Dear Colleagues,

Here is a paper on the Standardisation of European Hospitals’ internal telephone for cardiac arrest call to number 2222.

**A standard “Cardiac Arrest Call” telephone number for all hospitals in Europe 2222**

**Summary**

105+ different numbers are currently used for cardiac arrest calls in European Hospitals.

Only about half the staff can remember the number to call in their hospital.

Not instinctively knowing the number causes delays to resuscitation teams arriving.

Situation made worse by healthcare staff moving around hospitals in their own country or increasingly throughout Europe.

Patient Safety will improve by standardising to the same cardiac arrest call number for all hospitals in Europe, also efficiency and training.

European Board of Anaesthesiology has recommended the number most frequently used 2222 to become the standard.

Some countries already successfully and easily standardised at low cost, already supported by ERC and EUPSF

National Societies that wish can help by supporting and promoting activities to achieve implementation at a European, National and Local level.

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**A standard “Cardiac Arrest Call” telephone number for all hospitals in Europe**

Outside hospitals in Europe 112 is the common emergency telephone number that can be dialled free of charge from most telephones in order to reach the emergency services.

Inside hospitals in Europe there is not a common emergency telephone number for “cardiac arrest calls” to summon the resuscitation team to patients. This seems to be an oversight which if standardised could improve patient safety, efficiency and be increasingly important as a staff frequently move between hospitals in their own countries and throughout Europe.

112 was first standardised in 1972 by a recommendation from the European Conference of Postal and Telecommunications Administrations (CEPT) which is 48 countries who cooperate to regulate posts radio spectrum and communications networks. A paneuropean body a bit like the National Anaesthesiologists Societies Committee (NASC).

It was later confirmed by a decision of the EU Council in 1991 and subsequently reaffirmed in 2002 by article 26 of the Universal Service Directive.

Some hospitals have a call bell system for cardiac arrests but the majority use a telephone number It seems that there is currently a very wide variety of numbers that appear to be have been chosen largely at
Studies have shown a large variety of different telephone numbers used, a recent ESA survey noted over 105 different numbers in Europe and standardisation of the “cardiac arrest call” number seems long overdue.

As well as many different numbers studies have shown that many staff (50.5% in one study) do not know the correct number for the hospital they are currently working in. With the increasing movement of healthcare staff within countries and around Europe this is likely to get even worse.

It is important that the “cardiac arrest call” number should be instinctive for doctors and nurses - just like the 112 number is for the general population. It makes inherent logical sense that a standard crash call number should be engrained in the minds of all doctors and nurses so no matter which hospital they are working in, whether they are a trainee or a locum, they automatically know the right number. Getting the right people in the right place at the right time is vital and having a single number for the resuscitation team is a logical thing to do for patient safety and for the sake of doctors and nurses who will not have to face committing to memory a new number every time they start work in a different hospital.

Staff not knowing the number can only result in delays in calling the cardiac arrest team and one study in 2014 said miscommunication involving the crash number occurred in almost one in 10 incidents (4/30, 13%). A Danish study showed 12% (78 staff) admitted to learning the new cardiac arrest number from an emergency situation, therefore at least 78 calls were delayed whilst they discovered the correct number.

European Board of Anaesthesiology (EBA) has made a recommendation for the adoption of a Standardised Hospital Telephone Number for Cardiac Arrest Calls in Europe.

This has been discussed for some time but now would seem a good time to try and promote it widely. The EBA sees this as an inclusive activity and so they wish to join with other relevant organisations to work together to achieve this in a timely manner. We already have support from the Board of the European Resuscitation Council (ERC) and the European Patient Safety Foundation (EPSF) and would like to involve key organisations such as the NASC of the European Society of Anaesthesiologists and European Nursing Organisations. We plan to contact the EU directly through the UEMS and also hospital managements and telephony equipment manufacturers.

Please read the supporting information below and then if the NASC decides to support the proposal the NASC might then like to consider the following possible actions

1. Ask each National Society to write to and lobby their own National Health Ministries and other relevant national bodies to standardise the “cardiac arrest call” number 2222 (sample letter available)

2. See if the NASC expertise can make any suggestions to help implementation

3. See if the NASC networks/communication systems can help promotion and implementation

4 See if the NASC would like to be included along with other supporting organisations in any press releases or statements to make on the subject.

