ESM Methods

ICD-10 codes for specific causes of death

CVD-related: I00-99 or any general diabetes (E10-E14) listed as the primary cause of death with any CVD-related code (I00-99) as a subsequent cause of death

Renal-related: N00-99 or any general diabetes (E10-E14) listed as the primary cause of death with any Renal-related code (N00-99) as a subsequent cause of death

Other: All other codes

ICD-9 & ICD-10 hospitalisation codes used to identify complications

1. Myocardial infarction (MI) – non-fatal or fatal (ICD-9 code 410; ICD-10 code I210-4, I219), or sudden death (ICD-9 code 798.1, 798.2; ICD-10 codes R96.0, R96.1)

2. Stroke – (ICD-9 code 431, 434, 436 ; ICD-10 code I61, I63-5, I67.9)

3. Heart failure – (ICD-9 code 428, ICD-10 code I50)

4. Amputation – (ICD-9 code 84.0, 84.1, 84.12, 84.15, 84.17, 84.19, 87.00, 87.01, 87.02, 87.11, 87.12, 87.50, 87.60, 87.70, 87.71, 87.80, 87.81), Operation codes (NHQ09, NHQ11, NGQ09, NGQ19. NGQ99, NFQ09. NFQ19, NEQ19, NEQ99)


8. End-stage renal disease (ESRD) – (ICD-9 code V56A, V42A, 54.98, 60.43, 60.70), (ICD-10 code Z491, Z49B, Z992, E878A, Z94A), Operation codes (3995, 5498, V9211-2, V9531-2, DR014-8, DR020, DR023-4, KAS10, KAS20, V9351-2)


11. Percutaneous coronary intervention (PCI) – Operation codes (FNG0, FNG00, FNG02, FNG05, FNG06, FNG10, FNG30, FNG96, 0063, 0966, 0967, 3080)

12. Coronary artery bypass graft (CABG) – Operations codes (FNA00, FNA10, FNA20, FNA96, FNB00, FNB20, FNB96, FNC10, FNC20, FNC30, FNC40, FNC50, FNC60, FNC96, FND10, FND20, FND96, FNE00, FNE10, FNE20, FNE96, FNF00, FNF10, FNF20, FNF30, FNF96, 3067, 3080, 3127, 3158)

It should be noted that for some ICD codes classification into a particular category may be difficult and there may be some degree of misclassification. For example E1[1-4].0 for diabetes with coma it can be difficult to know whether this refers to hyperosmolar or hypoglycaemic coma.