**Appendix Table 1**

**List of specialties classified as acute**

ANESTHESIOLOGY

CARDIAC INTENSIVE CARE UNIT

CARDIAC SURGERY

CARDIAC-STEP DOWN UNIT

CARDIOLOGY

DERMATOLOGY

EAR, NOSE, THROAT (ENT)

ENDOCRINOLOGY

EPILEPSY CENTER

GASTROENTEROLOGY

GEM ACUTE MEDICINE

GEN MEDICINE (ACUTE)

GENERAL SURGERY

GENERAL(ACUTE MEDICINE)

HEMATOLOGY/ONCOLOGY

INTERMEDIATE MEDICINE

MEDICAL ICU

MEDICAL STEP DOWN

METABOLIC

NEUROLOGY

NEUROSURGERYOB/GYN

OPHTHALMOLOGY

ORAL SURGERY

ORTHOPEDIC

PERIPHERAL VASCULAR

PLASTIC SURGERY

PODIATRY

PROCTOLOGY

PULMONARY, NON-TB

PULMONARY, TUBERCULOSIS

STROKE UNIT

SURGICAL ICU

SURGICAL STEPDOWN

TELEMETRY

THORACIC SURGERY

TRANSPLANTATION

UROLOGY

VASCULAR

z GEM ACUTE MEDICINE

zCARDIAC-STEP DOWN UNIT

zCARDIOLOGYzDERMATOLOGY

zENDOCRINOLOGY

zEPILEPSY CENTER

zGASTROENTEROLOGY

zGENERAL(ACUTE MEDICINE

zHEMATOLOGY/ONCOLOGY

zMETABOLIC

zNEUROLOGY

zNEUROSURGERY

zOPHTHALMOLOGY

zORTHOPEDIC

zPERIPHERAL VASCULAR

zPODIATRY

zPROCTOLOGY

zPULMONARY, NON-TB

zPULMONARY, TUBERCULOSI

zSTROKE UNIT

zSURGICAL ICU

zTELEMETRY

zUROLOGY

ZZPULMONARY DISEASE

**Appendix Table 2**

**List of topographies included**

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| ARTERIAL BLD |
| ARTERIAL BLOOD |
| BLOOD |
| BLOOD - SM |
| BLOOD (SEND) |
| BLOOD (VENOUS) |
| BLOOD & CSF |
| BLOOD & SERUM |
| BLOOD FRANCISCAN |
| BLOOD MIXED ART/VENOUS |
| BLOOD UNSPECIFIED |
| BLOOD VENOUS |
| BLOOD, ARTERIAL |
| BLOOD, OTHER CELLS |
| BLOOD, VENOUS |
| BLOOD, WHOLE |
| BLOOD,CAPILLARY |
| BLOOD\* |
| BLOOD/WHOLE |
| BODY AS A WHOLE |
| CATHETER SITE |
| CC SERUM |
| CENTRAL LINE |
| CSF & BLOOD |
| CSF & SERUM |
| CSF + RED TOP SERUM |
| CSF + SERUM |
| CSF AND SERUM |
| CSF/SERUM |
| CSF&SERUM |
| CSF+SERUM |
| MEDIASTINAL ARTERY |
| MIXED VEN/ART BLD |
| MIXED VENOUS |
| MIXED VENOUS BLOOD |
| MOFH BLOOD |
| MOFH SERUM |
| PERIPHERAL VENOUS BLOOD |
| PLAS |
| PLASMA |
| PLASMA GREEN |
| PLATELET POOR PLASMA |
| SERUM & CSF |
| SERUM AND CSF |
| SERUM FRANCISCAN |
| SERUM-TROUGH |
| SERUM/CSF |
| SERUM&CSF |
| ST.JAMES BLOOD |
| ST.JAMES SERUM |
| URINE/SERUM |
| VENOUS BLD |
| VENOUS BLOOD |
| WHOLE BLOOD |
| Whole Blood |
| WHOLE BLOOD-B |
| WS-BLOOD |
| WS-PLASMA |

