6. Near Miss Events

Definition

Any event which, if undetected, could result in the determination of a wrong blood group, or issue, collection or administration of an incorrect, inappropriate or unsuitable component, but which was recognised before transfusion took place.

This year Near Miss data were not collected in the same format as previous years. Instead a survey was undertaken that spanned 7 months and all hospitals in the UK were invited to take part. The background to the survey and its results are presented here.

Background

Near Miss events are well recognised to be a good indicator of both strengths and weaknesses in many fields and industries[20]. SHOT has been collecting data on Near Miss incidents in the transfusion process nationally since 2000/2001. The scheme was first piloted in 1998 in 25 hospitals over a 7-month period. A larger survey was carried out the following year, which provided very valuable data and a clear impetus to continue.

In total 4,867 events were collected and reviewed from 1998 to 2005. Because of the large numbers of events seen by hospital staff, questionnaires were designed specifically to be short and simple to fill in. For each event, participants were asked to complete 1 of 5 questionnaires designed for 5 distinct areas of the transfusion process from taking a patient sample to the transfusion at the bedside. Table 20 shows the 5 questionnaire types and table 21 gives the number of Near Miss reports received annually. By far the largest numbers of reports received were errors at the sample taking stage (2,782 of 4,867 (57.2%)).

Table 20

Near Miss questionnaire types used before 2006

1.	Sample errors
2.	Request errors
3.	Lab sample handling and / or testing errors
4.	Lab component selection, handling, storage and issue errors
5.	Component collection, transportation, ward handling and administration errors

Table 21

Numbers of Near Miss reports received annually.

1997/1998 (pilot 1)	**64**	
1998/1999 (pilot 2)	**145**	
1999/2000 (year 1 of national reporting)	**157**	
2000/2001	**452**	188% increase on previous year
2001/2002	**709**	57% increase
2003	**906**	28% increase
2004	**1,076**	19% increase
2005	**1,358**	26% increase & 765% increase since national reporting began
Total	**4,867**	

From November 2005 reporting of all SHOT events, including Near Miss, was transferred to the SABRE electronic reporting system. This increased the workload for the SHOT office and a review concluded that Near Miss reporting in its existing form was of insufficient value to be worthwhile. Existing data have already shown where the majority of Near Miss events take place and there appears to be little or no advantage in continuing to collect data in a way that simply adds numbers without adding information.

While reported Near Miss events are great in number, only 55% of hospitals on the SHOT database sent in reports in 2005. With that in mind the survey was designed to try to determine the true number of incidents occurring.

The Survey in 2006

The survey questionnaire was designed to be simple and quick to use and gave the user the opportunity to complete it at whatever time intervals were suitable for the individual or team concerned. It was built in Microsoft Excel spreadsheet format and simply required the reporter to enter a number against the type of incident seen. No description or text was requested, making the task as effortless as possible. The survey was sent by email to 396 hospitals for whom email addresses were available, together with a set of instructions for use and was to run from 1st June 2006 to 31st December 2006.

Participation

A total of 126 participants returned spreadsheets giving data obtained from 136 hospitals (34.3% return).

Results

The numbers of incidents reported by participants varied greatly (see figure 5). Numbers ranged from 0 to 627. Four reports was the number reported most frequently (13 hospitals), the median was 7 (reported by 5 hospitals) and the mean was 21.4 (reported by 3 hospitals).

