

Teenage Pregnancy and Young Mothers

A rapid review of the issues and interventions in this topic area
in support of the development of the Health Strategy for London

Final Report

1. Introduction

CASPE Research has been commissioned by the NHS Executive London Regional Office to undertake a rapid review of the evidence available in respect of the need for, and effectiveness of, interventions to reduce teenage pregnancy and improve care for young mothers across London.

This report sets out our approach to tackling the review, identifies the many issues to be addressed in developing a strategy for London in this area, and examines the knowledge base that currently exists about the effectiveness of relevant interventions. We have identified the need for further work in this area and some of the policy implications for London.

2. Scoping the subject

Definitions and issues

As described in the title, the topic area is defined largely by age and sex and says nothing about other sub-divisions of a large heterogeneous population eg specific at risk groups, nor of the male's role in conception and support during pregnancy and the early years of parenting.

We believe that in addressing this issue, the NHS Executive London office wishes to focus primarily on the younger teenager, especially those outside of a stable relationship, and particular at risk groups. Many of the interventions examined below are aimed at these groups with general educational initiatives starting at a young age, and more focused projects aimed at particular target groups. In line with the aims of the Social Exclusion Unit and with Dr Cunningham's scoping group, we believe that the Health Strategy should focus on reducing teenage conceptions, and on reducing the long term social exclusion of young (ie teenage) parents and their babies.

Although commissioned by the NHSE regional office, the process of developing the Health Strategy for London recognised early the need to foster partnership working and the involvement of many agencies, including the business and voluntary sectors. In this area in particular, it is clear that a wide range of social factors impact on the level of teenage conception and the concomitant needs of young parents and their children. It is therefore undesirable to focus solely on the health inputs when addressing this issue. A holistic approach

is necessary as has been emphasised in all recent reports on this topic. Similarly, the development of a strategy in this area needs to be firmly linked with the development of an overall sexual health strategy and also with that of a strategy for children and children's services, while ensuring that in so doing any priority being given to addressing the issue of teenage conception is not diluted.

Finally, there is a need to place the development of a London strategy for teenage pregnancy both within national activities (including the development of a national strategy) and the demand and enthusiasm for local initiatives to address specific parts of the problem. In undertaking the review, we have tried to examine interventions from both perspectives ie is the intervention effective at a local level, is it appropriate to extrapolate to a larger scale activity, and if so is it likely to be successful on a pan-London basis?

3. Methods used in the review

The review has been undertaken largely through desk research within a six week elapsed period. We were dissuaded from undertaking any primary research, due to constraints on time and resources, and have therefore focused on literature and document review, and talking with a number of experts who have undertaken work in this area. In the recent past there have been a number of major reports⁽¹⁻⁴⁾ published in the UK containing relevant data on the subject and/ or information on interventions. These provided useful data sources, but often the level of information available from such interventions proved inconclusive when assessing effectiveness. The library at the Family Planning Association was scanned, as was the National Research Register and other web-based resources.

Besides the review of literature, and follow up discussions over the phone, we organised a meeting with representatives of the HEA, Health of Londoners' Project, the FPA and the King's Fund to explore the major issues around the topic, and we also attended the scoping group, organised by Dr Cunningham, which included a number of practitioners working on this topic across London.

As part of the review of interventions, we established a framework that attempted to address a number of questions:-

- Has there been any attempt to evaluate the intervention?
- If so, against what criteria ie was the outcome examined directly related to conception or was it an intermediate one eg improved education, or self esteem?
- What standard of evidence is there of its effectiveness?
- Is the scale of impact significant and cost-effective?
- Are findings generalisable from their host area, and in particular, are they applicable to London?

The criteria used to examine these questions are detailed in section 5 below.

4. Scale of problem & risk factors

4.1 Scale of the problem in London

Teenage Conceptions

The latest Office for National Statistics' estimates of teenage conceptions for local authority areas are included in the Autumn edition of Population Trends⁵. This describes conceptions that occurred to women under 18 years of age in 1995-97. The report also includes figures on the proportion of these conceptions which led to a termination of pregnancy.

Table 1. Conceptions to women under 18 years of age (1995-97)

	<i>Number of conceptions</i>	<i>Rate per 1,000 women aged 15-17 years</i>	<i>Percent leading to a termination</i>
London	17,040	50	51
Inner London	7,912	65	50
Outer London	9,128	41	52
Camden	410	52	54
Hackney & City of London	804	78	52
Hammersmith & Fulham	342	57	49
Haringey	640	64	50
Islington	476	60	55
Kensington & Chelsea	234	40	62
Lambeth	1,045	89	52
Lewisham	816	74	50
Newham	852	63	42
Southwark	891	86	51
Tower Hamlets	537	53	43
Wandsworth	607	64	48
Westminster	258	36	62
Barking & Dagenham	555	69	41
Barnet	486	30	60
Bexley	381	34	49
Brent	666	51	61
Bromley	444	31	53
Croydon	912	53	51
Ealing	603	40	53
Enfield	540	40	56
Greenwich	741	62	40
Harrow	322	28	64
Havering	408	32	61
Hillingdon	597	48	48
Hounslow	466	43	41
Kingston upon Thames	191	28	58
Merton	373	49	55
Redbridge	387	31	60
Richmond upon Thames	178	23	53
Sutton	308	36	46
Waltham Forest	569	53	53

Table 1 shows that in 1995-97 there were 17,040 conceptions to women under 18 years of age in London, equivalent to a rate of 50 per 1,000 women aged 15-17 years. Fifty one per cent of these conceptions led to a termination of pregnancy. Inner London has a higher rate of conceptions (65/1,000) compared to Outer London (41/1,000), but has a lower percentage of conceptions leading to a termination (50%) compared to 52% for Outer London. At a local authority level, Lambeth has the highest rate of conceptions (89/1,000) and Richmond upon Thames the lowest rate (23/1,000). The percentage of conceptions leading to a termination ranges from 64% in Harrow to 40% in Greenwich.

Live Births

In 1997, there was a total of 211 live births to women 15 years of age and under and 5,225 births to women 16-19 years of age (Table 2)⁶.

	<i>11-15 years</i>	<i>16-19 years</i>
London	211	5225
Barking & Havering	16	318
Barnet	8	104
Brent & Harrow	12	241
Bexley & Greenwich	8	365
Bromley	6	131
Camden & Islington	2	264
Croydon	14	255
Ealing, Hammersmith & Hounslow	15	448
East London & The City	32	829
Enfield & Haringey	12	333
Hillingdon	2	189
Kensington, Chelsea & Westminster	3	146
Kingston & Richmond	3	91
Lambeth, Southwark & Lewisham	43	797
Merton, Sutton & Wandsworth	23	403
Redbridge & Waltham Forest	12	311

Termination of Pregnancy

There were 519 terminations of pregnancy to women 15 years of age and under in London in 1997 and 5,992 terminations for women in the age range 16-19 years (Table 3)⁶.

	<i>11-15 years</i>	<i>16-19 years</i>
London	519	5992
Barking & Havering	35	281
Barnet	13	204
Brent & Harrow	26	459
Bexley & Greenwich	31	325
Bromley	15	158
Camden & Islington	28	354
Croydon	26	273
Ealing, Hammersmith & Hounslow	46	535
East London & The City	64	652
Enfield & Haringey	41	442
Hillingdon	19	183
Kensington, Chelsea & Westminster	17	276
Kingston & Richmond	11	159
Lambeth, Southwark & Lewisham	95	905
Merton, Sutton & Wandsworth	25	430
Redbridge & Waltham Forest	27	356

Risks of Unintended Pregnancy

In 1994, the Faculty of Public Health Medicine published *Guidelines for Health Promotion* which examined the effectiveness of contraceptive services⁷. The aim of the guidelines was to help public health physicians to measure quantitatively the effectiveness of the contraceptive services provided for their local population. The guidelines' approach to estimating the frequency of unplanned pregnancy combines termination data with data asking mothers whether their pregnancy was intended. This approach has been applied to London in the following table (Table 4).

Table 4: Risk of unintended pregnancy (1997)

Age Group	A	B	C	D	E	F	G	H	I
11-15	211	100*	211	519	730	173350	0.4	100	71
16-19	5225	57	2978	5992	8970	230574	3.9	80	67

Key

- A: Number of births
- B: Percentage of births resulting from unintended pregnancy
- C: Number of births resulting from unintended pregnancy (= A.B/100)
- D: Number of terminations of pregnancy
- E: Total number of unintended pregnancies (= C+D)
- F: Size of resident female population
- G: Risk of unintended pregnancy per 100 women in age group (= E.100/F)
- H: Unintended pregnancies as a percentage of all pregnancies (= E.100/(A+D))
- I: Terminations as a percentage of all unintended pregnancies (= D.100/E)

* There is widespread agreement that all pregnancies among girls below the legal age of consent are undesirable, even if not all are unintended, therefore 100% has been used as the percentage of unintended pregnancy.

Table 4 shows that at a London level the risk of unplanned pregnancy in the 11-15 year age group is 0.4 per 100 women, and for the 16-19 year age group 3.9 per 100 women. It shows that 80% of pregnancies in the 16-19 year age group are unplanned and that 67% of unplanned pregnancies result in a termination. In the 11-15 year age group, 71% of unintended pregnancies result in a termination.

If this approach is applied to the individual health authorities, however, there is considerable variation in these rates and percentages. The table overleaf presents this information (Table 5). From this it can be seen that the risk of unplanned pregnancy in the 11-15 year age group ranges from 0.2 per 100 women (Kingston & Richmond HA) to 0.7 per 100 girls (Lambeth, Southwark & Lewisham HA). The percentage of unintended pregnancies which result in a termination ranged from 52% in Merton, Sutton & Wandsworth HA to 93% in Camden & Islington HA.