**Appendix Table 3**

**LOINC Codes**

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| **Lab** | **LOINC codes** |
| Albumin | '43712-9','1751-7','61151-7','61152-5','54347-0','62235-7','62234-0','1747-5' |
| Bilirubin | '14631-6','1975-2','42719-5','54363-7' |
| Creatinine | '2160-0','44784-7','35203-9','14682-9' |
| Hemoglobin | '20509-6','25433-4','4635-9','55457-6','59260-0','717-9','718-7','720-3','721-1' |
| Sodium | '2947-0','2951-2','44783-9','51419-0' |
| WBC | '26464-8','49498-9','6690-2','804-5' |

**Test names**

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| **Albumin** |
| 'ALBUMIN','ALBUMIN\*IA','ALBUMIN\*NE','ALB,PE(5/14/03-1/21/04)','ALB','ALB (b)','ALB,PE(5/14/03-1/21/04)','ALBUMIN','ALBumin','Albumin','ALBUMIN - PE','ALBUMIN (3/04 - 11/08)','ALBUMIN (Blood/Fluids V.A.)','ALBUMIN (d/c 5/13/05)','ALBUMIN (FS)','ALBUMIN (FV)','ALBUMIN (gm)','ALBUMIN (LX)','ALBUMIN (MV)','ALBUMIN (P.E.)','ALBUMIN (PARAGON)','ALBUMIN\*IA', | 'ALBUMIN (PLASMA)','ALBUMIN (Q)','ALBUMIN (QUEST)','ALBUMIN (Ref.Lab)','ALBUMIN (SERUM)','ALBUMIN (S-HEM)','ALBUMIN (SL)','ALBUMIN (SY)','ALBUMIN (V2)','ALBUMIN ,Blood','ALBUMIN 10/16/06 OLD','ALBUMIN BCG (PRE 1/6/03)','Albumin mg/dL','ALBUMIN -SERUM','ALBUMIN thru 3/2/2004','ALBUMIN THRU 6/26/06','ALBUMIN-% -','ALBUMIN(BMT)','ALBUMIN(HITA)(INACT4/2003)','ALBUMIN-------(PSHCS)','ALBUMIN(SERA/PLASMA)','ALBUMIN\*', | 'ALBUMIN\*NE','ALBUMIN, PLASMA','ALBUMIN,(serum/plasma)','ALBUMIN,SERUM','ALBUMIN-FL','BR-ALBUMIN','C-ALBUMIN-CBOC','M-ALBUMIN','MRD-ALBUMIN','P-ALBUMIN(I)','SERUM ALBUMIN','SERUM ALBUMIN (MS PR)','SERUM ALBUMIN\* (SY)','SO-ALBUMIN','Z++ALBUMIN-OUTSIDE LAB','ZALBUMIN','zALBUMIN (DC 1-12)','zALBUMIN (NA) dc"d 10/06','ZSJ-ALBUMIN(DC"D 5-10)','ZZALBUMIN','zzALBUMIN-PEN','zzz ALBUMIN(BRAD)','ZZZALBUMIN (NOT IN USE)' |

