**Table 3. Key Question 1: Outcomes**

| **Author, Year** | **Data Group** | **Test** | **ACS Definition** | **Total Sample** | **AUC** | **Values** |
| --- | --- | --- | --- | --- | --- | --- |
| Alcalai, 20074 | Age <70 and creatinine <1.13 mg/dL, cTnT >1.0 ng/mL subgroup data | Assay: cTnTMfg: NRtype: NRcut off normal: 0.1 mcg/Ltiming: NR99th upper ref: NR | Adjudicated by: panel of 2 cardiologists Definition: ESC/ACC |   |   | PPV: 89; 95% CI: 79 to 95 |
| Alcalai, 20074 | Age <70 and creatinine <1.13 mg/dL, cTnT 0.1-1.0 ng/mL subgroup data | Assay: cTnTMfg: NRType: NRcut off normal: 0.1 mcg/Ltiming: NR99th upper ref: NR | Adjudicated by: panel of 2 cardiologists Definition: ESC/ACC |   |   | PPV: 73; 95% CI: 65 to 80 |
| Alcalai, 20074 | Age <70 and creatinine <1.13 mg/dL, cTnT any positive result subgroup data | Assay: cTnTMfg: NRtype: NRcut off normal: 0.1 mcg/Ltiming: NR99th upper ref: NR | Adjudicated by: panel of 2 cardiologists Definition: ESC/ACC |   |   | PPV: 78; 95% CI: 72 to 84 |
| Alcalai, 20074 | Age <70 and creatinine >=1.13 mg/dL, cTnT >1.0 ng/mL subgroup data | Assay: cTnTMfg: NRtype: NRcut off normal: 0.1 mcg/Ltiming: NR99th upper ref: NR | Adjudicated by: panel of 2 cardiologists adjudicated: yesDefinition: ESC/ACC |   |   | PPV: 59; 95% CI: 36 to 79 |
| Alcalai, 20074 | Age <70 and creatinine >=1.13 mg/dL, cTnT 0.1-1.0 ng/mL subgroup data | Assay: cTnTMfg: NRtype: NRcut off normal: 0.1 mcg/Ltiming: NR99th upper ref: NR | Adjudicated by: panel of 2 cardiologists Definition: ESC/ACC |   |   | PPV: 73; 95% CI: 65 to 80 |
| Alcalai, 20074 | Age <70 and creatinine >=1.13 mg/dL, cTnT Any positive result subgroup data | Assay: cTnTMfg: NRtype: NR | ICD-9 code: ICD-9Adjudicated by: panel of 2 cardiologists Definition: ESC/ACC |   |   | PPV: 44; 95% CI: 35 to 55 |
| Alcalai, 20074 | Age >70 and creatinine <1.13 mg/dL, cTnT >=1.0 ng/mLsubgroup data | Assay: cTnTMfg: NRtype: NRcut off normal: 0.1 mcg/Ltiming: NR99th upper ref: NR | Adjudicated by: panel of 2 cardiologists Definition: ESC/ACC |   |   | PPV: 90; 95% CI: 68 to 99 |
| Alcalai, 20074 | Age >70 and creatinine <1.13 mg/dL, cTnT 0.1-1.0 ng/mLsubgroup data | Assay: cTnTMfg: NRtype: NRcut off normal: 0.1 mcg/Ltiming: NR99th upper ref: NR | Adjudicated by: panel of 2 cardiologists Definition: ESC/ACC |  NR | NR  | PPV: 42; 95% CI: 31 to 54 |
| Alcalai, 20074 | Age >70 and creatinine <1.13 mg/dL, cTnT any positive resultsubgroup data | Assay: cTnTMfg: NRtype: NRcut off normal: 0.1 mcg/Ltiming: NR99th upper ref: NR | Adjudicated by: panel of 2 cardiologists Definition: ESC/ACC |  NR |  NR | PPV: 52; 95% CI: 42 to 63 |
| Alcalai, 20074 | Age >70 and creatinine >=1.13 mg/dL, cTnT >1.0 ng/mLsubgroup data | Assay: cTnTMfg: NRtype: NRcut off normal: 0.1 mcg/Ltiming: NR99th upper ref: NR | Adjudicated by: panel of 2 cardiologists Definition: ESC/ACC |  NR |  NR | PPV: 59; 95% CI: 43 to 73 |
| Alcalai, 20074 | Age >70 and creatinine >=1.13 mg/dL, cTnT 0.1-1.0 ng/mLsubgroup data | Assay: cTnTMfg: NRtype: NRcut off normal: 0.1 mcg/Ltiming: NR99th upper ref: NR | Adjudicated by: panel of 2 cardiologists Definition: ESC/ACC |  NR |  NR | PPV: 27; 95% CI: 20 to 37 |