In the 16-19 year age group the risk of unplanned pregnancy ranges from 2.0 per 100 women (Kingston & Richmond HA) to 5.9 per 100 women (Lambeth, Southwark & Lewisham HA). The percentage of pregnancies which were unplanned ranged from 76% (East London & The City HA) to 85% (Barnet, Brent & Harrow, and Kensington, Chelsea & Westminster HAs). The percentage of unintended pregnancies which resulted in a termination ranged from 58% (East London & The City HA) to 77% (Brent & Harrow and Kensington, Chelsea & Westminster HA).

Table 5: Risk of unintended pregnancy in 11-15 years olds (1997)

	A	B	C	D	E	F	G	H	I
Barking & Havering	16	100	16	35	51	9763	0.5	100	69
Barnet	8	100	8	13	21	7893	0.3	100	62
Brent & Harrow	12	100	12	26	38	11525	0.3	100	68
Bexley & Greenwich	8	100	8	31	39	11541	0.3	100	80
Bromley	6	100	6	15	21	6624	0.3	100	71
Camden & Islington	2	100	2	28	30	8154	0.4	100	93
Croydon	14	100	14	26	40	8583	0.5	100	65
Ealing, Hammersmith & Houslow	15	100	15	46	61	15301	0.4	100	75
East London & The City	32	100	32	64	96	18159	0.5	100	67
Enfield & Haringey	12	100	12	41	53	11839	0.5	100	77
Hillingdon	2	100	2	19	21	6090	0.3	100	91
Kensington, Chelsea & Westminster	3	100	3	17	20	6567	0.3	100	85
Kingston & Richmond	3	100	3	11	14	7261	0.2	100	79
Lambeth, Southwark & Lewisham	43	100	43	95	138	18884	0.7	100	69
Merton, Sutton & Wandsworth	23	100	23	25	48	13498	0.4	100	52
Redbridge & Waltham Forest	12	100	12	27	39	11668	0.3	100	69

Risk of unintended pregnancy in 16-19 years olds (1997)

	A	B	C	D	E	F	G	H	I
Barking & Havering	318	57	181	281	462	10832	4.3	77	61
Barnet	104	57	59	204	263	10874	2.4	85	76
Brent & Harrow	241	57	137	459	596	14536	4.1	85	77
Bexley & Greenwich	365	57	208	325	533	13363	4.0	77	61
Bromley	131	57	75	158	233	8496	2.7	81	68
Camden & Islington	264	57	151	354	505	14346	3.5	82	70
Croydon	255	57	145	273	418	10396	4.0	79	65
Ealing, Hammersmith & Houslow	448	57	255	535	790	21742	3.6	80	68
East London & The City	829	57	473	652	1125	20524	5.5	76	58
Enfield & Haringey	333	57	190	442	632	15573	4.1	82	70
Hillingdon	189	57	108	183	291	7972	3.7	78	63
Kensington, Chelsea & Westminster	146	57	83	276	359	14811	2.4	85	77
Kingston & Richmond	91	57	52	159	211	10813	2.0	84	75
Lambeth, Southwark & Lewisham	797	57	454	905	1359	22991	5.9	80	67
Merton, Sutton & Wandsworth	403	57	230	430	660	19404	3.4	79	65
Redbridge & Waltham Forest	311	57	177	356	533	13903	3.8	80	67

Key

- A: Number of births
- B: Percentage of births resulting from unintended pregnancy
- C: Number of births resulting from unintended pregnancy (= A.B/100)
- D: Number of terminations of pregnancy
- E: Total number of unintended pregnancies (= C+D)
- F: Size of resident female population
- G: Risk of unintended pregnancy per 100 women in age group (= E.100/F)
- H: Unintended pregnancies as a percentage of all pregnancies (= E.100/(A+D))
- I: Terminations as a percentage of all unintended pregnancies (= D.100/E)

4.2 Risk Factors

Research has shown that young people with a history of disadvantage are at significant greater risk of becoming parents in their teens. Chapter 2 of the Social Exclusion Unit's report on teenage pregnancy¹ brings together the state of knowledge in this area and identifies eight different risk factors. Clearly some of these risk factors impact on each other, and are not therefore additive eg poverty, children in care and abused children may overlap, but the figures below could be used to produce a level of relative importance across London. A more detailed modelling study examining the inter-relationship between risk factors would also prove valuable to better understanding the problem and to determining the causal direction in some cases.

Children In Care

Children in care, or leaving care, have repeatedly been shown to be at higher risk of teenage pregnancy. Studies have shown that women who had been in care or fostered were nearly 2½ times more likely than those brought up with both their natural parents to become teenage mothers. Another survey showed that a quarter of care leavers had a child by the age of 16, and nearly half were mothers within 18-24 months after leaving care.

Table 6. Children looked after by local authorities care services (1998)

In 1998, approximately 9,100 children were being looked after by London Boroughs. Based on the numbers of 13-19 year olds the number of children looked after were⁸

	<i>Per 1,000 population</i>	<i>No. of children</i>	<i>Potential n of conceptions if...a) all n= females b) 50%=females</i>	
London	5.6	18,377	1,242	621
Inner London	7.5			
Outer London	4.4			

Physical and Sexual Abuse

Several studies have shown an association between abuse in childhood and teenage pregnancy. US estimates suggest that the incidence of childhood physical or sexual abuse is about twice as high among pregnant teenagers as in the general population in the US. In the UK, ChildLine reported that about 5% of the calls they received about teenage pregnancy in 1996-97 also talked about sexual abuse.

Table 7. Children and young people on child protection registers (1998)⁸

	<i>No. children on registers</i>	<i>Rate per 10,000 children aged under 18</i>	<i>Percentage of children in each category of abuse</i>	
			<u>Physical</u>	<u>Sexual</u>
London	4,993	31	28%	16%
Inner London	2,222	40	26%	13%
Outer London	2,771	26	29%	17%

Crime

There is a strong association between involvement with crime and teenage parenthood. Studies have shown that teenage girls and boys who have been in trouble with the police had twice the risk of becoming a teenage parent than those who had no such contact with the police.

Table 8.
The rate per 100,000 population of persons found guilty, or cautioned for, indictable offences in London (1997)⁸

<i>Estimated rate</i>	<i>Age</i>	<i>Males</i>	<i>Females</i>	<i>No. in trouble with police</i>	<i>No. potential conceptions</i>
6 per 1,000	10-13 years old	830	357	589	7
42 per 1,000	14-17 year old	6,656	1,465	2447	202
63 per 1,000	18-20 years old	8,946	1,485	2,034	253
<i>Total</i>				5,070	462

London: Metropolitan Police and City of London Police areas

Mental Health Problems

A number of studies suggest a link between mental health problems and teenage pregnancy. A study found that a quarter of pregnant teenagers had a probable psychiatric disorder. A 1991 follow-up study of 55 hospitalised adolescent girls with conduct disorders found that a third were pregnant before the age of 17.

Table 9. Prevalence of child and adolescent psychiatric disorders⁹.

		<i>No. of females</i>
Conduct disorders	6% of 5-16 year olds	5,020
Emotional disorders	4% of 5-16 year olds	3,347
All disorders	10% of 0-16 year olds	77,015
	10% of 17-19 year olds	12,551

Poverty

Poverty is a key risk factor. The risk of becoming a teenage mother is almost 10 times higher for a girl whose family is in social class V (unskilled manual), than those in social class I (professional). Teenage girls who live in local authority or other social housing are 3 times more likely than their peers living in owner occupied housing to become a mother.

Table 10. Poverty indicatorsIncome

Percentage of households with low income (below £100 per week) in London 14%⁸

Benefits

Households in receipt of social security benefits, 1996-97⁸

	<i>London</i>	<i>Inner London</i>	<i>Outer London</i>
Family Credit/Income Support	22	30	18
Housing Benefit	24	34	17
Council Tax Benefit	26	35	21
Unemployment Benefit/ Job Seeker's Allowance	3	5	3
Incapacity or Disablement Benefit	11	12	10
Child Benefit/One Parent Benefit	30	27	32

Lone Parent Households 1996⁹

	<i>Percentage of lone Parent households</i>	<i>All households (thousands)</i>
London	7.5%	2,998.8
Inner London	9.8%	1,209.5
Outer London	5.9%	1,789.3

Children of Teenage Mothers

The daughter of a teenage mother is one and half times more likely to become one herself than the daughter of an older mother.

Table 11. Live births

There were 5,436 live births to women under 20 in London in 1997⁶

Educational Problems

Studies of both boys and girls found that low educational achievement was a risk factor for teenage parenthood. One study of teenage mothers found that more than 40% left school with no qualifications. Girls who truant or are excluded from school are also at relatively greater risk of becoming pregnant.

Table 12. Examination achievements of young people (1996/97)⁸

	<i>Inner London</i>		<i>Outer London</i>	
	<i>Males</i>	<i>Females</i>	<i>Males</i>	<i>Females</i>
No graded results	12%	7.6%	7.3%	5.6%

Post-sixteen education and employment

There is evidence of a strong link between teenage parenthood and not being in education, training or work. In one study almost half of non-participants were mothers, compared with 4% who were in education, training or work.

**Table 13.
16 and 17 year olds not participating in education or training (1996/97)⁸**

	<i>London</i>	<i>Inner London</i>	<i>Outer London</i>
16 year olds not in education	21%	27%	18%
16 year olds not in training	95%	-	-
16 year olds not in education or training	17%	-	-
17 year olds not in education	33%	37%	30%
17 year olds not in training	93%	-	-
17 year olds not in education or training	27%	-	-

Unemployment

Levels not known

As indicated earlier, there is considerable consensus and not a little evidence about risk factors associated with teenage conception, and also with the likely adverse effect caused by the exclusion of young parents and their children. However, since many of these factors have been looked at individually there is often not a clear view on the relative importance of each nor the strength of the causal relationship.