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| **Bilirubin** |
| 'TOT. BILIRUBIN','BILIRUBIN,TOTAL','BILIRUBIN,TOTAL\*NE','TOTAL BILIRUBIN\*IA','TOTAL BILIRUBIN','BILI TOTAL','BILIRUB.,TOT','BILIRUBIN','Bilirubin','BILIRUBIN TOTAL','BILIRUBIN TOTAL, SERUM','BILIRUBIN, TOTAL','BILirubin, total','BILIRUBIN, TOTAL-----','BILIRUBIN, TOTAL,Blood','BILIRUBIN,TOTAL','BILIRUBIN,TOTAL (4/04-11/08)','BILIRUBIN,TOTAL (V2)','BILIRUBIN,TOTAL -LX','BILIRUBIN,TOTAL thru 3/2/2004','BILIRUBIN,TOTAL(ACL)', | 'BILIRUBIN,TOTAL\*NE','BR-TOTAL BILI','CBILI','C-BILIRUBIN, TOT-CBOC','COOK TOTAL BILIRUBIN','LEG T BILI','MRD-T.BILIRUBIN','POC Bili Confirm','P-TOTAL BILIRUBIN(I)','T.BILI','T.BILIRUBIN','TBIL','TBIL 10/16/09 OLD','TOT BILIRUBIN','TOT. BILIRUBIN','TOT. BILIRUBIN THRU 6/26/06','TOT. BILIRUBIN(BMT)','TOT.BILIRUBIN','TOTAL BILIRUBIN','TOTAL BILIRUBIN (CO,MC)','TOTAL BILIRUBIN (CX)','TOTAL BILIRUBIN (FS)', | 'TOTAL BILIRUBIN (FV)','TOTAL BILIRUBIN (MV)','TOTAL BILIRUBIN (Ref.Lab)','TOTAL BILIRUBIN(EK)(ENDED)','TOTAL BILIRUBIN\*','TOTAL BILIRUBIN, PLASMA','Z++BILIRUBIN,TOTAL-OUTSIDE LAB','zBILIRUBIN, TOTAL (DC 1-12)','ZSJ-BILI,TOTAL(DC"D 5-10)','ZTOT. BILIRUBIN','zzTOTAL BILIRUBIN-PEN\*','zzz BILIRUBIN,TOTAL(BRAD)','MHA TP (TP-PA)','MHA-TP','MHA-TP (DC"D 09/02/08)','MHA-TP (dc"d 4/11/12)','MHA-TP (FTA)','MHATP (LEX)','MHATP (TP-PA)','TOT BILIRUBIN(DCed 2.1.15' |

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| **Creatinine** |
| 'CREATININE','(E)CREATININE,SERUM','CREAT SERUM\*NE','CREATININE\*IA','CREATININE\*NE','ANCILLARY I-STAT CREATININE','\*CREATININE','\*CREATININE mg/dL','~CREATININE','~CREATININE-mg/dL','ANCILLARY I-STAT CREATININE','Bld Creatinine (mg/dL)','BR-CREATININE','C-CREATININE-CBOC','COMPUTED CREATININE','COOK CREATININE','CREAT (for EGFR) 6/7/05-6/20/05','CREAT SERUM\*NE','CREAT(mM)','CREAT, MG/DL (BU)','CREAT.','CREAT.,SERUM (DO NOT USE 4/11/00)','CREATININE','CREatinine','Creatinine','CREATININE (BLOOD)','CREATININE (C0NC)','CREATININE (CX)','CREATININE (DOES NOT CONTAIN eGFR)','CREATININE (FS)','CREATININE (FS)\*INACT(1-10-09)','CREATININE (FV)','CREATININE (FV)\*INACT(1-10-09)','CREATININE (INACTIVATED 030110)','CREATININE (MINOT AFB)DC 6/8/10','CREATININE (MV)','CREATININE (MV)\*INACT(12-28-07)', | 'CREATININE (PRIOR TO 8/24/05)','CREATININE (Ref.Lab)','CREATININE (SERUM)','CREATININE (SERUM/PLASMA)','CREATININE (SINGLE TEST)','CREATININE (STAT LAB)','CREATININE (thru 11/08)','CREATININE (TOPC)','CREATININE (V2)','CREATININE {St. George}','CREATININE 10/16/06 OLD','CREATININE MG/DL','CREATININE prior to 2/7/06','Creatinine Serum Result','CREATININE thru 3/2/2004','CREATININE(\*SERUM\*)','CREATININE(BMT)','CREATININE(DOES NOT INCLUDE EGFR)','CREATININE(FB)','CREATININE(LUF)','CREATININE(PRE 3/23/09)','CREATININE(PRIOR TO 081012)','CREATININE(serum/plasma)','CREATININE(spot ua or fluids)','CREATININE\*','CREATININE\*IA','CREATININE\*NE','CREATININE, SERUM','CREATININE, BLOOD','CREATININE, PLASMA','CREATININE, SERUM','CREATININE, Serum','CREATININE, SERUM OR PLASMA','CREATININE,Blood','CREATININE,LABCORP','CREATININE,PLASMA (in mg/dL)','CREATININE,SERUM','CREATININE,SERUM/PLASMA','CREATININE,VERIFY','CREATININE (POC)', | 'CREATININE~disc6/09','CREATININE2','CREATININE--------CCO','CREATININE-e','CREATININE-FL','CREATININE----------O','CREATININE-PAK','CREATININE-SENDOUT','CREATININE-SENDOUT-UO','CREATININE-SERUM','eCREATININE','HOPC-CREATININE','iCREATININE','I-STAT CREA','I-STAT CREATININE (MA-EV)','ISTAT-CREATININE','Lamar Creatinine (serum)','LC-CREATININE','LC-CREATININE (MG/DL or G/L)','OB-CREATININE','P-CREATININE','QST-CREATININE--O','SER. CREATININE','SERUM CREAT (CrCl)','SERUM CREAT.(CL.)','SERUM CREATININE','Serum Creatinine','Serum Creatinine (4/30/08)','TOTAL CREATININE','WB CREATININE','Z++CREATININE-OUTSIDE LAB','ZCREATININE','zCREATININE - (DC 1-12)','zCREATININE (CO,MC)','zSEND OUT CREATININE ...','ZZCREATININE','ZZ-CREATININE (b. <8-10-04)','zzCREATININE-PEN','zzz CREATININE(BRAD)','ZZZCREATININE (CBOC)','ZZZCREATININE (DO NOT USE 10/25/07)' |