| Alcalai, 20074 | Age >70 and creatinine >=1.13 mg/dL, cTnT any positive resultsubgroup data | Assay: cTnTMfg: NRtype: NRcut off normal: 0.1 mcg/Ltiming: NR99th upper ref: NR | Adjudicated by: panel of 2 cardiologists Definition: ESC/ACC |  NR |  NR | PPV: 37; 95% CI: 29 to 45 |
| Apple, 19996 | Total sample | Assay: cTnIMfg: otherMfg: BioSite Diagnosticstype: othertype: Triage Cardiac Panelcut off normal: 0.4 mcg/Ltiming: samples taken every 8 hours for 24 hours99th upper ref: 0.4 mcg/L  | NR |  NR | AUC: 0.961; 95% CI: 0.931 to 0.979 | AUC: 0.961; 95% CI: 0.931 to 0.979 |
| Bhagavan, 199816 | subgroup data | Assay: cTnIMfg: otherMfg: Baxtertype: Stratuscut off normal: 0.6 mcg/Ltiming: every 8 hours at and after admission99th upper ref: NR | NR |  NR |  NR | Sens: 90Spec: 81NPV: 98 |
| Chenevier-Gobeaux, 2013127 | Total sample | Assay: hs cTnTMfg: Rochetype: Elecsyscut off normal: 14.0 ng/L timing: NR99th upper ref: 14 ng/L | Adjudicated by: panel of 2 cardiologist Definition: global mi | 75 | NR | NR |
| Chenevier-Gobeaux, 2013127 | Total sample | Assay: hs cTnTMfg: Rochetype: Elecsyscut off normal: 35.8 ng/L timing: NR99th upper ref: 14 mg/L | Adjudicated by: panel of 2 cardiologist Definition: global mi | 75 | NR | NR |
| Chenevier-Gobeaux, 2013127 | Total sample | Assay: hs cTnTMfg: Rochetype: Elecsyscut off normal: 14.0 ng/L timing: NR99th upper ref: 14 ng/L | Adjudicated by: panel of 2 cardiologist Definition: global mi | 72 | NR | NR |
| Chenevier-Gobeaux, 2013127 | Total sample | Assay: hs cTnTMfg: Rochetype: Elecsyscut off normal: 43.2 ng/L timing: NR99th upper ref: 14 ng/L | Adjudicated by: panel of 2cardiologist Definition: global mi | 72 | NR | NR |
| Fehr, 200334 | ACS, cTnI subgroup data | Assay: cTnIMfg: DPCtype: Immulitecut off normal: 1 mcg/Ltiming: beginning of hemodialysis session99th upper ref: NR | NR |  NR |  NR | Sens: 45Spec: 100 |
| Fehr, 200334 | ACS, cTnTsubgroup data | Assay: cTnTMfg: Rochetype: Elecsyscut off normal: 0.1 mcg/Ltiming: Beginning of hemodialysis session99th upper ref: NR | NR |  NR |  NR | Sens: 100Spec: 42 |
| Flores, 200637 | Total sample | Assay: cTnIMfg: Beckmantype: Accesscut off normal: 0.5 ng/mLtiming: NR | NR |  NR | NR  | FP: 20Sens: 70; 95% CI: 57 to 83Spec: 92; 95% CI: 90 to 95PPV: 51; 95% CI: 39 to 63NPV: 97; 95% CI: 95 to 98 |
| Flores-Solis, 201238 |  NR | Assay: cTnIMfg: otherMfg: type: othertype: Vidascut off normal: 0.11 ng/mL othertiming: othertiming: Upon hospitalization and 6 months follow-up99th upper ref: 0.01 ng/mL | Definition: European Society for Cardiology 2007 |  NR | AUC: 0.83; 95% CI: 0.76 to 0.9 | TP: 36FP: 53FN: 20TN: 367Sens: 0.64Spec: 0.87PPV: 0.4NPV: 0.95AUC: 0.83; 95% CI: 0.76 to 0.9 |
| Flores-Solis, 201238 |  NR | Assay: cTnIMfg: Beckmantype: Accesscut off normal: 0.50 ng/mL timing: Upon hospitalization and 6 months followup99th upper ref:: 0.04 ng/mL | Definition: European Society for Cardiology 2007 | 484 | AUC: 0.85; 95% CI: 0.91 to 0.78 | TP: 24FP: 24FN: 32TN: 403Sens: 0.43Spec: 0.94PPV: 0.5NPV: 0.93AUC: 0.85; 95% CI: 0.91 to 0.78 |
