Email triage is an effective, efficient and safe way of managing new referrals to a neurologist

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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.

CRD summary
The objective was to assess the costs and outcomes of an email triage system for managing new referrals to a neurologist. The authors concluded that the email triage system was safe, effective, and efficient and saved costs. There were a few limitations to the study's methods, especially concerning the collection of the data. Given the scope of the analysis, the authors’ conclusions seem appropriate.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
The objective was to assess the costs and outcomes of an email triage system for managing new referrals to a neurologist.

Interventions
In the intervention, the patient's general practitioner (GP) made a referral to one neurologist by email, using a specially designed one page template. The consultant replied to the GP: asking for further information; giving advice without the patient being seen; arranging investigations; or arranging a hospital clinic appointment. The comparator was the standard practice, which consisted of a face-to-face consultation between the patient and the consultant neurologist.

Location/setting
Northern Ireland/primary and secondary care.

Methods
Analytical approach:
The economic evaluation was largely based on data from the hospital and GP records of new referrals to a neurologist. The time horizon was five years and the authors did not explicitly state the perspective.

Effectiveness data:
The numbers of GP referrals and clinic consultations were derived from email communication between the GP and the neurologist between 2002 and 2007. Safety was assessed by consulting the GP records of 121 patients from one practice.

Monetary benefit and utility valuations:
Not relevant.

Measure of benefit:
The measure of benefit was the waiting time to see a neurologist.

Cost data:
Staffing costs were included in the analysis. The staff time for various activities was derived by asking different categories of staff to estimate the amount of time taken in these activities. Some of the unit costs were from a published source. The price year was 2007 and the costs were reported in UK pounds sterling (£).

Analysis of uncertainty:
No sensitivity analysis was conducted.

**Results**
The waiting time for a neurology clinic appointment fell from 72 weeks in 2002 to four weeks in 2007 for those referred under the email triage system, and to 13 weeks for those referred under standard care.

The cost per patient was £99.89 for those referred under the email triage system and £152.45 for those referred under standard care.

One person referred under the email triage system died in the follow-up period, from an unrelated cause, and three people had minor changes to their initial diagnosis after re-referral.

**Authors' conclusions**
The authors concluded that the email triage system was safe, cheap, effective, and efficient.

**CRD commentary**

**Interventions:**
The intervention and comparator were described and were appropriately selected, as they were the usual practices in the authors’ setting.

**Effectiveness/benefits:**
It was unclear if a systematic review was undertaken, making it unclear if all the best available relevant evidence was used. The retrospective review of GP and hospital records to derive the clinical data might have introduced selection bias, as those receiving the intervention might have differed from those receiving usual care, in a way that affected their outcomes (waiting time).

**Costs:**
The perspective was not explicitly stated, but appears to have been that of the health service provider. The costs relevant to this perspective appear to have been included, but the time spent on activities was self-reported and this could have introduced bias. No statistical analysis of the costs was performed.

**Analysis and results:**
No synthesis of the effectiveness and cost data was carried out. In effect, a cost-consequences analysis was performed. The results were relatively clearly reported. The impact of uncertainty on the study’s parameters was not investigated, which makes it difficult to assess if the results were robust. The authors acknowledged a limitation of their analysis, which was that the data were from one experienced neurologist and might not be representative of other neurologists.

**Concluding remarks:**
There were a few limitations to the study's methods, especially concerning the collection of the data. Given the scope of the analysis, the authors’ conclusions seem appropriate.

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