I am happy to provide and further information if required and do hope the NASC will be able to join in with this.

Kind regards
Background

The majority of European Hospitals use a dedicated telephone number to summon an emergency care team to patients suffering from a cardiac arrest or needing resuscitation. Often this is called a ‘cardiac arrest call’ but some alternative names for this emergency may be used by different hospitals e.g. crash call, code blue etc. It is estimated that there are at least 250,000 such calls each year in Europe.

The particular number used in each hospital varies widely, a study showed 37 different numbers in one country, another 105 different numbers in Europe.

Nursing, medical and other staff often move between hospitals in their own countries and now with increasing free movement around the countries of Europe. Many of them do not know the Cardiac Arrest call number in the hospital where they are working.

Common sense and logic would suggest that using the same number throughout Europe would reduce the incidence of confusion by staff having to remember or find the correct number for each hospital when trying to summon the resuscitation team. Stressful situations such as this automatically reduce the human’s ability to accurately and speedily recall information and precious time could be lost and put patients’ lives at risk.

Standardisation is a key principle of Patient Safety and by making this change and demonstrating that European healthcare systems are prepared to and can deliver such standardisation on important but relatively simple things send a message for other more complicated issues.

How to achieve 2222 standardisation.

This can take place at 3 levels, Europe wide, National and Local.

Europe wide: Legislation at a European level is difficult to achieve in timely manner, EU directives can take a very long time if, it took 19 years for a EU directive on the 112 emergency number after it was first recommended. This should be attempted in the long term

National: Some countries have already standardised England, Denmark, Ireland and one country that widely promoted such a national recommendation had 86% of hospitals successfully standardised to 2222 within 1 year. National Societies can only make strong professional recommendations to relevant organisations and if they agree these can help voluntary implementation. National Societies could also promulgate and support the voluntary Local process mentioned below. National Societies who wish could recommend standardisation to National Health Ministers and other relevant national bodies who may have additional powers to drive implementation in each country.
Local: Because there is such a variety of numbers used the choice was probably made locally and therefore the decision to change to a standard number can also be made there as well. This process could effectively be driven by the relevant Professional bodies just making the standardisation recommendation and patient safety case for it available to as wide a number of interested professionals and administrators as possible and letting them voluntarily decide to take standardisation action locally in their own hospital.

Telephonically it is a relatively simple procedure for most hospital switchboards and raising staff awareness of the change and any training is readily achievable. Most hospitals have a resuscitation training system with trainers and routine staff training which could be used to do this and regularly reinforce it. Relevant documentation and signs would also need to be changed.

One survey has confirmed that this can be an easy and low cost change to make. Of those that needed to convert to 2222 41% of the hospitals could convert at under €1300 per site, 44% at between €1300 and €6500 the other 15% averaged €32,000.

Why 2222?

Any number could be chosen but 2222 is already the standard number in at least 5 European countries, the commonest in others, and wider success can be built on this. There is some logic to it, it is middle of the top line of most key pads, could be identified in low lighting etc. It is unlikely that an alternative number would be any better and debating this would further delay the more important standardisation implementation.

References


Limited knowledge of the crash call number among hospital staff—A call for standardisation B. Løfgren et al Resuscitation 2010 , Vol. 81, Issue 2, S28 ATTACHED BELOW

http://www.nrls.npsa.nhs.uk/resources/?EntryId45=59789

Establishing a crash call number in hospitals - feasibility study report - 147 KB0058D - Establishing a crash call number in hospitals in E&W - Feasibility study report - 2004-02-24 - V1

http://news.bbc.co.uk/1/hi/health/3516447.stm

http://www.ncepod.org.uk/2012cap.htm

EBA Recommendation for the adoption of a Standardised Hospital Telephone Number for Cardiac Arrest Calls (SEE BELOW)

The European Board of Anaesthesiology recommends that all European Hospitals standardise the internal telephone number for a cardiac arrest call * to the number 2222.