Figure 5
Numbers of incidents reported

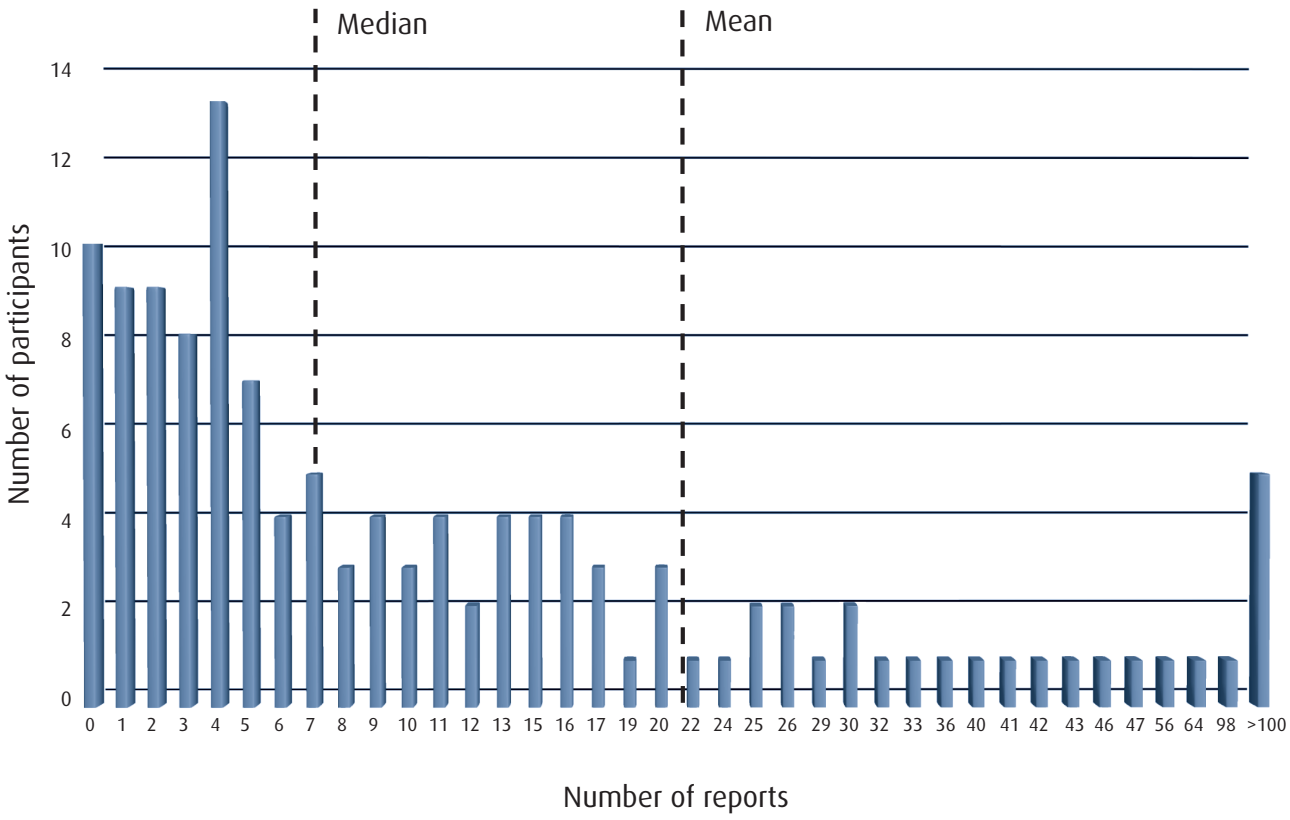
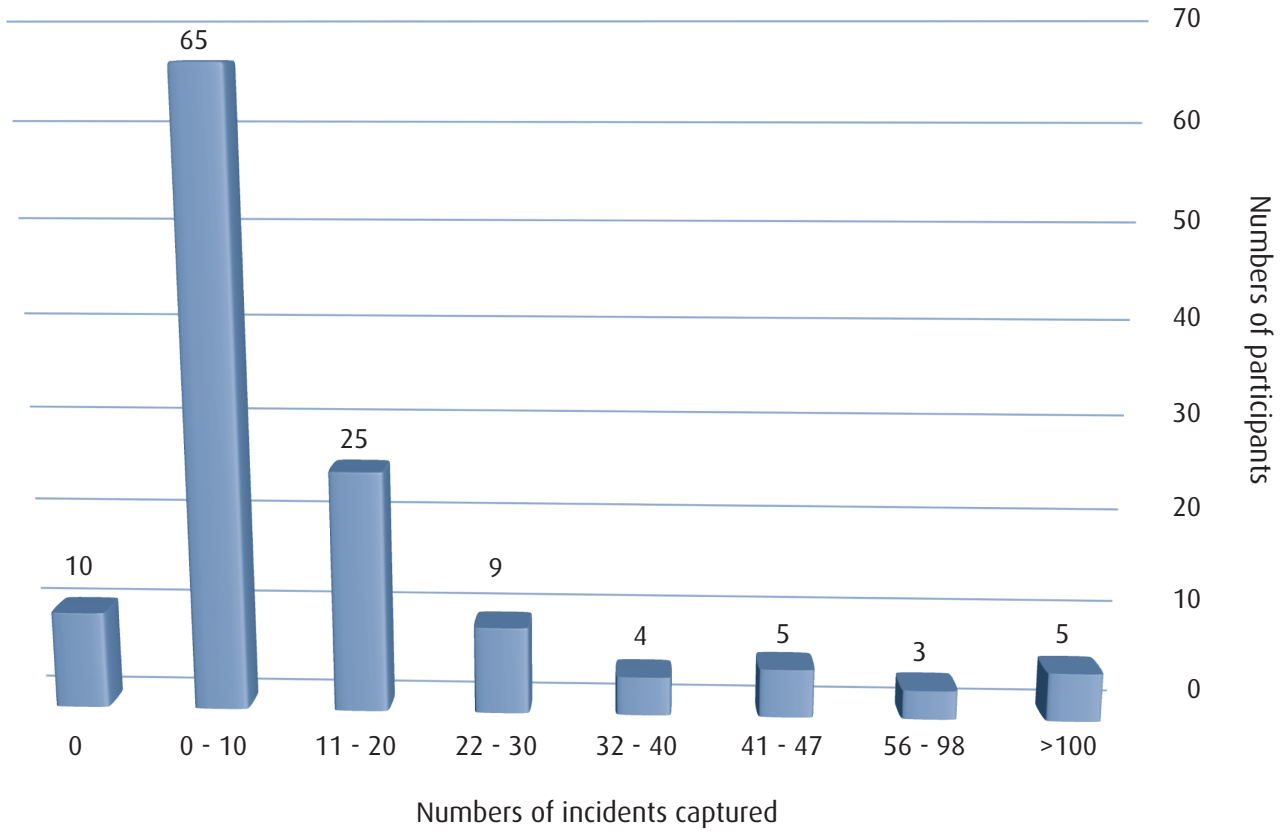