5. Interventions available and their effectiveness

In section 3, we set out some of the ‘top-level’ questions that we would use to evaluate the interventions identified. As identified in the Social Exclusion Report most of these were aimed at either (i) improving sex and relationships education and/or PSHE; (ii) improving

access to contraception, or (iii) supporting teenage parents and their children. Within (i), a number of projects had a broader and more diffuse objective of improving the overall level of education within a community and/or enhancing the self esteem of young people. Forty one interventions have so far been examined (additionally, some projects are operating in a number of locations).

5.1 Criteria

The questions within the framework ;-

- Has there been any attempt to evaluate the intervention?
- If so, against what criteria i.e. was the outcome examined directly related to conception or was it an intermediate one e.g. improved education, or self esteem?
- What standard of evidence is there of its effectiveness?
- Is the scale of impact significant and cost-effective?
- Are findings generalisable from their host area, and in particular, are they applicable to London?

have been expanded, and criteria determined in order to evaluate each of the interventions as objectively as possible. This process is described below.

Attempt to evaluate intervention

This required some mention to be made of an attempt to formally evaluate the intervention. It did not require a particular model of evaluation, but did necessitate more than merely identify the size of the problem in a particular area.

Outcome measures within the evaluation

The final outcomes in this particular area should be (i) a reduction in teenage conceptions, or (ii) young mothers and their children (not to forget about the fathers) living in a supported environment and developing their life opportunities. While proxies such as increased use of condoms might be thought to lead directly to outcome (i), other proxies such as improved educational level and /or enhanced self-esteem would appear to be less directly related and still require connection to be made to achieving the overall goal. Evaluations using these measures were considered to be monitoring intermediate outcomes.

The standard of evidence

The 'gold standard' for assessing evidence in the UK health service is generally accepted as that promoted by the NHS Centre for Reviews and Dissemination as set out in '*Undertaking Systematic Reviews of Research on Effectiveness : Guidelines for Those Carrying Out or Commissioning Reviews*'¹⁰ The hierarchy is represented below for reference purposes:-

I Well-designed randomised controlled trials

Other types of trial:

II-1a Well-designed controlled trial with pseudo-randomisation

II-1b Well-designed controlled trials with no randomisation

Cohort studies:

II-2a Well-designed cohort (prospective study) with concurrent controls

II-2b Well-designed cohort (prospective study) with historical controls

II-2c Well-designed cohort (retrospective study) with concurrent controls

II-3 Well-designed case-control (retrospective) study

III Large differences from comparisons between times and/or places with and

without intervention (in some circumstances these may be equivalent to level II or I)
IV Opinions of respected authorities based on clinical experience; descriptive studies and reports of expert committees

The higher level of this hierarchy require a structured experimental approach which some commentators (eg the HEA report³) have reservations about the ability to assess the impact of interventions in the area of sexual health in a discrete methodology. Kirby¹¹ reported in the American Research Findings on Programs to Reduce Teen Pregnancy that because of this difficult challenge, they reviewed studies on the basis of four criteria:

- (1) they have been published (or are likely to be published) in a peer-reviewed professional journal, report, or volume
- (2) they have an experimental or quasi-experimental design
- (3) they employ a sample size of at least 80 youths in the combined treatment and control group
- (4) they measure impact upon sexual or contraceptive behaviour or pregnancy or birth rates (that is, not just upon attitudes or beliefs).

At present, we have used the CRD criteria, due to the need for more detailed information in order to assess projects using the Kirby criteria, but there are some attractions to this latter, possibly more flexible framework.

Impact of intervention

In assessing impact, we were interested in assessing the level of the effect claimed, the size of the target group and the cost effectiveness of the intervention.

The level of the effect claimed (or the *scale of the impact*) was assessed independently from whether the effect was focused on a direct or intermediate measure. Potentially somewhat subjective, the assessment depended on there being some quantification of the effect. Where this was missing, judgement was made based on the narrative.

In many interventions, the *size of the target group* had to be estimated from the narrative since it was often described as operating within a school, or a community. However, the general scale of the operation could be assessed. With respect to *cost-effectiveness*, this has so far proved more difficult. Estimates of cost are rarely made, and with the assessment of benefits still being in an early stage of development eg through the use of proxy measures etc, an assessment of cost effectiveness can only be made on an ordinal or relative basis.

Applicability to London

In assessing whether a particular intervention might be appropriate to London, we have identified its likely value at a local level, and separately whether it might have similar impact on a pan-London basis. In addressing this issue, we have looked at:-

- *the location of the original project* – only in so far as it may be easier to generalise from projects within similar cultures, than across cultures.
- *whether relevant structures exist in London* – on a similar basis, an intervention which requires a differing mix of skills, or depends on relationships or social organisations which do not exist in London will be more difficult, if not impossible to implement.
- *resource intensity/ available* – similar to the above, we have attempted to assess whether the amount of input that has been put into a project is available and /or sustainable in the longer term within London. Many projects are built on the enthusiasm of one or more leaders who manage to command a level of resources that

would not be available to ‘rolled out’ projects or to widespread implementation.

5.2 Results

Using the above framework as an aid, we have produced the following tables. Table 14 lists forty-one interventions that have been examined and briefly describes the type and site of interventions, as well as the location of the initial work. A slightly longer outline of each project is provided in the Appendix together with references to sources, and published papers (where appropriate).

Tables 15 (in respect of reducing teenage conceptions), and Table 16 (in respect of support for young parents and their children) use the framework described in section 5.1 to analyse each of the projects considered. While the aim has been to remove subjectivity from the assessment, we have inevitably had to use judgement in some of the interventions. A longer timescale would have enabled us to investigate each intervention more fully and, where necessary, discuss details of the study with the researchers themselves. However, we consider that this formulation has been a useful approach from which to draw conclusions in sections 6 and 7.

A brief outline of each project / intervention is provided in the Appendix

Table 14 Results of the review: Impact of interventions

Inter-vent-ion	Impact of intervention			Location of intervention		
	Approx size of target group	Site of intervention	Type of intervention	Non-UK	UK	Local London
1	~500-1000	1 primary school	Enhanced PSHE:community worker for parental support		Newcastle	
2	~1,000	1 secondary school	Training teachers &peer educators: for 13-15 yrs olds		Exeter	
3	?n	(in community)	Self esteem, confidence building: Accredited module		N. Ireland	
4	400	(in community) Church +HA	Advice, information, free condoms, referral to FPA etc. career support, drug education, personal skills		Nottingham	
5	?n young men	School clinic + FPA	Medical services+FPlan. FT Male social worker based school & clinic	Washington Heights. NY		
6	?n at risk youth Starts age 12-	After schools clubs 20 sites	Integrated academic support+ health care+ sex educ,+ career guidance, counselling. Stipends earned.	Pan USA		
7	?n self-referred	(school, excluded & community)	Advice, counselling, emergency contraception			Kingston
8	?n ,M & F clinic+outreach	clinic+outreach,.	Support .Contraception, teen-dads & partners, specialist male worker	Maryland, USA		
9	?n	(in community)	Community education project		Belfast	
10	2.9 million	(in community)	Telephone information / helpline		UK National	
11	1 maternity unit~24	maternity unit	Maternity care scaled to teenage needs			Tooting
12	?n teen mothers		Practical support, parent support group, personal development programme, prepare return school			Peckham
13	?n teen mothers		Residential unit, 24 hr helpline			Lewisham
14	teen parents ?n from 48 flats		Semi-independent accommodation, + training, education & employment opportunities		Birmingham	
15	160 UK,8 local	community	Self esteem etc., training & education awareness		UK	Northolt
16i	Fathers ?n	Young OffendersUnit	Human development, father's role & responsibilities, contraception. nutrition, health, communication: Certificate		Lancaster	
16ii	1 YOI unit ~500	YOI	Human development, contraception education .		Liverpool	
17	All teenagers	Liverpool HA	Residential workshop	Review		
18	All US teenagers	Pan USA	National campaign	USA		
19	USA	School + clinic	Education + family + School, community youth organisation.	Washington		
20	5,000	Community youth centre)	250 Peer educators, Youth leadership development, education & outreach- through theatre/video education	NY		

21	1,000-	Schools & community bases	Sexual health clinics, Community based peer groups provide 'skits' in schools and community bases	Bronx
22i	?n-sisters/ daughters at risk	Schools & community bases	Sexuality education, counselling, parent outreach, teacher training. Programmes for males	NY
22ii	?n school ?n community ?n residential	School, community, residential maternity	Maternity support-residential + mentors	NY
23	1 Pre-school	Pre-school	Educational support for disadvantaged pre-school children	USA
24	4 schools-high risk pupils	Schools	Risk identification & case management. Referral to FP clinic	Area USA
25	700 high school students	Schools	Outreach education	Pan-USA
26	?n , ?1 school	School	Classroom lessons	USA
27	53 black females	School	Peer-led education, communication skills, career-goals. + links to clinics & supportive adults	USA
28	88 during & after school	School	Mentor + voluntary service. Weekly sessions education + life skills	USA
29	3,290 M&F	School	Role play, skill building	CANADA
30	M&F 1,444,	School	Sex education	USA
31	91 nulliparous women	School	Problem solving ,rehearsing decisions	USA
32	120	?	General skills, mentorship , role play	USA
33	4,800.	Summer education training	Summer school life skills education on sex behaviour, drug use.+ educational support at school	USA
34	47, racial minority F .	FP clinic	One session to 1st time attenders -factual information & communication skills	USA
35	1,067-males	?	Slide show anatomy, STDs, contraception. + 1 visit health care practitioner.	USA
36	38 FUp attenders	contraceptive clinic	Nurse-client transactional intervention re contraception	USA
37	154	FP clinic	Counselling with family member or telephone calls	USA
38	57	Clinic	Peer contraceptive counselling	USA
39	258	Home	Video & newsletters, OR video only	USA
40	7,500 pupils. ?n teachers trained sex education		Prior training for teachers + school based sex education	Lothian/ Tayside
41	1 school	School	Interagency advice provided during lunch hour sessions	Shetland

