Projected economic costs due to health consequences of teenagers' loss of confidentiality in obtaining reproductive health care services in Texas

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Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

Health technology
Legislation to limit the ability of adolescents to obtain confidential reproductive health care services was examined. The law, implemented in September 2001 in Texas, required that health care providers must report to law enforcement officials the identity of all patients younger than 18 years whom they had reason to believe were sexually active.

Type of intervention
Other: Health care legislation.

Economic study type
Cost-effectiveness analysis.

Study population
The study population comprised girls younger than 18 years of age receiving reproductive health care services.

Setting
The setting was primary care. The economic study was carried out in Texas.

Dates to which data relate

Source of effectiveness data
The effectiveness evidence was derived from a synthesis of completed studies.

Modelling
A model was used to estimate the clinical and economic impact of loss of confidentiality in a hypothetical cohort of 100 girls aged younger than 18 years, who were currently receiving publicly funded reproductive health care over a period of one year. Further details of the decision model were not provided.

Outcomes assessed in the review
The outcomes estimated from the literature were:

the reduction in clients due to the loss of confidentiality;

the number of pregnancies, births and abortions avoided among young women receiving reproductive health care;
the additional pregnancies, births, and abortions due to the loss of confidentiality;
the rates of female prevalence of chlamydia, gonorrhoea;
the proportion of pelvic inflammatory disease (PID) resulting from untreated chlamydia or untreated gonorrhoea;
the proportion of patients returning for treatment;
treatment effectiveness for chlamydia and gonorrhoea;
additional untreated chlamydia and gonorrhoea cases, and additional PID due to untreated chlamydia and gonorrhoea cases, arising from the loss of confidentiality; and
the population of eligible girls in Texas in 2001.

Study designs and other criteria for inclusion in the review
It was unclear whether a systematic review of the literature had been undertaken to identify primary studies. The clinical evidence came from multiple sources, and little information on the design and characteristics of the primary studies was provided. Some data were corroborated using personal communications or population census.

Sources searched to identify primary studies
Not stated.

Criteria used to ensure the validity of primary studies
Not stated.

Methods used to judge relevance and validity, and for extracting data
Not stated.

Number of primary studies included
The effectiveness evidence came from 15 studies.

Methods of combining primary studies
The authors usually chose conservative estimates among those available from the literature.

Investigation of differences between primary studies
Not stated.

Results of the review
The reduction in clients due to the loss of confidentiality was 37%.

The numbers of pregnancies, births and abortions avoided (per person) among young women receiving reproductive health care per client were 0.3094 (pregnancies), 0.2011 (births) and 0.0619 (abortions), respectively.

The additional pregnancies, births and abortions due to the loss of confidentiality per 100 girls were 11.45 (pregnancies), 7.44 (births) and 2.29 (abortions), respectively.

The rates of female prevalence of chlamydia and gonorrhoea were 10.4% and 2.3%, respectively.
The proportions of PID resulting from untreated chlamydia or untreated gonorrhoea were 20% and 10%, respectively.

The proportion of patients returning for treatment was 85%.

The treatment effectiveness was 95% for chlamydia and 99.8% for gonorrhoea.

The numbers of additional untreated chlamydia and gonorrhoea cases per 100 clients were 3.11 and 0.72, respectively.

The number of additional PID per 100 girls due to untreated chlamydia and gonorrhoea cases arising from the loss of confidentiality was 0.69.

The population of eligible girls in Texas in 2001 comprised 72,199 adolescents.

**Measure of benefits used in the economic analysis**
The model produced the numbers of additional pregnancies, additional births, additional abortions, and additional cases of chlamydia, gonorrhoea and PID associated with the implementation of the new law that limited adolescents’ ability to obtain confidential reproductive health care services. However, none of these outputs was used as the summary benefit measure in the economic analysis. In effect, a cost-consequences analysis was performed.

**Direct costs**
Discounting was not relevant since the costs were incurred during one year. The unit costs were not presented separately from the quantities of resources used as the costs were expressed using macro-categories. The economic evaluation included the costs of a birth (prenatal care, delivery and first-year infant care), abortion, screening and treatment for chlamydia and gonorrhoea (drugs and visits), and lifetime treatment of PID. The cost/resource boundary of the study was unclear since only direct medical costs were included in the analysis. Resource use was estimated from published studies. The costs were derived from Medicaid rates, the Women's Health and Family Planning Association, publicly funded clinics, and published studies. The costs were inflated to 2002 values using the medical care component of the Consumer Price Index.