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| **Hemoglobin** |
| 'HGB','ZHGB (RETIRED 6/29/05)','ISTAT HGB','.HGB (MINOT AFB)DC 6/8/10','A HGB','C-HGB-CBOC','HB (ctHb)','HB (HGB)','HB (tHb)','HgB','Hgb','hgb','HGB (AA)','HGB (FV)','HGB (HB)','HGB (MV)','HGB (PRE 6/30/05)','HGB (thru 10/06/09)','HGB (V2)','HGB {Reference Lab}','HGB {St. George}','HGB POC (BU)','HGB-(NANTICOKE)','HGB(PRE-2/2/12)','HGB\*','HEM1W - TOTAL 'HEMOGLOBIN', | 'HGB,Blood','HGB2','ISTAT-HGB #','LEG HGB','MN HGB','NEW HGB','OB-HGB','o-HGB','POC HGB','Q-HGB DC"D','S HGB','TOTAL HGB','TOTAL HGB-----------O','ZHGB (RETIRED 6/29/05)','ZHS HGB','ZSJHGB(DC"D 5-10)','zzz HGB(BRAD)','ZZZPLASMA-HGB','BG HGB','BECKMAN HGB','CELLULAR HGB, RETIC','COOK HEMOGLOBIN','Hemoglobin','HEMOGLOBIN-----------','HEMOGLOBIN (LABCORP)', | 'hemoglobin other','HEMOGLOBIN TOTAL','HEMOGLOBIN, OTHER (SP HEM)-BK','HEMOGLOBIN, PLASMA (fb/SK)','iHEMOGLOBIN (new)','I-STAT HEMOGLOBIN','POC-HEMOGLOBIN (HB)','TOTAL HEMOGLOBIN','Z++HEMOGLOBIN-OUTSIDE LAB','THB','THb','tHB','tHb','tHb (R)','tHb(FEM)','tHb(PA)','tHb(RA)','tHb(RV)','z\*INACT\*HGB (5-15-09)','HEMOGLOBIN OTHER','TOTAL HEMOGLOBIN (BGL4)','HEMOGLOBIN (POC)','HEMOGLOBIN [BK]',HEMOGLOBIN' |