Table 15 : Results of the review: Reducing teenage conceptions

Intervention	Quality of evidence (CRD hierarchy)	Outcome		Impact of intervention			Applicability to London				
		D = Direct I = Intermediate		Scale of impact: L:low, M med H=high	Site of intervention	Approx size of target group	Location of intervention	Resource intensity /available	Relevant structures exist in London	Generalisable over London	
Objective	Measure	Location of intervention	Resource intensity /available							Relevant structures exist in London	PAN
1	NE	I	NE	L/M	1primary school	~500-1000	Newcastle	Y project worker	Y	Y	Y
2	III	I	I	M	1 secondary school	1,000 +	Exeter	Y	Y	Y	Y
3	NE	I	NE	L	Community centres	N/K	N. Ireland	Y	Y	Y	Y
4	NE	D	NE	M/H	Community centres	400	Nottingham	Resource implications	Requires links Church /HA / trusts	N	Y
5	III	D	D	M	School based clinic + FP	N/K Young men	Washington Heights. NY	N	N	N	N
6	III	I	D	H	After schools clubs	N/K at risk youth -	20 States USA	N	Y (potentially)	N	Y
7	NE	D	NE	-M	School + community centre	N/K self-referred	Kingston	Y	Y	Y	Y
8	III	D	D	M	Clinic + outreach	N/K,.M & F	Maryland, USA	Y (considerable)	Y	Y	Y
9	III	I	I	L	Community	N/K	Belfast	Y	Y	Y	Y
10	NE	D	NE	M	Community	UK young people	UK National	Y	Y	Y	N
11	NE	D	NE	N/K	maternity unit	1 maternity unit ~24 teenagers	Tooting	Y	Y	Y	Y
12	III	D	NE	H	Community	N/K- teen mothers	Peckham	Y	Y	Y	Y
13	NE	D		H	Residential/Community	N/K homeless teen mothers	Lewisham	Y	Y	Y	Y
14	NE	D	NE	N/K	Supported housing scheme	N/K teen parents	Birmingham	1Y	Y	Y	Y
15	NE	I	NE	L/M	Community	8	Northolt, Middx	Y	Y	Y	Y
16i	Evaluation taking place	D	?	N/K	Young OffendersUnit	N/K Fathers	Lancaster	Y	Y	Y	N
16ii	Evaluation taking place	D	?	N/K	YOI	1 YOI unit	Liverpool	Y	Y	Y	N
17	N/A	-		N/A	Liverpool HA	1HA teenagers	No intervention	Y	Y	Y	Y
18	NE	D	NE	N/K	National campaign	All US teenagers	USA	Y	Y	Y	N
19	III	D	I&D	M/H	School+clinic	USA	Washington	Y	Y	Y	Y

20	III	D	I	M	Community youth centre	5,000	NY	N	N	N	N
21i	III	D	I	L/M	Schools & community bases	1,000 + in one year	Bronx	Y	Y	Y	Y
21ii	NE	D	I	N/K	Community base	N/K sisters & daughters at risk	Bronx	Y	Y	Y	Y
22	III	D	I	M	School, Community, Residential maternity	N/K school N/K community N/K residential	NY	Y (considerable)	Y	Y	Y
23	?III	I	D	H	Pre-school	1 Pre-school	USA	Y	Y	Y	Y
24	III	D	D	H	Schools	4 schools-high risk pupils	Area USA	Y (considerable)	N	Y	Y
25	I	D	D&I	M/H	Schools	700 high school students	Pan-USA	N	N	N	N
26	I (low power)	D	D	L	School	?1 school	USA	Resource implication	Y	Y	Y
27	I (low power)	I	D	L	School	53 black females.	USA	Y	Y	Y	Y
28	I (low power)	I	D	L-M	School	88 females	USA	Y	Y	N	Y
29	I	I	D	L-M	School	3,290 M&F	CANADA	Y	Y	Y	Y
30	I	D	D	L	School,community	M&F 1,444,	USA	y	Y	Y	Y
31	I (low power)		D	H	School	91 nulliparous women ,	USA	Y	Y	Y	Y
32	I (low power)	I&D	D	L	?school	120	USA	Y	Y	Y	Y
33	I	I&D	D	L	Summer education training	4,800.	USA	N	N	N	N
34	I (low power)	D	D	M	FP clinic	47, racial minority females.. 1 st time attenders.	USA	N	Y	Y	Y
35	I	D	D	M	?	1,067-males	USA	Y 1 Hlth care indiv	Y	Y	Y
36	I (low power)	D	D	L/M	contraceptive clinic	38 F-up attenders	USA	Y	Y	Y	Y
37	I (low power)	?D	D	L	FP clinic	154.	USA	N	Y	N	Y
38	I (low power)	D	D	L	Adolescent Gynae Clinic	57	USA	N	N	N	N
39	I	?D	D	L	Home	258	USA	Y	Y	Y	Y
40	I	I&D	I	L	School	7,500 pupils: N/K teachers trained in sex education	Lothian/ Tayside	Y	Y	Y	Y
41	NE	D	NE	L	School	1 school	Shetland	Y	Y	N	N

Table 16 Results of the review: Supporting young parents and their children

Intervention	Quality of evidence (CRD hierarchy)	Outcome: Objective / Measure		Impact of intervention			Applicability to London					
		D= Direct, I= Intermediate		Scale of impact: L:low, M med H=high	Site of intervention	Approx size of target group	Location of intervention	Resource intensity /available	Relevant structures exist in London	Generalisable over London PAN LOCAL		
8	III	D	D	M	clinic+outreach,.	N/K ,M & F	Maryland, USA	Y (considerable)				
11	NE	D	NE	-N/K	maternity unit	1 maternity unit ~ 24	Tooting	Y	Y	Y	Y	
12	III	D	NE	H	Community	N/K teen mothers	Peckham	Y	Y	Y	Y	
13	NE	D	NE	H	Residential /community	N/K Homeless teen mothers	Lewisham	Y	Y	Y	Y	
14	NE	D	NE	N/K-	Supported housing scheme	N/K teen parents	Birmingham	1Y	Y	Y	Y	
15	NE	I/	NE	L/M	Community	? 8	Northolt, Middx	Y	Y	Y	Y	
22	III		I	L/M	Residential maternity	N/K	NY	Y	Y	N	Y	

6. Gaps in Knowledge base

6.1 Limitations of current studies

As shown in Section 5 above, there are some difficulties in suggesting that there is adequate evidence for many of the interventions being pursued in attempts to reduce the rate of teenage conceptions, and improve the care of young mothers (or young parents generally).

This is not to say that these interventions may not be beneficial nor that they may not be having an impact on the levels of conception but rather that there is inadequate scientifically based evidence of this. Additionally, many projects are pursuing intermediate goals e.g. increased self esteem, improved education which have a less than certain impact on the desired outcome of reduced conceptions.

Most structured studies have been carried out in the United States, but many of these also have design difficulties e.g. low power, or have potentially low impact which would be difficult to discern separately from other effects.

The transferability of strong studies e.g. study 25 in tables 14 and 15, to the London environment often raises questions of the effectiveness of particular interventions within a London context either because of the scale of resources required, or the absence of social structures needed to support them.

This may seem rather negative and not likely to take us further forward. In order to avoid this, the rest of this section looks at the level of evidence that exists in specific aspects of this topic area and assesses where there are gaps in the knowledge base and where major questions remain to be resolved. In identifying these gaps, we have made judgement about the quantity and quality of work going on in particular areas (without necessarily demanding the rigour of full RCTs etc.) and the level of evidence that currently exists, including consensus in the area (level IV in CRD's hierarchy). The existing work has been examined under each of the six main headings shown below.

Evidence about the nature of the risk factors

Knowledge about the scale of the problem in London

Impact of the interventions on intermediate outcomes

impact of interventions directly on desired outcomes (both in respect of teenage pregnancy and care of young mothers)

Knowledge of causal links between intermediate and direct outcomes

Knowledge about transferability to a London environment

Evidence of the nature of risk factors

This is perhaps the most researched area within this topic, and there is general consensus about some of the many factors that are thought to contribute to an increased risk of teenage pregnancy (see section 4.2).

However many teenage pregnancies result from the activities of young people (both male and female) that have multiple factors. The importance of these multiple factors, and their level of incidence within the population at risk has not been fully researched and is imperfectly understood. Primary research in this area may not be indicated as a priority, but secondary analysis of existing or enhanced data sets is likely to prove valuable.

Knowledge about the scale of the problem in London

Section 4.2 has also attempted to relate each of the risk factors to various statistics known about the population of London. This has not proved to be an easy task (given the short time period available) due to the relative lack of readily available data. For example, disparate data sources leads to the collation of data for different age bands while other data do not separate males and females. Finally, as mentioned earlier, the impact of multiple risk factors applied to the overall incidence in teenage conceptions is required to accurately predict and monitor the scale of the problem in London.

The analysis of this topic in the UK (and in London in particular) would benefit from the availability of a clear and consistent data set, obtained from reliable data sources.

A further gap exists in the apparent lack of pan London data of services provided and the quality of services available to young persons in this area. The Health of Londoners' Project undertook an audit of the availability of services in 1996 but also found data hard to obtain - Information about black and ethnic minority again some basic capabilities in achieving a pan-London perspective would facilitate early discussions about appropriate and effective service provision.

Impact of interventions in the intermediate outcomes

Of the seventeen studies examined that were located in the UK, four were primarily aimed at assisting young parents. Of the other thirteen, six studies had intermediate outcome objectives. These were variously related to improved levels of general or sexual education within the group, enhanced self-esteem or training programmes for educators. The American studies tended to focus on direct measures of outcome. Returning to the UK studies, the quality of the evidence, where obtained, was generally low – the exception being study No.40 based in Lothian and Tayside. Most of these studies provide only anecdotal evidence of improved intermediate outcomes while the minority attempts a more formal 'before and after' study.