**Statistical analysis of costs**
The costs were treated deterministically.

**Indirect Costs**
The indirect costs were not included.

**Currency**
US dollars ($).

**Sensitivity analysis**
Univariate and multivariate sensitivity analyses were carried out to examine the robustness of the base-case results (pregnancy and STI related outcomes and additional costs) to variations in the model inputs. The ranges of values used were, in general, derived from the literature or based on authors’ assumptions. Best- and worst-case scenarios were also considered.

**Estimated benefits used in the economic analysis**
Among the 72,199 girls younger than 18 years of age who were receiving publicly funded reproductive health services in 2001, the loss of confidentiality would lead to 8,265 additional pregnancies, 5,372 additional births, 1,654 additional abortions, 2,243 additional cases of untreated chlamydia infection, 521 cases of untreated gonorrhoea and 501

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additional cases of PID.

The results of the sensitivity analysis showed that:

- the number of additional pregnancies ranged from 2,010 in the best-case scenario to 11,549 in the worst-case scenario;
- the number of additional births ranged from 1,307 to 7,506;
- the number of additional abortions ranged from 402 to 2,311;
- the number of additional untreated chlamydia cases ranged from 364 to 2,850;
- the number of additional untreated gonorrhoea cases ranged from 141 to 662; and
- the number of additional PID cases ranged 87 to 1,405.

Cost results
Among the 72,199 girls younger than 18 years of age who were receiving publicly funded reproductive health services
in 2001, the loss of confidentiality would lead to $43,364,000 additional costs for births and $643,000 additional costs
for abortion (total $44,007,000), while the total additional costs for PID were $708,000.

Since fewer visits led to savings of $1,095,000, then the total projected costs of parental consent and law enforcement
reporting requirements in Texas in 2001 were estimated at $43.6 million.

The sensitivity analysis showed that the total additional costs ranged from $11.8 million to $56.6 million in the
univariate analysis, and from $9.3 million to $71.4 million in the multivariate analysis.

Considering only the costs to the state of Texas, the total projected additional costs amounted to $33.7 million.

Synthesis of costs and benefits
A synthesis of the costs and benefits was not relevant since a cost-consequences analysis was performed.

Authors’ conclusions
The loss of confidentiality in the state of Texas resulted in a substantial increase in both health consequences (including
additional pregnancies, births, sexually transmitted infections and cases of pelvic inflammatory disease) and costs in
girls aged younger than 18 years who were receiving reproductive health care services.

CRD COMMENTARY - Selection of comparators
The selection of the comparator was appropriate. It reflected the situation before the implementation of the new
enacted legislation that limited the ability of adolescents to obtain confidential reproductive health care services.

Validity of estimate of measure of effectiveness
The effectiveness data came from published studies. However, it was not stated whether a systematic review of the
literature was undertaken. In effect, it appears that the primary studies have been identified selectively. The
characteristics of the primary studies were not reported and some data were corroborated using written communications
with experts. Therefore, it was not possible to examine the internal validity of the primary sources. When multiple
estimates were available from the literature, conservative assumptions were selected, and the observed ranges of values
were used in the sensitivity analysis.

Validity of estimate of measure of benefit
No summary benefit measure was used in the analysis because a cost-consequences analysis was conducted. Please refer to the comments in the 'Validity of estimate of measure of effectiveness' field (above).

Validity of estimate of costs
The authors stated that the societal and state perspectives were adopted in the study. However, only the direct medical costs were included in the analysis. The unit costs and the quantities of resources used were not presented separately and a detailed breakdown of the cost items was not provided, which reduces the possibility of replicating the study. The source of the costs was given for all categories. The cost estimates were treated deterministically, but key economic inputs were varied in the sensitivity analysis. The price year was reported, which aids reflation exercises in other settings. The authors noted that the projected costs underestimated the true burden of the programme because other categories of costs, including the economic impact of adverse outcomes associated with teenage mothers (e.g. more neonatal intensive care and hospitalisations, and out-of-pocket costs and indirect costs), were not included in the analysis.

Other issues
The authors did not make extensive comparisons of their findings with those from published studies. In terms of the issue of the generalisability of the study results to other settings, the authors noted that the methods and conclusions of their study were relevant to all states in which similar laws existed or were considered. The study referred to girls aged younger than 18 years who were receiving reproductive health care services, and this was reflected in the authors' conclusions.

Implications of the study
The study results suggested that limiting medical confidentiality and the resulting restricted use of reproductive health care services could have serious health and economic consequences.

Source of funding
None stated.

Bibliographic details
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Other publications of related interest


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