Economic Modelling of Early Intervention in Psychosis

Summary of the third National Seminar linking policy, research and practice in Early Intervention in Psychosis

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Introduction

Early Intervention (EI) in psychosis represents a paradigm shift in mental health care provision. Those working within the EI service model have demonstrated that it is possible to intervene earlier when a person is first experiencing psychotic experiences and help them gain better outcomes and better lives. This seminar brought together key leaders in research, practice and policy to consider the economic impact of EI services compared to standard ‘treatment as usual’ care.

The National EI Development Programme has hosted a number of such events giving researchers an opportunity to present and discuss their work with those from policy and practice worlds. Indeed a fundamental aim of the EI programme has been to integrate research and policy and practice development, recognising that successful entwining of these elements delivers better services and better outcomes for those using them.

This report and seminar should be seen as very much reporting on a ‘work in progress’ from a commissioned team of researchers who have developed and are continuing to refine a cost-modelling approach to examine the cost impact of EI services when compared with a ‘treatment as usual’ model of care. To date this modelling work has demonstrated a significant cost saving of well-developed EI services over standard care.

The researchers have been commissioned to develop a further phase of this work, central to this being the development and population by evidence of a model about the work of EI services with people from Black and Minority Ethnic (BME) Groups. The Delivering Race Equality (DRE) in Mental Health Programme, sponsors of this research, are concerned that the pathways through mental health care are equitable in terms of access, experience and outcomes for those from BME groups and the rest of the population of service users. The DRE programme has invoked a dashboard of indicators, and at the time of writing is in the process of a first wave of data collection to review how services are doing in achieving the desired equality. Access to EI services is a key indicator on that dashboard. The encouraging data from the work in progress on the cost impact of EI services for BME communities reported here is very encouraging news for all.
EI economic modelling: Key messages from the presentation by Paul McCrone

Paul McCrone and Martin Knapp have been developing, refining and extending the EI economic modelling work over the last 3 years. Paul gave an overview of the development of the model, an update on the latest evidence to be incorporated into a BME EI model, and developments of the model into new areas.

The main points emerging were:

- **The decision model comparing EI services to standard care is now established**, having been subjected to rigorous statistical sensitivity checks, academically peer reviewed and widely favourably discussed in policy and practice circles. We can have confidence that the model is a good approximation to reality for the desired purpose.

- **The quality of the data** on costs, outcomes and probabilities required for the calculations of economic comparisons in the model has improved since first developed. The quality of data provides a high level of confidence in the results produced by the model, and is now enabling good modelling in more focused aspects of EI services, such as their work with Black and Minority Ethnic (BME) communities.

- The base case model produces costs over 1 year for serving one person of £9,422 for EI and £14,394 for standard care. There is a **saving of nearly £5,000 per individual treated over a year by EI services**, based chiefly on reduced readmissions.

- The model is being developed to explore the work of EI services with people from BME populations. Good quality research now exists to be able to do this. Whilst this is work in progress (due to fully report in June 2009), we can say with some confidence that:
  - Preliminary findings from the BME model are that EI costs for serving one person over a year are £13,045 whilst for standard care the cost is £20,706. There is, thus, a **saving of nearly £7,700 per individual from a BME community treated over a year by EI services**.
  - When the costs of lost employment are incorporated, costs for EI are £15,399 and £24,204 for standard care, a **cost-saving of almost £9,000**.

- **Further positive data on EI relevant to BME communities** is yet to be built into the model. This includes:
  - Figures on duration of untreated psychosis (DUP), drawn from the National EDEN research study, show it to be an average of 43 weeks for people from white groups, 36 weeks for people from Asian groups, 25 weeks for those from black groups, and 23 weeks for other ethnic groups.
  - From the Lambeth Early Onset (LEO) study, figures on the number of bed days for patients readmitted show for white groups the averages are 153 days for EI services and 123 for standard care, whilst for BME groups the numbers of bed days are 80 for EI and 111 for standard care.
  - The 12 months recovery rates defined and measured in the National Eden study of EI services show that following EI input, 68% of BME patients and 59% of white patients made a full recovery.
Contact with other services following EI input differs little between white populations and BME groups, including community services and criminal justice services.

• An economic evaluation of the LEO service has recently been completed. This shows that the costs of care were not significantly different for those receiving EI and those receiving standard care (although the latter were still 20% higher).
• The LEO study showed positive outcomes from EI care compared to standard care. Vocational recovery after 18 months follow up was 33% for EI and 21% for standard care. EI produced better quality of life scores on the MANSAn after 18 month follow up (EI=59.3; SC=53.3).
• Based on the cost and outcomes findings, it was shown that even if a vocational recovery was not valued at all by society, there would still be at least 75% likelihood that EI would be cost-effective. The likelihood of EI being cost-effective is even greater if we focus on quality of life outcomes.
• An Early Detection model has also been developed and early data shows the 12 month service costs per patient to be £3,171 for EI and £3,200 for the standard care model. The costs for each over 18 months are £4,670 (EI) and £5,792 (standard care).
• A pilot model examining EI and CAMHS has been developed and has some data; but there is a need for more and better data for this model. Currently the model is showing costs of EI=£10,373 and SC=£16,639 per patient over 6 months.
• Similarly, an EI and offender model has been drafted, but needs data for analysis.

Summary key points

From the presentation and accompanying discussion the following further key points were raised to be noted:

• The evidence from the standard EI model is convincing and has been widely used by commissioners and services across the country to inform EI service development.
• The main component of the (reduced) cost argument is based on fewer bed days under EI care compared to usual care. Two points further related points are (i) as local care systems have evolved, such as having home treatment services, there is a need to re-examine the usual care pathway and data; (ii) other factors should not be forgotten, such as life outcomes, as both moral and cost arguments for EI.
• Commissioners need to be clear on what basis they are commissioning the EI services with a quality and outcomes framework. There are times when an admission to hospital is helpful, and the framework should not encourage perverse incentives like not admitting someone who needs it.
• Developing the economic model as a tool which local commissioners and services can use to input their own data would be helpful, especially as they are already discussing commissioning arrangements for 2010-11.
• For the future, as EI services locally evolve we will need to be clearer about the EI model(s) underpinning the cost economic work.
• Discharge to primary care from EI, rather than to other specialist mental health services, happens and would provide a more economical outcome.

• There are positive equality arguments appearing in the data with regard to EI services and BME populations, but there is a need for further data. EI works across cultures, but perhaps the most telling point is the effectiveness of the EI approach at working across deprivation. If people live in more deprived areas they are more likely to get hospitalised in usual care, but EI can reduce this.

• If your services cover areas with large proportions of some BME populations and higher deprivation, you might be able to get proportionately higher savings in reduced re-admissions and bed days.

• The model comparing EI and CAMHS will be helpful in planning investment in services. Analysis so far suggests that EI is cost effective, but more data is needed.

• Thought ought to be given to where and how the EI paradigm could be more effectively applied in mental health care.

This summary report was prepared by Michael Clark.
The National Mental Health Development Unit (NMHDU) is the agency charged with supporting the implementation of mental health policy in England by the Department of Health in collaboration with the NHS, Local Authorities and other major stakeholders.