While recognising gaps in the evidence in respect of improving intermediate outcomes, there would seem to be a number of reasons for not investing further in this area at present. These include (i) a very long 'pay-back' period (ii) potentially greater return if looking at direct outcomes (iii) value in waiting for some of the existing studies to be evaluated. Finally a strong consensus exists that suggests improved sex education and a raising of self-esteem are desirable in their own right. The only question to be answered then is what model of intervention might be encouraged in this area. The studies examined suggest that enhances teacher training in PSHE and the use peer educators may be important in achieving the desired intermediate outcomes.

Impact of interventions directly on the desired outcomes.

Evidence in this area is almost wholly dependent on US based studies, which themselves often suffer from deficiencies. In general terms, studies would suggest that peer educators, supported and reinforced by community support e.g. church, family, counsellors can be successful in reducing early sexual activity, encouraging the use e.g. contraception and being a positive force in decision making for both male and female partners.

However, there are a number of important areas that do not appear to have received any serious attention. These are briefly looked at below.

(i) Teenage Conceptions:

- There is a lack of knowledge about the appropriateness of the current service provided to young people in London. Some services seem to be relatively 'under-provided' – what are the reasons for this. Similarly, research shows that specialised training in Family Planning for young people can have a major effect, but this would appear low in London.
- A major area for research lies in 'how to reach young people'. There is some evidence of the media's influence in putting over health messages to young people, but this should be examined in the context of teenage pregnancy. Questions such as which media are effective, and how to put the message across need input from young people themselves.
- The use of telephone helplines by the young appears to be an attractive way for them to make contact for information on sex, contraception and sexual health. However, a formal evaluation in a controlled trial would provide strong evidence of their value.
- With respect to at risk groups, there is little information about the education and support mechanisms provided for young people looked after by the Local Authorities, in respect of their sexual health..

(ii) Support of Young Parents:

- The most obvious 'gap' in this respect would appear to be in the relative lack of services for young men. While this may not appear to a direct health issue, involving young men in the discussion of the sexual health of partners, engaging them through a multi-agency approach has been shown to have an impact in the US.
- Research into the inclusion of children of teenage parents within nursery, playgroup and mother and toddler groups would identify opportunities for service improvement. Such provision reduces later inequalities and provides the opportunity to break the chain.

Causal links between intermediate and direct outcomes

In a similar manner, there are a number of specific issues that are worthy of examination in this area. While we have identified the general issue of whether improved intermediate outcomes, e.g. education, translate into better 'direct' outcomes, eg reduced conceptions, research into this question would necessarily be long term and large scale.

Concentrating on issues that are reasonable in the short term we would suggest that the following topics might provide examples and prove worth while:

- What is the relationship between the supply of Family Planning clinics for young people and uptake? Has provision of services been linked to an educational or advertising programme? How successful has the latter been? Have local factors contributed to success?
- Is there evidence that there is a strong link between specific schools and clinics or GP practice staff in the area of sex education or other health matters enhances uptake or contraceptive services (or reduces teenage conceptions).

Knowledge about transferability to a London environment:

While Tables 15 and 16 in Section 5 have tried to address features that might impact on the transferability of initiatives to a London environment, there is no clear evidence as to which, if any, initiatives are likely to move across cultures, be they international or within the UK. This is a question general to most research programmes.

As well as geographic transferability, the NHS needs to better understand the dynamics that exist in moving innovations from one host site, which typically has a product champion providing leadership, a supportive environment, (to have established the research in the first place), and possibly enhanced resource levels, to a routine and widely based service environment. This is a major area for development work, which is probably appropriate to look across the whole of London's Health Strategy, rather than just within this topic.

7. Policy implications for London.

This section looks at the findings of sections 4 to 6 and attempts to address their relevance and implications for the development of a health strategy for London in the area of teenage pregnancy and care of young mothers. Such comments need to be considered alongside the work that Dr. Cunningham is undertaking in this topic area. Additionally some of the points made relate to issues that apply to other topic areas and could usefully be addressed as part of the overall developmental process. Each of these policy areas is briefly looked at below.:-

i) the requirement for a pan-London approach .

Many of the studies that we have looked at should readily transfer to local London settings. However the mechanisms by which local initiatives can be translated to pan- London basis (see issues v-vi below) are less clear. Additionally, the fluidity of the population means that service need to span administratively convenient boundaries and that a pan-London approach has to facilitate this, if it is to be valuable.

ii) a discrete or holistic approach to the issue?

From the consensus view coming from the research studies examined and from the experts to whom we have spoken it is clear that addressing the discrete topic of teenage pregnancy without tackling the underlying risk factors would be insufficient. This problem, together with the social exclusion of the young parents and their babies require a holistic approach to addressing the overlap of risk factors such as deprivation, educational loss, exposure to local authority care and problems with the police in order to better understand it. There is a need to understand the culturally diverse needs of the black and ethnic minority population in this area. We also consider that the importance of the young men's role in teenage pregnancy and as fathers' and the resultant care is often overlooked and requires more attention.

iii) lack of shared information.

One area of great potential for a pan-London approach would lie in establishing a shared data resource across health authorities, PGCs, LAs and with other agencies concerning the nature of the problem in London, the impact of the various risk factors in different areas of the capital and the level and style of current service provision. The lack of knowledge that currently exists (and/or is difficult to access) on a pan-London basis seriously inhibits the ability to effectively plan at this level.

iv) creating meaningful partnerships.

The above identifies one area where meaningful partnerships across health authorities, PGCs, LAs and voluntary agencies are required if progress is to be made. Many of the research studies cited in this report have also built heavily on the ability to involve a range of people in the community and across organisational boundaries. While this may be easy to achieve in a selected basis, a pan-London approach requires such relationships to develop across a wide area of the capital.

v) development of public/private/voluntary sector relationships

There are two aspects to this topic. Firstly, the voluntary sector e.g. FPA, the Brook Advisory Centres etc. provides a considerable proportion of care in this area and, as such, needs to be included in any approach to planning on a pan-London basis. Secondly, it is generally agreed that young people access information from a variety of sources many of which lie outside public services e.g. the media, social and leisure venues etc.. Cultural diversity A strategy needs to accommodate and encourage such communication routes as a means of putting a health education message across to young people.

vi) authority for pan-London action

Many of the items addressed in the paragraphs above require pan-London authority. While this might be easier to achieve in the private sector e.g. a London wide radio station could agree a media campaign, or sponsoring a 'safe-sex' campaign, the decision making process in the public sector (and across agencies) as well as sectoral and professional jealousies may inhibit the development on a pan-London basis of what are seen to be good initiatives. For example, each governing body and each LEA will currently make its own decisions as to new PHSE curricula. Difficulties in getting these bodies to present a consistent message may frustrate the aims of a pan-London approach. Would a London Health Strategy be able to require / obtain compliance by all HAs/LAs to a previously agreed approach where individual groups have not been able to share in the decision making process?

The short paragraphs above touch briefly on some of the issues raised by our consideration of transferring the research findings from the studies examined to London at a local and pan-London level. They highlight some of the areas that we believe will need to be addressed if a pan-London approach to improving the health issues surrounding teenage pregnancy and young parents is to be valuable.

Appendices

Programmes in SEU Report – Teenage Pregnancy

1) **West Walker Primary School, Newcastle**

The school is situated in one of the poorest parts of Newcastle. It aims to prepare children to become responsible and valued members of society. Through literature and role play children are exposed to a range of experiences and feelings and encouraged to think of issues from others' points of view. The school incorporates PSHE in the literacy hour and other curriculum areas. It is actively involved with the community, encourages parents to undertake training and further education and employs a worker who is able to discuss parenting issues and family difficulties with parents. From being half- empty a few years ago it now has a waiting list. OFSTED reports are excellent and praise the quality of its PSHE.

No evidence of evaluation. Numbers involved not reported .OFSTED report and SAT scores improved in last 3 years. The initial host area has similarities with some London areas and, if reported, findings could probably be generalisable. Impact: medium, Evidence: low

2) **A PAUSE- adopted in Exeter**

A PAUSE (Added Power And Understanding in Sex Education) was established in 1990 and is now funded by North and East Devon .

Training and support material is provided to teachers, health education professionals and trained young peer educators. Elements of the programme are delivered to throughout a student's secondary school years. In addition to school nurse and teacher led sessions peer-educators aged 16-19 lead four sessions with the 13-15 year olds. All use a variety of classroom techniques including role play, small discussion groups and presentations. The programme is continually evaluated via the school's audit of the sex and relationships curriculum with a Year 11 questionnaire and demonstrates that pupils aged 16 increased their knowledge about sex, contraception and sexually transmitted infections, and were less likely to be sexually active.

Evaluated by school Compared against local and distant schools.. Numbers not given Socio-economic factors of participants unknown, but school based education so findings probably generalisable.. Impact: medium, Evidence: medium

3) **CHOICE programme–Northern Ireland**

Self esteem, confidence, contraception etc.

One of four Choices programmes Choice is a personal development programme focusing on the sexual health of young women. It aims to build the self-esteem, skills and confidence of young women through a range of approaches, including games, quizzes and drama. The programme includes topics of relationships, peer pressure, communication skills, sexuality, pregnancy, contraceptives and sexually transmitted infections. It takes place in informal settings such as youth centres or support agencies. The modules used are accredited through the Open College Network. Has sought funding for a formal evaluation. 'The group of young women who participated report greater confidence and assertiveness and a greater control in decision making'

Not evaluated. Number of participants not provided.. Standard of evidence unknown. The initial host area has similarities with some London areas and, if reported, findings could probably be generalisable. . Impact: low, Evidence: low

4) ZONE youth project- deprived area of Nottingham

Church & HA Advice, information, support, free condoms, referral to appropriate agencies – FPA etc. + career support, drug education etc.