| Haaf, 201343 | Total sample | Assay: hs cTnTMfg: Rochetype: elecsyscut off normal: 19.4 ng/Ltiming: NR99th upper ref: 14 ng/L | Adjudicated by: panel of 3 cardiologist Definition: J. Am. Coll. Cardiol | NR | NR | NR |
| Haaf, 201343 | Total sample | Assay: hs cTnIMfg: Beckmantype: Accesscut off normal: 9.9 ng/L timing: NR99th upper ref: 9 ng/L | Adjudicated by: panel of 3 cardiologist Definition: J. Am. Coll. Cardiol | NR | NR | NR |
| Haaf, 201343 | Total sample | Assay: hs cTnIMfg: Siemenstype: NRcut off normal: 6.3 ng/L timing: NR99th upper ref: 9 ng/L  | Adjudicated by: panel of 3 cardiologist Definition: J. Am. Coll. Cardiol | NR | NR | NR |
| Haaf, 201343 | Total sample | Assay: cTnTMfg: Rochetype: Elecsyscut off normal: 9 ng/L timing: NR99th upper ref: 0.01 mcg/ L | Adjudicated by: panel of 3 cardiologist Definition: J. Am. Coll. Cardiol | NR | NR | NR |
| Ikeda, 200262 | Total sample | Assay: cTnIMfg: othercut off normal: 0.8ng/ml 99th upper ref: NR | Adjudicated by: NScardiologist adjudicated: NRDefinition: NR | NR | NR | NR |
| Ikeda, 200262 | Total sample | Assay: cTnTcut off normal: 0.16ng/ml 99th upper ref: NR | Adjudicated by: NScardiologist adjudicated: NRDefinition: NR | NR | NR | NR |
| Martin, 199883 | Total sample | Assay: cTnIMfg: Dade-Behringtype: Stratuscut off normal: 0.8 mcg/Ltiming: 48 hours after admission99th upper ref: NR | NR |  NR |  NR | Sens: 94; 95% CI: 82 to 106Spec: 100PPV: 100NPV: 94 |
| McCullough, 200284 | End-stage renal disease on dialysis subgroup data | Assay: cTnIMfg: otherMfg: Biosite Incorporatedtype: othertype: Triage Cardiac System Package Insertcut off normal: 0.4 mcg/Ltiming: 9 hrs after onset99th upper ref: NR | Adjudicated by: Panel of 2 cardiologistsDefinition: Thrombolysis in Myocardial Infarction Study Group |  NR | AUC: 0.99SD: 0.01 | AUC: 0.99SD: 0.01 |
| McCullough, 200284 | Quartile 1 >99.4 mL/min/72kgsubgroup data | Assay: cTnIMfg: otherMfg: Biosite IncorporatedType: otherType: Triage Cardiac System Package Insertcut off normal: 0.4 mcg/Ltiming:9 hrs after onset99th upper ref: NR | Adjudicated by: Panel of 2 cardiologistsDefinition: Thrombolysis in Myocardial Infarction Study Group |  NR | AUC: 0.93SD: 0.04 |  AUC: 0.93SD: 0.04 |
| McCullough, 200284 | Quartile 1 >99.4 mL/min/72kg subgroup data | Assay: cTnIMfg: otherMfg: Biosite Incorporatedtype: othertype: Triage Cardiac System Package Insertcut off normal: 0.4 mcg/Ltiming:9 hrs after onset99th upper ref: NR | Adjudicated by: Panel of 2 cardiologistsDefinition: Thrombolysis in Myocardial Infarction Study Group |  NR | AUC: 1SD: 0 | AUC: 1SD: 0 |
| McCullough, 200284 | Quartile 2: 99.3-72.7 mL/min/72kg subgroup data | Assay: cTnIMfg: otherMfg: Biosite Incorporatedtype: othertype: Triage Cardiac System Package Insertcut off normal: 0.4 mcg/Ltiming: 9 hrs after onset99th upper ref: NR | Adjudicated by: Panel of 2 cardiologistsDefinition: Thrombolysis in Myocardial Infarction Study Group |  NR | AUC: 0.94SD: 0.02 | AUC: 0.94SD: 0.02 |
