Core Measure Success- Acute Myocardial Infarction Care

Presentation to the Wisconsin Drug Utilization Board

Gundersen Lutheran℠

June 6, 2007

Purpose

- To share Gundersen Lutheran's journey to consistent high quality care for our Acute Myocardial Infarction (AMI) patients

Background History

- 1994 Gundersen Lutheran's AMI mortality was not where we wanted it to be
  - "Why are people dying?"
  - Retrospective review of all AMI deaths
  - Conclusion: "sick people die" – no pattern
- ACC/AHA published guideline for AMI care (150 pages!)
  - **"Are we doing what is best for our patients?"**

Background History

- New Purpose: Improve each phase of care for our AMI patients and provide AMI guideline care in a standardized manner
  - Flowcharted current process for
    - Pre – Hospitalization
    - Emergency Room
    - Cath Lab
    - Coronary Care Unit
    - 6West - Telemetry/Discharge
  - Flowcharted the ideal process with the ACC/AHA guideline as our “guide”

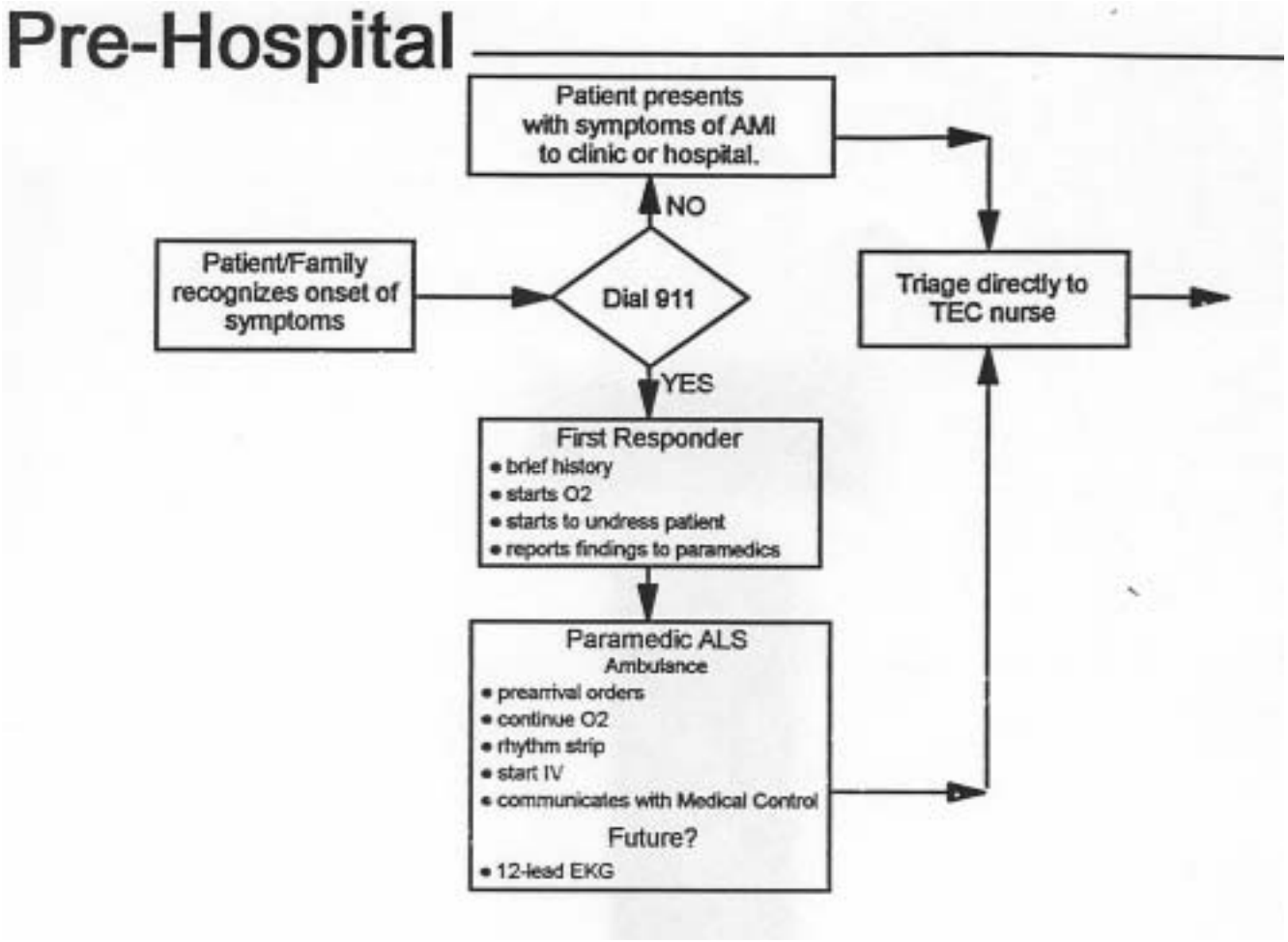
Background History (cont)