This offers a wide range of services including career support, drug education and personal skills development. It is aimed at 12-25 years olds, although the majority are 14-16. Young people are seen one day a week individually, with partners or in small groups. Services include free pregnancy testing and free condoms and a free taxi service to local services for emergency contraception. Confidential advice is provided on all aspects of sexual health such as sexuality, contraception, abortion, pregnancy, and general health. Its youth workers make links with young people not attending school. Clients can be referred to GUM clinics, family planning clinics or counselling services, and are given opportunities to discuss with trained staff issues of coercion, peer pressure, relationships and drug use, mental health and family problems. The project provided support to around 400 young people between 1997-8 and attracted a large number of young men. It is supported by the Church Urban Fund and run in partnership with Nottingham HA and Community Health Trust. ‘Too early to say whether there has been a significant impact on pregnancy and sexual health in the area.’

Not evaluated.. No evidence provided. No figures of attendees provided. The initial host area has similarities with some London areas, but whether the specific church/HA links would be achieved in a London area is not known. . Impact: low, Evidence: low

5) Young Men’s Clinic, Washington Heights, NY

Hispanic neighbourhood of New York City, developed from an existing FP clinic. Medical services provided with FP. Full time male social worker based at school and FP clinic.

Reported use of condoms increased from 32-47% and an increase in talking to partner about contraception

‘Evaluations conducted ‘regularly’ Impact: Medium Evidence: Medium

6) Adolescent sexuality and Pregnancy Prevention Programme Children’s Aid Society, NewYork

Established 1985. Franchised to run in 20 US states.. Socially at risk groups targeted.

Stipends are earned. Content of programme include education, art, health care, family life and sex education, sport, career guidance etc. Financed by private donations. Parents must agree to programme and are encouraged to attend.

Two separate evaluations show the young people involved stay in school longer, delay sexual activity longer and attend college at higher rates than their peers. Reduced risk of teenage pregnancy to 1 in 25, compared to national average of 1 in 10. Impact: High Evidence: Medium

7) MAGIC ROUNDABOUT – Kingston

Advice, counselling, emergency contraception. Includes outreach + children excluded from school It is a self-referral service for young people aged 12-20, based in shop fronted premises. Open Saturdays and late afternoons/early evenings during the week it provides informal advice on practical and personal issues and onward links to other local services. Confidential sexual health advice, free supplies including emergency contraception and referral for abortion operates on Saturday mornings and Monday evenings. The services works collaboratively with local schools and colleges and with young people who are excluded from schools or currently being looked after by the local authority.(NE)

No ‘formal’ evaluation.. No evidence provided. No figures of participants provided. The

initial host area has similarities with other London areas and, if reported, findings could probably be generalisable.

8) Teen Tot Clinic, University of Maryland, Baltimore.

Clinic managed through the Division of Paediatrics and Adolescent medicine at the University. Supports people from the poorest parts of the city, many of whom have associated problems including substance abuse, violence and sexual abuse. It provides contraception, teen-dads and partners programme with a specialist worker giving wide range of support to young men, including, an outreach sisters clinic and a clinic for the grandparents. Transport and 24 hour access to the staff is provided.

A control group evaluation is being established. Adherence to contraceptive use has improved through the outreach programme. Condom use has increased.. Impact High. Evidence Medium.

9) Speakeasy, Belfast

Community development approach in a community education project. Aims to encourage parents to take on the role of the sex educator in the home and increase parental communication skills. Mothers gain an Open College Network certificate

Evaluated 'independently'. Standard unknown. Numbers participants unknown. Difficult to generalise the findings. . Impact: medium, Evidence: low

10) Sexwise- Set up by the DoH, ?National

Though not advertised has received 2.9 million calls since 1995. 32 million calls did not get through. The majority of callers who did were aged 13-15 and nearly half were male. More than 50% of calls ask for basic information, and 13% are referred on to other services; 40% are provided with specific advice on sex and contraception and 7% receive counselling during their call.

Assessment consists of recording response to calls. No evaluation of outcomes. The helpline approach would, if evaluated, be generalisable to London areas.. . Impact: high, Evidence: low. NB: 'CHILDLINE' also received calls from >3,500 young people.

11) Teenage Pregnancy Support Group - Maternity services - Tooting.

Care scaled to teenage children/parents. Encourages family involvement + links to encourage continuing education (NE)

No evaluation.. No figures of participants provided. No evidence provided. Reports 'feelings' of those working in the group. If properly evaluated findings could be generalisable.

12) Newpin Teenage Mum's Project- Peckham (if funded by the DoH, LA, HA & private funding.)

A 24 hr telephone support line supplies emergency advice, reassurance, and directions to appropriate services. A parent support group provides weekly meetings of young mothers and their children, providing advice on looking after both their child and themselves. Preparation for return to school, further education or employment, and personal development & practical support re:- budgeting, negotiating social services etc.

Evaluated . No statistics provided.. The initial host area has similarities with other London areas and, if evaluated, findings could probably be generalisable. Impact: high, Evidence: low

13) Centrepoint Young Mothers project-Lewisham

A residential unit with accommodation for 8 young women, is part of a service for local homeless pregnant and parenting teenagers. A full-time project worker is based there during office hours and a 24 hour emergency phone link provided. In addition to informal support, keywork service assesses the individual's progress. Most of the women have a history of difficult family background and some have been in care during some point of their childhood. *Not evaluated. Evidence of mutual support amongst the teenagers and most have settled into new homes. No figures of participants provided.. The initial host area has similarities with other London areas and, if evaluated, findings could probably be generalisable. However numbers possibly too small. . Impact: high, Evidence: low*

14) Edmonds Court Foyer – Birmingham

Furnished flats for 48 young people, couples and single parents, often referred from other projects. Participation in an education & employment package is part of accommodation agreement. Help is given to get careers and jobs. Stay is approximately 9 months. Flexible child care, crèche and a foyer for non-resident housing help. Resettlement support is available.

Open since 1993 . Not evaluated.- too soon. The initial host area has similarities with other London areas and, if evaluated, findings could probably be generalisable.

15) YMCA –Northolt

8 young mothers. Targeting 160 isolated or disaffected females aged 16-19 yrs. Personal development, IT course, interviewing techniques etc. held in temporary accommodation. Within area of a local secondary school. Eight mothers have completed the one year programme & 6 progressed to college. Funded by YMCA and 2 years European project funding.

Not externally evaluated. Small numbers . The initial host area has similarities with other London areas and, if evaluated, findings could probably be generalisable. . Impact: low, Evidence: low

16i) Dads R Us – Lancaster

Certificate for fathers

16ii) Human development for all the young men –include contraception, role of fathers etc

17) Pilot project proposals were rejected by HEA -Liverpool

Sought Swedish like approach of community wide co-operation. Residential workshop led by FPA brought together representatives ethnic minorities, young people, religious bodies, medical, nursing etc. and this was felt in itself to be productive. *Not evaluated because programme was not accepted, but Liverpool HA report a downward trend in teenage pregnancies.*

18) The National Campaign to prevent teen pregnancy, Washington DC

19) TEENSTARS-Washington USA

Local multi-cultural multi-service, community youth organisation established for 30 years. School based sexuality, social skills enhancement, family activities and public awareness campaign targeted to 9-14 year olds. Peer-group aged 17-26 assist in class room life skills 5 week project. & also assist in regular school courses helping individuals with English and

maths skills + Separate clinic for advice and contraceptive services. The youth centre has well established links with the local community:- schools, health services, radio station, training and employers. Pre and post programme tests are being developed to assess knowledge. Initial results 'encouraging'. Unsuccessful in involving parents but new ways being sought. *Attempt to evaluate programme. Further valuation sought. Well established organisation. No statistics. Probably not generalisable. . Impact: medium/high, Evidence: medium*

20) PROJECT REACH YOUTH- NY, USA

250 peer educators trained a year . They make a one year commitment and receive accreditation which counts to school work and receive stipends. They reach 5,000 teenagers in schools, leisure areas, care homes and juvenile justice facilities. Started as an HIV prevention programme and now includes issues of pregnancy prevention and violence reduction. Includes a video and a theatre project in which the young educators stay in their roles to answer questions and share information with the audience.

Evaluation is pre/post testing, observation and feedback but no specific results are given. Anecdotally great benefit to the educators. 'Initial results suggest self-esteem had increased' No outcome figures on numbers of teenage conceptions. Probably not generalisable. Impact: medium, Evidence: medium

21) BRONX Centre- Planned parenthood of NY City Incorporates TEEN ADVOCATES

Have sexual health clinics and community based programmes in a deprived area .3i) TEEN ADVOCATES is a community programme with 20 young people aged 14-20 who present skits (to 1,000 teenagers in past year) in schools, churches and other community bases. Immediate feedback forms' shows positive effect in developing confidence in dealing with sex and relationships' . They 'report an increased intention to discuss sexual health topics, including birth control and condoms with partners and friends' . 3ii) Staff at BRONX centre run a 12 week courses for sisters and daughters of young mothers as research indicates this group is at a four to six-fold increase of becoming pregnant at an early age

3i) Evaluation attempted. Research indicates increased knowledge and willingness to communicate. Peer educators No information on standard of evidence of effectiveness. No statistics. 3ii) No information about evaluation. The initial host area has similarities with some London areas and, if evaluated, findings could probably be generalisable. .3i) Impact: medium, Evidence: medium. 3ii) not evaluated

22) Inwood House – NY, USA

Range of programmes to develop skills in self-esteem and to support for pregnant and parenting teenagers. Sexuality education is an abstinence based programme which includes counselling, parent outreach, teacher training and recreational activities. Some programmes are specifically targeted at boys and young men with mentoring, counselling and after-school activities. A Young Fathers programme and Adolescent Parents in training programmes provide support and a maternity residence provides education and parenting programmes for homeless teenagers

Evaluation of IMPACT with pre and post programme testing of behavioural attitudes. Number of participants not available provided. Impact: medium, Evidence: medium.

