

9. Outreach

Availability of outreach services

We have earlier shown that the presence of outreach systems was variable and geographically biased towards England (Table 1). This lack of uniformity is unacceptable given the support to outreach from the Department of Health, the Intensive Care Society and the Royal College of Physicians. Unfortunately, we did not collect data concerning the availability of outreach services throughout the 24 hour period.

Table 1. Outreach services available in the United Kingdom				
Outreach service				
Country	Yes	No	Not answered	Total
England	108	65	2	175
Independent hospitals	5	7	1	13
Wales	3	9	0	12
Northern Ireland	0	9	0	9
Guernsey	0	1	0	1
Isle of Man	0	1	0	1
Total	116	92	3	211

In addition, many hospitals did not use a track and trigger system to allow early recognition of patients who are at increased risk of death (Table 2).

Table 2. Hospitals' use of early warning systems		
Early warning system	Total	(%)
Yes	153	(73)
No	58	(28)
Total	211	

This study was not designed to show any effect of outreach on outcome but has uncovered data of interest.

Table 3. Presence of outreach by review time slot										
Review time slot	Outreach service									
	Yes	(%)	No	(%)	Unknown	(%)	Not answered	(%)	Total	(%)
Day	103	(48)	217	(32)	42	(43)	20	(38)	382	(36)
Evening	79	(37)	286	(42)	34	(35)	23	(43)	422	(40)
Night	33	(15)	183	(27)	22	(22)	10	(19)	248	(24)
Sub-total	215		686		98		53		1,052	
Not answered	22		94		32		35		183	
Total	237		780		130		88		1,235	

Table 3 shows the time of day that patients were reviewed by critical care services for hospitals with and without an outreach service. It can be seen that hospitals with an outreach service were more likely to

highlight patients during daytime and have reduced referrals at night. This may be due to earlier recognition of deteriorating patients and would be consistent with the rationale for outreach services.

The advisor groups considered the appropriateness and timeliness of admission to ICU (Tables 4 and 5). As can be seen in this study there was no measurable effect of outreach services on either variable. In a study of this size it is not surprising that no measurable effect on these domains could be shown. The effect of outreach on these variables is likely to be lessened by other factors that we have shown earlier in the report. These factors (lack of senior doctor involvement in patient management and admission decisions, delays in ICU review and admission, lack of 24 hour 7 day per week cover by outreach services) will potentially reduce the proposed benefit of outreach. However, the result that there is no measurable difference in this small study should not be interpreted as lack of evidence of benefit of outreach.

Table 4. Appropriateness of admission by presence of outreach				
	Outreach service?			
Admission appropriate?	Yes	No	Not answered	Total
Yes	245	96	16	361
No	31	12	6	49
Sub-total	276	108	22	410
Insufficient data	22	5	2	29
Total	298	113	24	439

Table 5. Timeliness of admission by presence of outreach				
	Outreach service?			
Referral at correct time?	Yes	No	Not answered	Total
Yes	202	73	14	289
No	52	23	6	81
Sub-total	254	96	20	370
Insufficient data	27	9	2	38
Not answered	21	8	2	31
Total	302	113	24	439

Table 6 shows patient outcome according to the presence of an outreach service. It can be seen that there was no positive association between outreach services and outcome within this study. Again this is not surprising given the confounding factors mentioned above. In addition, it may be that hospitals with an effective outreach team will facilitate management of some patients on the ward and avoid admission to ICU. This will have the effect of increasing the severity of illness of patients admitted to ICU (by removing the less unwell patients who remain on the ward) and may worsen crude ICU mortality.

It should be noted that a large multi-centre study evaluating the utility of outreach services has been commissioned by the Department of Health and is being taken forward by the Intensive Care National Audit and Research Centre (ICNARC). Results from this study should be available in 2007.

Table 6. Outcome by presence of outreach

Outcome	Hospital outreach service?				Total
	Yes	No	Sub-total	Not answered	
Died on ICU	366	139	505	55	560
Survived	643	351	994	102	1,096
Sub-total	1,009	490	1,449	157	1,656
Unknown	0	1	1	1	2
Not answered	9	8	17	2	19
Total	1,018	499	1,517	160	1,677