ESTABLISHING REAL-TIME COMMUNICATIONS WITH TOXBASE® USERS VIA TOXBASE® ON-LINE AND THE TOXBASE® APP, WHEN AGENTS OF INTEREST ARE ACCESSED; A REPORT ON BEHALF OF THE NATIONAL POISONS INFORMATION SERVICE

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Objectives

TOXBASE® is the National Poisons Information Service (NPIS) on-line database used by healthcare professionals (TOXBASE® users) in the UK and abroad. The UK NPIS previously reported plans to establish real-time communications with TOXBASE® users when agents of interest are accessed via TOXBASE®: an Urgent Alerting system. Agents of interest include chemicals or biologicals that are particularly hazardous or that might be involved in chemical incidents. The Urgent Alerting system has now been operational for over six-months and a retrospective analysis of data has been conducted to assess system utility.

Methods

When a TOXBASE® user accesses an entry of interest, a pop-up box appears (Figure 1). If the user indicates that a patient is not involved by clicking “no”, they are directed to the entry as normal. If the user clicks “yes”, they are asked to complete their contact details in a second pop-up box (Figure 2). Within five-minutes of a tagged TOXBASE® entry being accessed, an email alert is automatically generated detailing which TOXBASE® user accessed which agent, and (where supplied) the contact details of the user.

Results

5359 alerts were received. 951 alerts were patient-related, 188 users provided contact details and 124 (66%) were followed-up successfully. Reasons for unsuccessful follow-ups include incorrect contact details being provided, alerts originating overseas, or direct contact with NPIS having already been made. NPIS identified 264 clusters of potentially related alerts (defined as five or more alerts to the same agent on the same day) and followed-up 71 of these. Email alerts were received within 40 minutes of each other on the 13th May 2012, indicating the TOXBASE® entry for chlorine was being accessed by an A&E department in the East Midlands. Incorrect telephone numbers were provided on 2 of these alerts, however, due to the number of alerts received, NPIS persisted in making contact and established that there had been a release of chlorine gas at a factory. There were 5 people involved, who had all self-presented to hospital; NPIS contacted the HPA on-call scientist so that any public health risks could be addressed.

57% of successfully followed-up alerts originated from hospital A&E departments. Agents most commonly accessed in association with patient-related exposures were carbon monoxide (21%), chlorine (21%) and ammonia (7%). The most common type of exposure were accidental (68%) inhalations (54%) that occurred at home (42%).

Conclusions

Users do not routinely enter contact details and it is likely that users also under-report the number of TOXBASE® accesses that are patient-related. This may occur because users are confident that the TOXBASE® entry will be sufficient for their particular case. Or users may believe that their access to the entry will be delayed if they provide contact details or indicate a patient is involved. However, this is not the case, as users are only asked to provide a name and contact number and direct access to the entry is available at any time. In addition, accesses may not be patient-related as these type of entries are commonly accessed for educational/training purposes.

Patient-related TOXBASE® accesses being under-reported by TOXBASE® users or contact details being withheld does not impact on the ability of the alerting system to act as a surveillance system. NPIS are able to act immediately when clusters of alerts are identified and thereby consider patients presenting with specific poisonings across different regions of the UK as a whole. The alerting system will soon include Trending-Alerts, which means NPIS will be notified when access levels to agents of interest exceed a relevant threshold, allowing NPIS to monitor accesses to a considerably larger number of TOXBASE® entries. NPIS offers a 24-hour service so it can respond promptly and disseminate the information appropriately and rapidly (Figure 3).