23) PERRY PRE-SCHOOL – USA

Initially aimed to give early educational support for disadvantaged pre-school children was found to have a significant effect on reducing the chances of teenage pregnancy a decade later.

Evaluated experimental programme. No information on methods of evaluation but conclusion reported in Allen J (1997). Impact: medium/high, Evidence: medium

Programmes in HEA An Overview of Effectiveness

24) IN YOUR FACE Teen outreach programme.

Case management: girls already identified at risk

Data from a pregnancy prevention program operating through school-based clinics in four New York City junior high schools suggest that an intensive risk-identification and case-management approach may be effective among very young adolescents. Among students given a referral to a family planning clinic for contraception, the proportion who visited the clinic and obtained a method rose from 11% in the year before the program began to 76% in the program's third year. Pregnancy rates among teenagers younger than 15 decreased by 34% over four years in the program schools. In the fourth year of the program, the pregnancy rate in one school that was unable to continue the program was almost three times the average rate for the other three schools (16.5 pregnancies per 1,000 female students vs. 5.8 per 1,000).

Impact: medium/high, Evidence: medium

(Tiezzi L, Lipshutz J, Wroblewski N., 1997)

25) TEEN OUTREACH - USA

Nearly 700 high school students in 25 sites randomly assigned to the outreach group or control. Used nation-wide sites already running Teen-outreach programmes with a written curriculum. Programme designed to prevent adolescent problem behaviours. Little direct emphasis on sex. Study evaluated teenage pregnancy and school exclusion.

Evaluated. RCT. Small sample, so low statistical power. Short time period for assessment..

RCT part of a larger (n>5,000) non-randomised controlled trial which shows more dramatic results but which is less rigorous. *Impact: medium/high, Evidence: medium*

(Philliber S, Allen JP., 1992)

Programmes reported in Effective Health Care (1997)

25) Also reported on Teen Outreach Program.. RCT showed no significant effect on pregnancy.

26) Project Taking Charge

Students mean age 14.4 received 30 school classroom sessions on biological factors, importance of abstinence, vocational goal setting, family values and communication. Parents invited to 3 evenings of education in communication, adolescent sexuality, pregnancy and sexually transmitted infection.

RCT. Low statistical power. 'Small numbers' Reduced initiation, but not statistically significant Impact: unknown/? low, Evidence: medium

(Jorgensen SR, 1991 & 1993)

27) Peer Power Project

1987 Pupils. 53 Black females, Mean age 13.3 years Majority lower income single parent family

12-month follow-up. **Intervention:** Peer-led programme 1 hr per week during school year covering factual information, decision-making skills, goal setting, communication and career goals. Links to clinics and supportive adult. **Control:** No Intervention. Contraceptive use and pregnancy lower but not statistically significant.

RCT. Small sample size, so low statistical power. Contradictory results on sexual activity, contraceptive use and pregnancy. Impact: low, Evidence: medium

(Handler A., 1987)

28) Life Outcome Perceptions (1989)

88 Female pupils Ages 15–19 2-month follow-up. **Intervention:** Weekly sessions (during and after school) delivered by mentor covering self understanding and values, human development, communication skills, issues related to parenthood, family relationships, and community resources. Combined with voluntary community service. **Control:** Usual sex education **Intervention:** 1- hour session focusing on negative impact of early childbearing on vocational goals, desired lifestyle and on unplanned child **Control:** Usual sex education Reduction in sexual activity and pregnancy but not statistically significant. **Sexual behaviour** F: OR 0.63 (95% CI: 0.06, 6.64) **Use of contraception** F: OR 0.86 (95% CI: 0.38, 1.95)

Small sample size and short-term follow-up, so low statistical power. Impact: medium, Evidence: medium

(Slade LN., 1989).

29) McMaster Teen Program Canada.

School boys and girls Mean age 12.7 years Range of income levels I = 11 (2062 students) C = 10 (1228 students) 4-year follow-up. **Intervention:** The 10 sessions using role play, and films to discuss development, sexuality, and relationships with others. Skills-building sessions included decision-making and problem solving. No information on contraceptive methods was included **Control:** Conventional sex education curriculum.

Girls more likely to use contraception and be pregnant but of borderline statistical significance. **Initiation of intercourse** F: OR 1.12 (95% CI: 0.9, 1.4) **Use of contraception** F: OR 1.23 (95% CI: 0.95, 1.6) **Pregnancy** F: OR 1.33 (95% CI: 0.98, 1.8)

RCT Reduction in contraceptive use and pregnancy but not statistically significant .Impact: medium, Evidence: medium

(Thomas et al, 1992)

30) Teen Talk (Health Beliefs Model-HBM)

6 family planning service agencies and 1 school district ? age pupils. Female = 54% Low income Classes I = 722; C= 722 1 year follow-up **Intervention:** Participants received 12–15 hours of training designed to increase teenagers' awareness of the probability of pregnancy; the consequences of pregnancy; the benefits of delayed sexual activity and consistent effective use of contraception. **Control:** Usual sex education programmes which varied between sites

Reduction in contraceptive use and pregnancy but not statistically significant **Initiation of intercourse** F: OR 1.11 (95% CI: 0.68, 1.81) **Contraceptive Use** F: OR 0.56 (95% CI:

0.27, 1.19) **Pregnancy** F: OR 0.70 (95% CI: 0.28, 1.74) *Impact: low, Evidence: medium*
(Eisen, 1990)

31) School-based programmes.

93 nulliparous females Low SES. 6–12-month follow-up. **Programme description**

Intervention: 14 1-hour sessions on problem solving , rehearsing implementing decisions, written agreements **Control:** Not clearly stated. Reduction in unprotected intercourse and non statistically significant increase in contraceptive use. **Incidence of unprotected intercourse** (12 months) OR 0.17 (95% CI: 0.17, 0.5) **Habitual contraceptive use** (12 months) OR 1.8 (95% CI: 0.6, 1.6) No statistically significant differences

RCT. Small sample size so low statistical power. The magnitude of the results were large and consistent over the three time periods. Impact: high, Evidence: medium

(Schinke et al., 1981.)

32) Teen Incentive Model - USA

Females = 74% Mean age 15.1 Grade 9 Low SES Individuals I = 60; C = 60 6–12-month follow-up **Intervention** Phase 1: 8 weekly small group sessions focusing on self-esteem and general skills and sexuality topics. Phase 2: A 6 week career mentorship programme. Phase 3: role-playing to rehearse skills. **Control:** No programme

No statistically significant differences **Sexual intercourse** F: OR 1.61 (95% CI: 0.27, 9.76) M: OR 0.06 (95% CI: 0.0, 2.08) **Contraceptive use** F: OR 1.12 (95% CI: 0.31, 4.12) M: OR 2.7 (95% CI: 0.43, 17.2)

Small sample size and short-term follow-up, so low statistical power. Impact: low, Evidence: medium

(Smith, 1990)

33) Summer Training and Education Program (STEP) –USA, 5 cities

Females = 53% Age 14–15 years Low SES Academically behind Individuals N = 4800 5-year follow-up **Intervention** 36 sessions covering life-skills education on sexual behaviour, drug use, careers and community involvement. Focus on decision- making and responsible behaviour. 90 hours of work at minimum wage, 90 hours of academic instruction and 5–15 hours of support during the school years **Control:** Summer jobs **Pregnancy** No statistically significant difference 4 yrs: F: OR 0.87 (95% CI: 0.63, 1.19) 5 yrs : F: OR 1.2 (95% CI: 0.89, 1.63) *Despite large sample sizes, and long-term follow-up no differences found. Effect may be diluted due to control group receiving a programme. Impact: low, Evidence: medium*

(Walker et al, 1992)

34) USA

Unmarried sexually active female first time attenders at a family planning clinic. Aged 15–18 Minority racial groups living in female-headed households Individuals I = 23; C = 24 6-month follow-up **Intervention** One 5.5 hour session providing factual information, building and rehearsing problem-solving and communication skills **Control:** Usual care More likely to use contraception and non statistically significant reduction in sexual activity and pregnancy **Sexual initiation** F: OR 0.43 (95% CI: 0.12, 1.50) **Birth control use** F: OR 26.2 (95% CI: 1.37, 502) **Pregnancy** F: OR 0.3 (95% CI: 0.04, 2.12)

Small sample, so low statistical power. Intensive programme requiring young women to agree to five-hour programme. Impact: medium, Evidence: medium

(Baker, 1990)

35) Health Counselling for Males, USA/Canada

Males = 100% 15–18 years Middle SES Individuals I = 541; C = 526 12-month follow-up
Intervention A slide show on anatomy, STDs, and contraception and a visit with a health care practitioner focused upon contraception, reproductive goals, health risks, and the patient's interests. **Control:** Usual care More likely to use contraceptives **Sexual initiation** M: OR 0.82 (95% CI: 0.59, 1.15) **Contraceptive use** M: OR 1.48 (95% CI: 1.03, 2.18) The results indicated greater use occurred mostly among those who initiated sex after study began.
RCT Impact: medium, Evidence: medium
(Danielson et al, 1990)

36) USA

Single female first time attenders at contraceptive clinic Ages 16–18 Individuals I = 17; C = 21 3-month follow-up **Intervention:** Nurse–client transactional intervention to identify anticipated perceived contraceptive benefits and barriers and to develop a contraceptive adherence regimen **Control:** Information on birth control using written and video information **Contraceptive use** Increased use of contraceptives of borderline statistical significance. F: OR 3.29 (95% CI: 0.85, 12.75)
RCT. Very small sample and short-term follow-up, so low statistical power. Impact: low, Evidence: low
(Hanna, 1988)