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| **Sodium** |
| 'SODIUM','SODIUM\*IA','SODIUM\*NE','SODIUM (O.R.)','ISTAT SODIUM','ANCILLARY SODIUM','AT- SODIUM','AT- SODIUM \*\*\*DO NOT ORDER\*\*\*','BR-SODIUM','COMPUTED SODIUM','COOK SODIUM','C-SODIUM-CBOC','HOPC-SODIUM','iSODIUM (new)','ISTAT SODIUM','I-STAT SODIUM','ISTAT-SODIUM','LC-SODIUM','OB-SODIUM','POC SODIUM','POC-SODIUM (NA)', | 'P-SODIUM','SOD','SODium','Sodium','SODIUM (BLOOD)','SODIUM (CO,MC)','SODIUM (CX)','SODIUM (FS)','SODIUM (FV)','SODIUM (I-STAT)','SODIUM (LAB USE ONLY)','SODIUM (MINOT AFB)DC 6/8/10','SODIUM (MV)','SODIUM (O.R.)','SODIUM (Ref.Lab)','SODIUM (SERUM/PLASMA)','SODIUM (Serum/Plasma)','SODIUM (thru 11/08)','SODIUM (TOPC)','SODIUM (V2)','SODIUM {St. George}', | 'SODIUM 10/16/06 OLD','SODIUM POC (BU/BH)','SODIUM -SERUM','SODIUM thru 3/2/2004','SODIUM--------------O','SODIUM-WHOLE BLOOD---','Z++SODIUM-OUTSIDE LAB','ZSJSODIUM(DC"D 5-10)','ZSODIUM','zSODIUM (DC 1-12)','zzSODIUM-PEN','zzz SODIUM(BRAD)','BG SODIUM','CVICU-SODIUM','Na','Na, mM/L','Na+(WB) (R)','Na+---OR','NA+r','NAbFeron Antibody Test','Na-iSTAT','OR Na+','ATS NA+' |

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| **White blood cell** |
| 'WBC','WBC (REFERENCE LAB)','ZWBC (RETIRED 6/29/05)','.WBC (MINOT AFB)DC 6/8/10', 'AUTO WBC','CBC/WBC EX','COOK WBC','CORRECTED WBC','CORRECTED WBC-------0','C-WBC-CBOC','HOPC-WBC','LEG WBC','MH WBC (WET PREP)','MN WBC','NAVY STAT WBC','NEW WBC','OB-WBC','Q-WBC DC"D','T-CELL WBC','TOTAL WBC','Total WBC','Total WBC Count (AML)','Wbc','WBC------------------','WBC -', | 'WBC - SCAN Dc"d 1-21-08','WBC (AA)','WBC (AUTOMATED)','WBC (AUTOMATED) WR',‘WBC (BEFORE 5/9/06)','WBC (DO NOT USE)','WBC (FCM)','WBC (FOR ANC CALC.)','WBC (FV)','WBC (LABCORP)','WBC (MV)','WBC (ORS)','WBC (REFERENCE LAB)','WBC (RESEARCH PANEL) (TO 6/13/05)','WBC (thru 10/6/09)','WBC (V2)','WBC {Reference Lab}','WBC {St. George}','WBC AUTO','WBC AUTO -','WBC COUNT','WBC COUNT (K/uL)','WBC Dc"d 1-21-08', | 'WBC SCAN Dc"D 4-9-09','WBC(CBOC)','WBC(EST)','WBC(PRE-2/2/12)','WBC\*','WBC/uL','WBC2','WBC-auto (V1FC)','WBC--------------CSFO','WBC-FL','WBC"S','Z++WBC-OUTSIDE LAB','ZHS WBC','ZSJWBC(DC"D 5-10)','ZWBC (RETIRED 6/29/05)','zzz WBC(BRAD)','WBC (for CD4/CD8)','z\*INACT\*WBC (4-1-10)','ZSJUAWBC(DC"D 5-10)','WHITE BLOOD CELLS Thru 2/12/07','TOTAL WHITE BLOOD COUNT','WHITE CELL COUNT','WHITE CELLS, TOTAL' |