| McCullough, 200284 | Quartile 3: 72.8-47.0mL/min/72kg subgroup data | Assay: cTnIMfg: otherMfg: Biosite Incorporatedtype: othertype: Triage Cardiac System Package Insertcut off normal: 0.4 mcg/Ltiming: 9 hrs after onset99th upper ref: NR | Adjudicated by: Panel of 2 cardiologistsDefinition: Thrombolysis in Myocardial Infarction Study Group Study Group |  NR | AUC: 0.97SD: 0.01 | AUC: 0.97SD: 0.01 |
| Noeller, 200391 | Age <65 subgroup data | Assay: cTnTMfg: Rochetype: CARDIAC-ELISA ES300cut off normal: 0.1 mcg/Ltiming: 16 hrs after onset99th upper ref: NR | NR |  NR |  NR | Sens: 45Spec: 94PPV: 77NPV: 78 |
| Noeller, 200391 | Age >=65 subgroup data | Assay: cTnTMfg: Rochetype: CARDIAC-ELISA ES300cut off normal: 0.1 mcg/Ltiming: 16 hrs after onset99th upper ref: NR | Definition: ICD-9 code |  NR |  NR | Sens: 44Spec: 83PPV: 62NPV: 71 |
| Noeller, 200391 | Creatinine <1.5 mg/dL, age <65subgroup data | Assay: cTnTMfg: Rochetype: CARDIAC-ELISA ES300cut off normal: 0.1 mcg/Ltiming: 16 hrs after onset99th upper ref: NR | Definition: ICD-9 code |  NR |  NR | Sens: 45Spec: 96Negative LR: 83PPV: 78 |
| Noeller, 200391 | Creatinine <1.5 mg/dL, age >=65subgroup data | Assay: cTnTMfg: Rochetype: CARDIAC-ELISA ES300cut off normal: 0.1 mcg/Ltiming: 16 hrs after onset99th upper ref: NR | Definition: ICD-9 code |  NR | NR  | Sens: 41Spec: 89PPV: 69NPV: 71 |
| Noeller, 200391 | Creatinine >=1.5 mg/dL, age <65subgroup data | Assay: cTnTMfg: Rochetype: CARDIAC-ELISA ES300cut off normal: 0.1 mcg/Ltiming: 16 hrs after onset99th upper ref: NR | Definition: ICD-9 code |  NR | NR  | Sens: 43Spec: 69PPV: 38NPV: 73 |
| Noeller, 200391 | Creatinine >=1.5 mg/dL, age >=65subgroup data | Assay: cTnTMfg: Rochetype: CARDIAC-ELISA ES300cut off normal: 0.1 mcg/Ltiming: 16 hrs after onset99th upper ref: NR | Definition: ICD-9 code |  NR | NR  | Sens: 52Spec: 66PPV: 48NPV: 69 |
| Roppolo, 1999102 | cTnI >0.5 ng/mLsubgroup data | Assay: cTnIMfg: Dade-Behringtype: Opuscut off normal: 0.5 mcg/Ltiming: 1 week before admission99th upper ref: NR | Definition: ECG changes, wall motion abnormality by multigated angiogram; echocardiography, angiography or autopsy |  NR |  NR | Sens: 50; 95% CI: 10 to 90Spec: 100PPV: 100NPV: 93.5; 95% CI: 86.4 to 100 |
| Roppolo, 1999102 | cTnT >0.1 ng/mLsubgroup data | Assay: cTnTMfg: Dade-Behringtype: Opuscut off normal: 0.1 mcg/Ltiming: 1 week before admission99th upper ref: NR | Definition: ECG changes, wall motion abnormality by multigated angiogram; echocardiography, angiography or autopsy |  NR | NR  | Sens: 100Spec: 55.8; 95% CI: 5.3 to 100PPV: 24;95% CI: 7.6 to 40.4NPV: 100 |
| Roppolo, 1999102 | cTnT >0.2 ng/mLsubgroup data | Assay: cTnTMfg: Dade-Behringtype: Opuscut off normal: 0.2 mcg/Ltiming: 1 week before admission99th upper ref: NR | Definition: ECG changes, wall motion abnormality by multigated angiogram; echocardiography, angiography or autopsy |  NR | NR  | Sens: 83.3; 95% CI: 53.5 to 100Spec: 90; 95% CI: 82 to 99.4PPV: 55.6; 95% CI: 23.1 to 88.1NPV: 97.5; 95% CI: 92.7 to 100 |
