnancy[13]

Other positive pregnancy effects were observed in one or other of the trials, often for a specific sub-group of the population. The longer intervals between the birth of first and second child observed amongst NFP mothers that was observed across all three trials is likely to be associated with better pregnancy outcomes for the second pregnancy and for the second child.

Reduced child abuse and neglect

NFP is often cited as the most effective programme for preventing child abuse and neglect and reducing childhood injury and this is where some of its strongest evidence lies. Outcomes of the programme in this area include:

- Reductions in verified child abuse and neglect
- Reductions in health care encounters for injuries

More specifically:

- 48% reduction in verified cases of child abuse and neglect by age 15 (Elmira)[14]
- 56% reduction in A&E attendances for injuries and ingestions during child's second year of life (Elmira)[15]
- 28% relative reduction in all types of health care encounters during child's first two years of life (Memphis)[16]
- 79% relative reduction in the number of days that children were hospitalised with injuries or ingestions in child's first two years of life (Memphis)[16]

NFP has also been identified as the most effective programme for preventing child abuse and neglect in a review by MacMillan and colleagues published in The Lancet.[17]

Improved school readiness and academic achievement

The research shows that NFP children have better cognitive and language development and score higher on reading and maths achievement tests than do

[1] Low psychological resources is defined as having low IQ, mental health problems and low self efficacy.

their control group counterparts with these effects limited to low-resource mothers. More specifically NFP children had:

- 50% reduction in language delay at 21 months (Denver)[12]
- Better academic achievement in the first six years of elementary school (Memphis, low resource mothers)[18]
- Better language and emotional development at age 4 (Denver, low resource mothers)[19]

Improved emotional and behavioural development

NFP children's emotional and behavioural development is also improved by FNP:

- 67% reduction in behavioural and emotional problems at age 6 (Memphis)[20]
- 28% reduction in 12 year olds mental health (anxiety and depression) problems (Memphis)[18]
- 67% reduction in 12 year olds use of cigarette's, alcohol and marijuana (Memphis) [18]
- 59% reduction in arrests by time child aged 15 (Elmira)[21]
- 90% reductions in supervision orders by age 15 (Elmira)[21]
- Fewer lifetime and current arrests and convictions of female children at age 19 (Elmira)[10]

Improved maternal life course

Another of FNP's goals is to help mother's improve their own life course development, in particular their economic self sufficiency, as this in turn is linked with improved outcomes for their child. NFP research shows that maternal life course is improved by:

- Fewer subsequent pregnancies and births and greater intervals between first and second births[22] [12,13,]
- Reductions in use of welfare and other Government assistance [22,23,24]
- Increase in father presence and father stability[24]
- Greater maternal employment[25]
- 61% fewer arrests and 72% fewer convictions of mother by time child aged 15[14]

Cost Effectiveness

The research also shows that NFP results in considerable economic savings to Government and to society. Savings increase over time as the children get older but there are indications that the cost of the programme is recovered by the time the children are aged four[26] for the highest risk families and certainly by age 12.[24] US studies suggest cost savings of between $17,000 to $34,000 (2003 prices) per child, a $3-5 return for every $1 invested, depending on the target group, the studies and benefits taken into account.

- Karoly (2005) estimated a cost savings of $34,000 per child by the time they reach adulthood for high risk mothers, a saving of $5.70 per $1 invested.[6]

- Lee (2008) in a study of evidence based cost effective programmes to reduce the likelihood of children entering and remaining in the child welfare system

estimated net benefits of NFP (2007 prices) to be $18,054 with a benefit to cost ratio of $3.02 for each dollar invested in terms of benefits.[27]

- Olds (2010) estimated that NFP saves the government substantial amounts in welfare payments alone with $12,300 saved per family between the child being born and reaching 12 years old. [24]

Effective Replication

For evidence-based programmes such as FNP to be successfully replicated and deliver their intended outcomes outside of research environments it is important they are implemented in line with the original programme model. To help ensure this FNP is a licensed programme with a set of core model elements and fidelity goals that must be in place if the programme is delivered with 'fidelity' to the programme model. Great attention is being paid to ensuring the programme is delivered with fidelity in the UK so to maximise the likelihood that the programme will result in similar positive outcomes to those seen in the US. Initial evaluation suggests the programme can be delivered well in England, in line with the US model and that the potential for positive impacts is promising.[30]

Emerging English Evidence Base

The FNP National Unit is committed to building the English evidence base for FNP to strengthen the overall evidence base for NFP/FNP. A three year formative evaluation of the first ten sites has been completed [28,29,30] and a randomised control trial is underway due to report initially in 2013. Development work is also underway to identify how best to strengthen the programme's content and delivery in specific areas relevant to the English context, such as use of interpreters to deliver the programme to non-English speaking mothers, fathers' involvement, eligibility and targeting and working with wider services such as Children's Centres and Social Care.

Findings from the formative evaluation are promising suggesting the programme can be delivered well in its entirety in England, that families like it and are engaging well with it and also that the potential for positive outcomes and cost savings is good. More specifically:

- FNP successfully engages with disadvantaged young parents, including fathers, with 87% of those who are offered FNP enrolling and a high proportion continuing to engage until their child reaches two years olds.

- FNP is reaching a vulnerable group of young mothers consistent with the US evidence on those known to benefit; 85% of FNP mothers have incomes below the poverty line, 43% very low incomes and 75% no/minimal qualifications.

- Father/partner involvement in the programme is good with many fathers/partners engaging in the home visits. For more than half of FNP clients their partner/baby's father had been present for at least one FNP visit.

- Family nurses are positive about the programme, enjoy working in it, learning new skills and the opportunity to work intensively with clients and to develop a therapeutic relationship with them. They report seeing positive changes in their client's behaviours and that client's are more confident as parents, are playing with their children more, want to learn, and have aspirations for the future.

While the programme's efficacy in England will be rigorously assessed by the RCT, the potential for positive impacts is promising with mothers appearing to:

- reduce smoking in pregnancy
- initiate breast-feeding at a high rate
- cope better with pregnancy, labour and parenthood
- have increased confidence and aspirations for future
- be returning to education and taking up paid employment
- be very positive about their parenting capacity and report high levels of warm parenting.

In addition, FNP children appear to be developing in line with the general population, which is again promising as this group usually fares much worse.

Acknowledgements

This summary draws heavily on the 'Evidentiary Foundations of Nurse-Family Partnership' document available on the Nurse Family Partnership website at http://www.nursefamilypartnership.org/assets/PDF/Policy/NFP_Evidentiary_Standards as well as other documents on this website setting out the NFP evidence base, see for example: http://www.nursefamilypartnership.org/proven-results

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