Figure 6
Numbers of incidents reported



The spreadsheet's 4 worksheets carried a total of 20 possible incidents (listed together with the results in table 22). There were some markedly different proportions of incident types from those previously seen in standard Near Miss reporting. Errors at the sampling stage were the most numerous in both event reporting and in the survey but request errors made up 23.2% of incidents in the survey compared with 8.9% of the cumulative Near Miss reporting data. Whilst request errors in the survey rose, errors in the laboratory fell from 21.1% of reported events to 10.8% in the survey.

Table 22
Incident types and the responses received

Sampling	**1.**	Blood in tube incompatible with label details in all respects	279	
	2.	Other	1,063	**1,342**
Request	**1.**	Component requested for wrong patient	30	
	2.	Special Requirements not requested	483	
	3.	Request based on erroneous result	47	
	4.	Wrong component requested	31	
	5.	Other	36	**627**
Collection/Admin	**1.**	Collection	111	
	2.	Storage	187	
	3.	Transportation	35	
	4.	Administration of component	28	
	5.	Other	80	**441**
Laboratory	**1.**	Pre-transfusion testing	50	
	2.	Equipment error or failure	24	
	3.	Labelling	61	
	4.	Result interpretation or transcription	42	
	5.	Special requirements not met	20	
	6.	Selection or issue	39	
	7.	Storage	20	
	8.	Other	36	**292**
				2,702

Conclusion

Since the primary objective of carrying out this survey was to try to establish the number of Near Miss events experienced in blood transfusion in the UK, it is disappointing that the return rate for the survey was only 34%. The true scale of the problem, therefore, is still unknown and this may not be helpful in efforts to decide how best to take Near Miss reporting forward.

What is abundantly clear is that errors at the sampling stage of transfusion are routinely picked up by the vigilance of laboratory staff thus preventing potentially hazardous or lethal incompatible transfusions. Although it is reassuring to know that many of these errors are discovered before transfusion takes place, the survey data, together with previous data collection, underlines the need to address the practice of sample taking at national level.