

# Safety on elective: a survey on safety advice and adverse events during electives

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**ABSTRACT – The risk of students contracting HIV on electives has received much coverage. Few data exist, however, on risks of other adverse events. Medical schools gave comprehensive advice on infectious disease but little on personal safety. There were no reported parenteral infections or deaths from infection, despite cases of malaria and one needle-stick injury. Accidents were responsible for six deaths and three serious injuries from just nine medical schools. A further student committed suicide after return to the UK. Personal violence and events related to the political situation of the elected country were also reported. This paper is based on a retrospective survey of elective convenors from UK medical schools examining advice given and adverse events. Accidents appear to pose significant risk to medical students on elective and there appears to be a lack of advice on personal safety issues. Further research should examine behaviours that put students at risk of accidents, and strategies that could prevent such events.**

**KEY WORDS:** accident, death, elective, infectious diseases, information, medical students

## Introduction

Many medical schools in the United Kingdom (UK) require their students to undertake an elective module. Electives are a part of the curriculum which encompasses student choice in what they study. Historically in the UK, many students have opted to spend the elective period studying abroad, often in

developing countries. Potential health risks from blood-borne viruses such as human immunodeficiency virus (HIV) have been repeatedly highlighted for students studying in high prevalence areas.<sup>1-6</sup> Infectious diseases, however, are not the only potential risks. The role of host institutions in protecting students has also been described.<sup>7</sup> This study seeks to obtain information on adverse events that affect medical students on electives.

## Methods

### *Study design and population*

This is a cross-sectional retrospective study of UK medical schools that included electives as part of their 2003 curriculum. Information was gathered from the elective convenor within medical schools using an electronically administered questionnaire with three reminders to ensure an adequate response rate.

### *Questionnaire design*

The questionnaire was designed by brainstorming initial themes and question compilation, and comprehensiveness and completeness were tested with a local elective convenor. Information from the questionnaire and written course information was coded and tabulated. No attempt was made to clarify the data and no additional demographic data was gathered as we wished to have totally anonymous information.

## Results

Responses were obtained from 14 of the 24 medical schools approached (58%).

### *Health and safety advice*

All medical schools now provide detailed health and safety advice on risk of infectious diseases for the elective period. Information given on the avoidance of non-infectious risks was more variable. Six schools gave advice on avoiding traffic accidents but seven gave no written advice at all. One school required students to carry a carbon monoxide monitor.

## Key Points

Advice on avoiding infectious diseases on electives now appears to be adequate

Medical students are dying from accidents on electives. A prospective study could better quantify the exact risk

Medical schools have the responsibility to provide better advice on personal safety to elective students

The behavioural factors that put students at such a seemingly high risk whilst on elective need to be better understood

## Adverse events

Nine schools responded to the section of the questionnaire on adverse events and the results are summarised in Table 1. Our questionnaire asked for events in the last five years but some elective co-ordinators had not been in place for this long and only gave information about their time in tenure. The most serious adverse events were due to accidents. The exact scale risk of death cannot be identified from this study. Past estimates, however, were that approximately 2,400–3,000 students travel from the UK to developing countries every year.<sup>1</sup> Approximately one third of medical schools responded, putting the number at risk each year at 800–1,000 and if we assume that the elective convenors had been in place an average of 3 years the study covers a total population of between 2,400 and 3,000 students. This approximates to a death rate in the order of between 1:340 and 1:430, although the nature of our data means that the risks could be considerably over estimated. If no returns from 5 schools on adverse events meant that there had been none and if convenors had been in place for 5 years, then the population at risk would have been approximately 6,500 and the death rate lower at approximately 1:850.

## Discussion

This study provides preliminary data on adverse events on medical student electives using secondary reporting. We chose this method because the convenors were easy to access and they would have the necessary information. The main disadvantages were our inability to clarify information, lack of a denominator and the possibility of incomplete reporting.

Previous concern has focused on the risk of infectious disease on elective<sup>1–6, 8–10</sup> but we found significant risk from accidents that has not previously been highlighted. We have attempted to

calculate an approximate risk of death on elective for students in the time period under question but this is subject to several potential sources of error. Whatever the exact rate of death and injury, seven recent deaths and five serious road accidents (three leading to permanent injury), raises significant concerns. A direct, prospective study of students' experiences would provide more comprehensive information.

It is not clear what responsibility medical schools have for accidents abroad. However, the elective is a compulsory part of the course so we believe that the schools must do everything they can to prevent harm to their students.

We found that health and safety advice from medical schools concentrates on reducing risk of infectious disease, as does the British Medical Association booklet on electives.<sup>11</sup> Studies amongst travellers abroad have shown that accidents are far more frequent causes of death than infectious disease<sup>12,13</sup> so it is perhaps not surprising that this is also true in medical students. Road traffic accidents are the largest cause of fatal accidents abroad but swimming, falls from balconies, air and rail incidents and skiing/mountaineering are other common causes.<sup>13</sup> It would be sensible for medical schools to improve the information given to students on preventing accidents and violence when abroad, such as that given on the National Travel Health Network and Centre website – a department funded by the Department of Health to improve traveller safety.<sup>14</sup>

Further research is needed to clarify the exact risk, to investigate risk factors and to evaluate ways of reducing risk. The role of the host institution could be enhanced through better induction of students to local risks and norms (eg safe places to walk or swim, safe transport and food sources, local health risks, cultural norms etc). Finally, there should be mechanisms at the national level for learning from adverse events and 'near misses' on elective placements. This is evidently not in place at present as advice about use of carbon monoxide monitors, for example,

**Table 1. Adverse events occurring on elective placements at 9 of the 14 medical schools.**

Event	Numbers affected	Circumstances
Death	7	2 cases due to road traffic accidents in Zambia and South Africa 1 case in Sri Lanka due to drowning 1 case in Australia – 'circumstances unrelated to placement' 1 case due to carbon monoxide poisoning in a shower in South Africa 1 case due to climbing accident 1 case of suicide on return from elective
Serious non-fatal road traffic accidents	5	2 leading to spinal injuries 1 leading to amputation and renal failure 2 'whilst on holiday after placement'
Crime related	7	1 stabbing, 1 shooting, 3 muggings, 2 serious sexual assault Also several reports of theft; numbers unknown
Needle-stick injury	1	1 case in operating theatre
Infectious disease	Exact figure unknown, but many reports	Malaria – reported by 3 institutions; schistosomiasis – reported by 2 institutions; para-typhoid – reported by 1 institution; amoebic dysentery – reported by 1 institution Medical evacuation required in 1 case
Psychiatric disorders	3	3 serious episodes
Political issues	4	2 arrests in Israel, 2 cases of airlifting out of Ethiopia and Guyana due to civil disturbances

is restricted to the school that experienced the death of a student from carbon monoxide poisoning.

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