| Sukonthasarn, 2007113 | CrCl <15ml/min/1.73m2subgroup data | Assay: cTnTMfg: Rochetype: Elecsyscut off normal: 0.1 mcg/Ltiming: 24 hours after admission99th upper ref: NR | Definition: European Society of Cardiology |  NR | AUC: 0.645 | Sens: 85.71Spec: 48AUC: 0.645 |
| Sukonthasarn, 2007113 | CrCl <60ml/min/1.73m2, except hemodialysissubgroup data | Assay: cTnTMfg: Rochetype: Elecsyscut off normal: 0.1 mcg/Ltiming: 24 hours after admission99th upper ref: NR | Definition: European Society of Cardiology  |  NR | AUC: 0.976 | Sens: 91.3Spec: 100AUC: 0.976 |
| Sukonthasarn, 2007113 | CrCl <60ml/min/1.73m2subgroup data | Assay: cTnTMfg: Rochetype: Elecsyscut off normal: 0.1 mcg/Ltiming: 24 horus after admission99th upper ref: NR | Definition: European Society of Cardiology  |  NR | AUC: 0.94 | Sens: 90.9Spec: 84.5AUC: 0.94 |
| Sukonthasarn, 2007113 | CrCl 15-29 ml/min/1.73m2 subgroup data | Assay: cTnTMfg: Rochetype: Elecsyscut off normal: 0.1 mcg/Ltiming: 24 hours after admission99th upper ref: NR | Definition: European Society of Cardiology  |  NR | AUC: 0.987 | Sens: 97.5Spec: 92.9AUC: 0.987 |
| Sukonthasarn, 2007113 | CrCl 15-59 ml/min/1.73m2subgroup data | Assay: cTnTMfg: Rochetype: Elecsyscut off normal: 0.1 mcg/Ltiming: 24 hours after admission99th upper ref: NR | Definition: European Society of Cardiology  |  NR | AUC: 0.983 | Sens: 100Spec: 96.6AUC: 0.983 |
| Sukonthasarn, 2007113 | CrCl 30-59 ml/min/1.73m2subgroup data | Assay: cTnTMfg: Rochetype: Elecsyscut off normal: 0.1 mcg/Ltiming: 24 hours after admission99th upper ref: NR | Definition: European Society of Cardiology  |  NR | AUC: 0.987 | Sens: 90Spec: 96.8AUC: 0.987 |
| Sukonthasarn, 2007113 | Group 2: Renal insufficiency on dialysis subgroup data | Assay: cTnIMfg: otherMfg: Accutype: Accesscut off normal: 0.1 ng/mLtiming: 8 hour intervals after admission99th upper ref: NR | Definition: ICD-9 code | 32 |  NR | TP: 19FP: 1FN: 5TN: 7Sens: 73%;95% CI: 98 to 55Spec: 83%;95% CI: 120 to 70 |
| Troyanov, 2005116 | Total sample | Assay: cTnIMfg: otherMfg: AxSYMtype: othertype: MEIAcut off normal: 0.3 mcg/Ltiming: NR99th upper ref: 1 mcg/L | NR | 101 |  NR | Spec: 99% |
| Troyanov, 2005116 | Total sample | Assay: cTnTMfg: Rochetype: Elecsyscut off normal: 0.4 mcg/Ltiming: NR99th upper ref: 0.1 mcg/L | Definition: ICD-9 code  | 101 |  NR | Sens: 84% |

ACS=acute coronary syndrome; AUC=area under the curve; CI=confidence interval; CrCl=creatinine clearance; cTnI=cardiac troponin I; cTnT=cardian troponin T; ECG=electrocardiography; hrs=hours; ESC/ACC= European Society of Cardiology/American College of Cardiology; FN=false negative; FP=false positive; hs=high sensitivity; J.Am.Coll.Cardio=journal of american college of cardiology; ICD=international classification of diseases; kg=kilograms; LR=likelihood ratio; mcg/L=micrograms per liter; mg/dL=milligrams per liter; MI=myocardial infarction; ml/min=milliliters per minute; N=number; ng/mL=nanograms per liter; ng/L=nanograms per liter; NPV=negative predictive value; NR=not reported; PPV=positive predictive value; ref=reference; SD=standard deviation; sens=sensitivity; spec=specificity; TN=true negative; TP=true positive