It makes inherent logical sense that a standard cardiac arrest call number should be engrained in the minds of all doctors and nurses. Confusion by staff trying to summon the resuscitation team can lose precious time and put patients' lives at risk.

Since 2004 this has already been successfully adopted in several European countries and because of the increasing of the free movement of healthcare staff around Europe it will be an extremely low cost measure to increase Patient Safety.

* A ‘cardiac arrest call’ is used by hospital staff to summon an emergency care team to patients suffering from a cardiac arrest or needing resuscitation. Some alternative names for this emergency may be used by different hospitals e.g. crash call, code blue etc.

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Background information  [http://news.bbc.co.uk/1/hi/health/3516447.stm](http://news.bbc.co.uk/1/hi/health/3516447.stm)

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**Cardiac Arrest Call papers from Resuscitation**


**Errors in the management of cardiac arrests: an observational study of patient safety incidents in England.**

*Panesar SS, Ignatowicz AM, Donaldson LJ.*

**OBJECTIVE:**
The aim of this qualitative study is to better understand the types of error occurring during the management of cardiac arrests that led to a death.

**METHODS:**
All patient safety incidents involving management of cardiac arrests and resulting in death which were reported to a national patient safety database over a 17-month period were analysed. Structured data from each report were extracted and these together with the free text, were subjected to content analysis which was inductive, with the coding scheme emerged from continuous reading and re-reading of incidents.

**RESULTS:**
There were 30 patient safety incidents involving management of cardiac arrests and resulting in death. The reviewers identified a main shortfall in the management of each cardiac arrest and this resulted in 12 different factors being documented. These were grouped into four themes that highlighted systemic weaknesses: miscommunication involving crash number (4/30, 13%),
shortfalls in staff attending the arrest (4/30, 13%), equipment deficits (11/30, 36%), and poor application of knowledge and skills (11/30, 37%).

CONCLUSION:
The factors identified represent serious shortfalls in the quality of response to cardiac arrests resulting in death in hospital. No firm conclusion can be drawn about how many deaths in the study population would have been averted if the emergency had been managed to a high standard. The effective management of cardiac arrests should be considered as one of the markers of safe care within a healthcare organisation.

Limited knowledge of the crash call number among hospital staff—A call for standardisation B. Løfgren et al Resuscitation 2010, Vol. 81, Issue 2, S28

Purpose: In-hospital cardiac arrest carries a poor prognosis. Any delay in activating the resuscitation team may jeopardize survival. Hospital staff often works at multiple sites and a lack of a uniform crash call number may contribute to delayed activation of the resuscitation team. The aim of this study was to quantify crash call numbers in Danish hospitals, and to determine the knowledge of the crash call number among hospital staff.

Methods: All public Danish hospitals were contacted by telephone to quantify the crash call numbers. To investigate the knowledge of the crash call number two university hospitals and five county hospitals were randomly chosen and questionnaires were distributed to the staff. The questionnaire included questions on occupation, knowledge of crash call number and how that knowledge was obtained. Furthermore, the staff was asked to disclose employments at other hospitals within the last year and their respective crash call numbers.

Results: At 74 hospitals 41 different crash call numbers were used. The most prevalent numbers were “2222” (n = 12), “4444” (n = 2), “7000” (n = 2) and “2011” (n = 2). Based on 648 questionnaires (response rate 78%) the overall knowledge of the crash call number was 49.5% (Physicians: 48% (n = 179); nursing personal: 58% (n = 201); service personal: 52% (n = 168); miscellaneous: 31% (n = 100)). The primary source of knowledge was introduction to the hospital (36%), boards or labels on phones (23%) and participation in an emergency situation (12%). A minor part of the staff (18%) had 1–3 employments at other hospitals within the previous year. Recollection of the crash call numbers at these hospitals were 21%, 2% and 4%, respectively.

Conclusion: We demonstrate a pronounced diversity in the crash call numbers. The knowledge of the crash call number is limited among hospital staff. A standardized crash call number may strengthen knowledge and improve activation of the resuscitation team.