information and proportionately distributes ill-defined ICD codes among disease groups without explicit guidelines. We propose a modified classification system—Million Death Study mortality classification system (MDS–MC)—that is practicable for use in verbal autopsy studies worldwide.

Methods We use a Delphi method to categorise ICD codes into disease categories. These categories are then structured into broader disease groups. We compare our classification system against GBD and check for age and sex-wise epidemiological plausibility of major diseases using the MDS study results for 123 000 deaths from 2001 to 2003 across India.

Results 31 disease groups are divided into four broad disease groups—communicable, non-communicable, injury and ill-defined. The MDS–MC produces built-in quality indicators (such as proportion of ill-defined causes for deaths before old age, range checks, etc) that make it easier to manage the inherent misclassification in verbal autopsy. Major disease profiles are epidemiologically plausible for age and sex. A simple to use web-program enables its use in various settings.

Conclusions The MDS–MC, designed specifically for coding of verbal autopsies, is a widely practicable classification system for use in developing countries.

06-5.2 LINKING INDIVIDUAL RECORDS FROM MULTIPLE LARGE DATABASES; A SHORT HISTORY AND PRACTICAL SOLUTION

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Quality epidemiological studies require linked records to differentiate persons from events.

Medical records in the 1960's were mainly linked manually by visually comparing personal data, such as in the Western Australian Mental Health Services Registry.

In 1973, Australia's Hospital and Allied Services Advisory Council (HASAC) studied numerous ways of creating a uniform personal identifier using personal data / attributes which were readily available to the patient and healthcare provider without recalling a medical record number or finding a membership card. Using portions of the last name, first name, gender, and date of birth; only 17 out of 696 000 records could not be automatically linked. A tie-breaker, such as place of birth was recommended.

In 1993, the California Health Information for Policy Project's Interagency Working Party, working with 10 different state and local databases, suggested the use of the HASAC algorithm, but used mother's maiden name instead of place of birth to prevent duplicates requiring manual adjudication. This recommendation however could not be implemented practically because many organisations whose records did not include mother's maiden name found the cost of finding this information prohibitive.

In 2003, an attempt was made to further modify the HASAC criteria using only computerised available data to link just under 2 million records for the Kaiser Permanente Southern California Immunisation registry (KITS). As series of 26 computerised algorithms was developed which resulted in a 99.8% matching rate.

This study resulted in a cost-effected way of routinely linking records from large data bases with minimal manual input.

06-5.3 VASOVAGAL REACTION FROM BLOOD DONATION AND BIOMARKERS IN JAPANESE

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Introduction The Japanese Red Cross Tokyo Blood Center collects approximately 600 000 blood donations every year. Since we experienced a fatal injury case related to vasovagal reaction (VVR) syncope in 2005, we conducted a cross-sectional study to elucidate factors contributing to VVR, the most frequent side effect, following whole blood and apheresis donations.

Methods Complications recorded at the collection sites after voluntary donations by Japanese Red Cross Tokyo Blood Center, in the 2006 and 2007 fiscal years, were analysed by univariate and multivariate logistic regression model. Of 1 119 716 blood donations over a full 2 years, complications were recorded for 13 320 donations (1.189%), among which VVR was the primary or secondary complication in 67%. Eligible 4303 VVR cases having sufficient information, and 40 256 control donors were prepared. Age, body mass index, predonation blood pressure, pulse, and biomarkers (eg, total protein, albumin, and haemoglobin) were compared between VVR group and control group.

Results VVR group was significantly younger, lower body mass index, lower blood pressure, higher biomarkers' values (eg, total protein, albumin, and haemoglobin) than control group. ($p<0.001$) Furthermore, biomarkers' values and VVR incidences showed a dose-dependent manner. (Trend test $p<0.01$).

Conclusion Obviously, to prevent serious consequences, donors should be informed about importance of rest afterwards, and posture to take when symptoms occur. From our analysis, extra care should be considered including high biomarkers' concentrations (eg, total protein, albumin, and haemoglobin), which might reflect donor's dehydration state.

06-5.4 VENTILATOR-ASSOCIATED PNEUMONIA IN PATIENTS WITH SEVERE BURN INJURY: THE PREDICTIVE VALUE OF ROUTINE SURVEILLANCE CULTURES TO PREDICT MULTIDRUG RESISTANCE

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Introduction Burn patients with inhalation injury requiring mechanical ventilation (MV) are at particular risk for ventilator-associated pneumonia (VAP), which is associated with increased morbidity and mortality. Routine endotracheal surveillance cultures (SC) may provide information about the causative pathogen in subsequent VAP, facilitating early appropriate antibiotic therapy.

Objectives To assess the value of routine endotracheal SC to predict multidrug resistant (MDR) aetiology of VAP in burn patients with inhalation injury.

Methods Historical cohort (N=46) study including all burn patients with inhalation injury who developed VAP during admission to the burn unit at Ghent University Hospital (2002–2009).

Results Overall, 70 episodes of VAP occurred. Median age and total burned surface area were 43.5 y (IQR 38.0 to 54.3) and 32.5% (18.0 to 45.8) respectively. The median Belgian Outcome in Burn Injury score was 5 (4–6), reflecting a predicted mortality of 30% (20–50%).[1] Median duration of MV prior to onset VAP was 7d (4–9d). The incidence of VAP was 55 episodes/1000 MV days and 112 episodes/1000 MV days "at risk." In 23 episodes (32.9%) at least one MDR causative pathogen was involved (24 MDR pathogens), mostly *Pseudomonas aeruginosa* (10/23) and *Enterobacter* spp. (7/23). The sensitivity and specificity of SC to predict MDR pathogens was