37) USA

Females under 16 years (31%) to 17 years SES not reported Individuals I (1) = 93; I (2) = 61; C = 198 6 & 15-month follow-up **First Intervention:** Participants were asked to attend 6 weekly counselling sessions with family member. **Second Intervention:** Participants received 2–6 telephone calls from clinic staff during the 4–6 weeks following the initial clinic visit **First control** No intervention 3 interviews **Second control:** No intervention 1 interview No statistically significant difference in contraceptive use or pregnancy **Contraceptive use** F: OR 0.75 (95% CI: 0.47, 1.19) **Pregnancy** F: OR 0.96 (95% CI: 0.52, 1.78) The proportion of patients in the family support group that actually brought a family member was very low (30%). Participants received only 2.3 sessions each.
RCT. Small numbers Not statistically significant. Impact: low, Evidence: low
(Herceg-Baron et al, 1986)

38) Adolescent Gynaecology clinic, USA

Females Ages 14–19 Lower SES Individuals I = 26; C = 31 4-months follow-up
Intervention: Peer contraceptive counselling **Control:** Nurse contraceptive counselling **Pregnancy** Reduction in pregnancy but not statistically significant. F: OR 0.69 (95% CI: 0.09, 5.63) Small sample and short-term follow-up, so low statistical power.
(Jay et al, 1984)

39) Facts and Feelings USA - Utah

Sex - not specified Ages 12–14 Upper-middle SES mainly Mormons Families I (1) = 126; I (2) = 132; C = 290 3 & 12-month follow-up **Intervention 1:** Home-based video and mailed newsletters **Intervention 2:** Home-based videos only **Control:** No intervention The written material suggested questions and topics for discussion. Phone calls were made bi-weekly to encourage use of the materials **Sexual behaviour** Changes over time for all groups. No statistically significant difference between the groups ($p = 0.66$) as measured by group x time repeated measures analysis of variance. Only 3–5% of the youths in any group initiated

intercourse during follow up. Thus, it was difficult to assess impact. The only significant effect was on the quality of communication with parents about sex.
(Miller et al, 1993)

Other programmes

40) SHARE- Scotland.

Intervention = Teacher-delivered education following 5 day training course using results of researched most effective methods. Baseline questionnaire to 7,500 pupils aged 13-14 in 25 schools. Post-programme questionnaire to be completed in 1999 and 2000. Control= continue with existing sex education. Piloted x2 in 1995. Preliminary findings show pupils evaluations to sex education were positive, correlating with the quality of sex education as assessed earlier by the researchers

RCT Large numbers. Piloted. Quantitative and qualitative research. Affects on behaviour at 16 should be available in year 2000. . *Impact: low, Evidence: high*

(Wight, Buston & Henderson:)

41) ASK Health Drop-in. Scotland-

School-based, twice weekly lunch hour sessions providing interagency (youth worker, health promotion worker, community psychiatric nurse, GP etc). one to one listening and advice. Hopes to be a model to complement the health education curriculum.

'Pilot'. No control. Not evaluated. ? *little impact, low evidence . High staff and co-ordination needs make it unlikely to be generalisable to Pan London. . Impact: low, Evidence: low*

(McIntosh,; 1998)

References

References referred to in text of report:

1. The Social Exclusion Unit. *Teenage Pregnancy*. Cmnd 4342. The Stationery Office. June 1999.
2. NHS Centre for Reviews and Dissemination (1997). *Preventing and reducing the adverse effects of unintended teenage pregnancies*. *Effective Health Care*, 3 (1) York:: University of York
3. Meyrick J and Swann C (1998). *Reducing the rate of teenage conceptions – An overview of the effectiveness of interventions and programmes aimed at reducing unintended conceptions in young people*. Health Education Authority, London
4. Bardsley M and Hamm J (1995). *London's health – Key facts and figures*. The Health of Londoners Project.
5. Office for National Statistics. *Population Trends 1999*. The Stationery Office. 1999.
6. *Public Health Common Data Set 1998*
7. Faculty of Public Health Medicine. *Measuring the Effectiveness of Contraceptive Services*. Guidelines for Health Promotion. No 37. August 1994.
8. Office for National Statistics. *Focus on London 99*. The Stationery Office. 1999
9. Light D & Bailey V. *A Needs-Based Purchasing Plan for Child Mental Health Services*. North West Thames Regional Health Authority 1992
10. NHS Centre for Review. *Undertaking Systematic Reviews of Research on Effectiveness: CRD Guidelines for Those Carrying Out or Commissioning Reviews*. CRD Report Number 4 January 1996
11. Kirby D. *No Easy Answers: Research Findings on Programs to Reduce Teen Pregnancy (Summary)*. Washington, DC: The National Campaign to Prevent Teen Pregnancy. 1997. www.teenpregnancy.org

Other references

Allen J et al, 1997 : Preventing Teen Pregnancy and Academic Failure: Experimental Evaluation of a Developmentally Based Approach.: *Child Development*. 64(4) 729-742.

Allenby M. 1995: Contraceptive services for teenagers: do we need family planning clinics? *BMJ*:310: 1642-43.

Burghes L, Clarke L & Cronin N.1997. Fathers and Fatherhood in Britain, Family Policies Centre. In *Sex Education Matters* (18) Spring 1999..

Coleman L:1999. Comparing contraceptive use surveys of young people in the United Kingdom. *Arch Sex Behav.* Jun:26(3): 255-64.

Birth Control Trust. 1997 *Abortion Provision in Britain: how services are provided and how they could be provided.* Birth Control Trust.

Hickman,M. et al. Health of Londoners Project. *A sexual health ready reckoner summary indicators of sexual behaviour and HIV in London and South East England.* London: East London and City HA, Directorate of Public Health. 1997

National Foster Care Association. *Foster Care in Crisis.* NFCA,1997

Newman M et al. 1997 (3) *Contraception and abortion services in London; are we meeting the need:.* *Health of Londoners Project.* East London and City HA, Directorate of Public Health.

Newman M et al. 1997 (2). *Contraception and abortion services in London; Executive summary and recommendations.* Health of Londoners Project. East London and City HA, Directorate of Public Health.

Peckham,S, Trippe,H: Tackling teenage pregnancy. *Health Services Management* 1993; 89 (2): 17-18 (February 1993)

Sowden AJ , Arblaster L., Mass media interventions for preventing smoking in young people (Cochrane Review). In: *The Cochrane Library, Issue 3,* 1999. Oxford: Update Software.

References from Programmes in HEA report

Tiezzi L; Lipshutz J; Wroblewski N; (1997) Pregnancy prevention among urban adolescents younger than 15: results of the 'In Your Face' program. *Fam Plann Perspect* 1997 Jul-Aug;29(4):173-6, 197

References from RCTs reported in Effectiveness Health Care Bulletin 1997

Baker C. *Self-efficacy training: its impact upon contraception and depression among a sample of urban adolescent females* [Ph.D]. Seton Hall University, 1990

Eisen M, Zellman GL. A health beliefs field experiment: teen talk. In: Miller BC, Card JJ, Paikoff BL, Peterson JL, (eds). *Preventing adolescent pregnancy: model programs and evaluations.* Newbury Park, CA: Sage

Handler A. *An evaluation of a school-based education pregnancy prevention program* [PhD]. University of Illinois, 1987.

- Hanna KM. *Effect of nurse-client transaction on female adolescents' contraceptive perceptions and adherence* [Ph.D.]. University of Pittsburgh, 1990.
- Herceg-Baron R, Furstenberg FFJ, Shea J, Harris K. Supporting teenagers' use of contraceptives: a comparison of clinic users. *Fam Plann Perspect* 1986;18:61-6.
- Jay MS, DuRant RH, Shoffitt T, Linder CW, Litt IF. Effect of peer counselors on adolescent compliance in use of oral contraceptives. *Pediatrics* 1984;73:126-131.
- Jorgensen SR 1991 Project Taking Charge: an evaluation of an adolescent pregnancy prevention program. *FAMR* 1991;40:373-80
- Jorgensen et al 1993 Project Taking Charge- 6 month follow-up of a pregnancy prevention programme for early adolescents. *FAMR* 1993;42:401-6
- McIntosh, G: 1998 ASK Health Drop-. *Sex Education Matters* 1998 (16) Summer.
- Miller BC, Norton MC, Jenson GO, Lee TR, Christopherson C, King PK. Impact evaluation of facts and feelings - a home-based video sex-education curriculum. *FAMR* 1993;42:392-400.
- Philliber S, Allen JP. 1992 Life options and community service: Teen Outreach Program. In: Miller B, Card J, Paikoff R, Peterson J, (eds). *Preventing Adolescent Pregnancy: Models Programs and Evaluations*. Newbury Park, CA:
- Schinke SP, Blythe BJ, Gilchrist LD, Burt GA. Primary prevention of adolescent pregnancy. *Social Work with Groups* 1981;4:121-35.
- Slade LN. *Life-outcome perceptions and adolescent contraceptive use* [PhD]. Emory University, 1989.
- Smith MA. Teen incentives program: evaluation of a health promotion model for adolescent pregnancy prevention. *Journal of Health Education* 1994;25:24-29. 50.
- Smith MAB. *The Teen Incentive Program: A Research and Evaluation Model for Adolescent Pregnancy Prevention*. Columbia University, 1990.
- Thomas BH, Mitchell A, Devlin C, Goldsmith C, Singer J, Watters D. The small group sex education at school: The McMasters Team Program. In: Miller B, Card J, Paikoff R, Peterson J, (eds). *Preventing Adolescent Pregnancy: Models Programs and Evaluations*. Newbury Park, CA: Sage Publications, 1992:28-52.12)
- Walker G, Vilella-Velez F. *Anatomy of a Demonstration*. Philadelphia: Public/Private Ventures, 1992.
- Wight, Buston & Henderson: The SHARE Project *Sexu Education Matters*