- Utilized a multidisciplinary team
- Developed a culture of ownership
- Used a system approach, reporting aggregate data—never reporting individual provider data

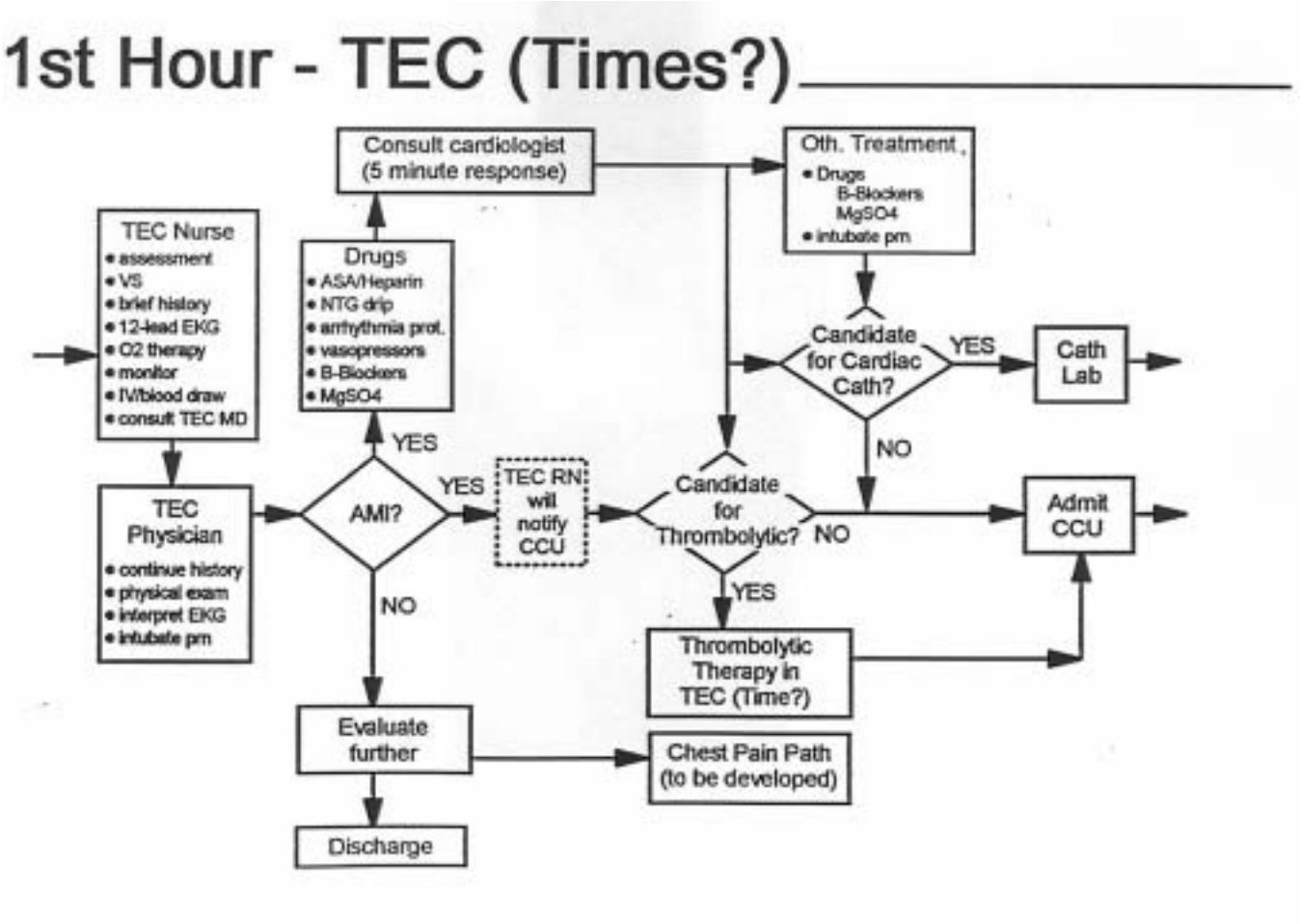
Changes Made

- Pre Hospitalization
  - Developed Check List
    - Begin screening and documentation
    - Allergies, IV, O2, screening questions, candidate for thrombolytics
- Emergency Department
  - Developed Standing Orders that empowered the nurse in ER to initiate care immediately
    - Stat EKG, O2, IV's
    - EKG done in less than 5 minutes

Pre-Hospital Flowchart



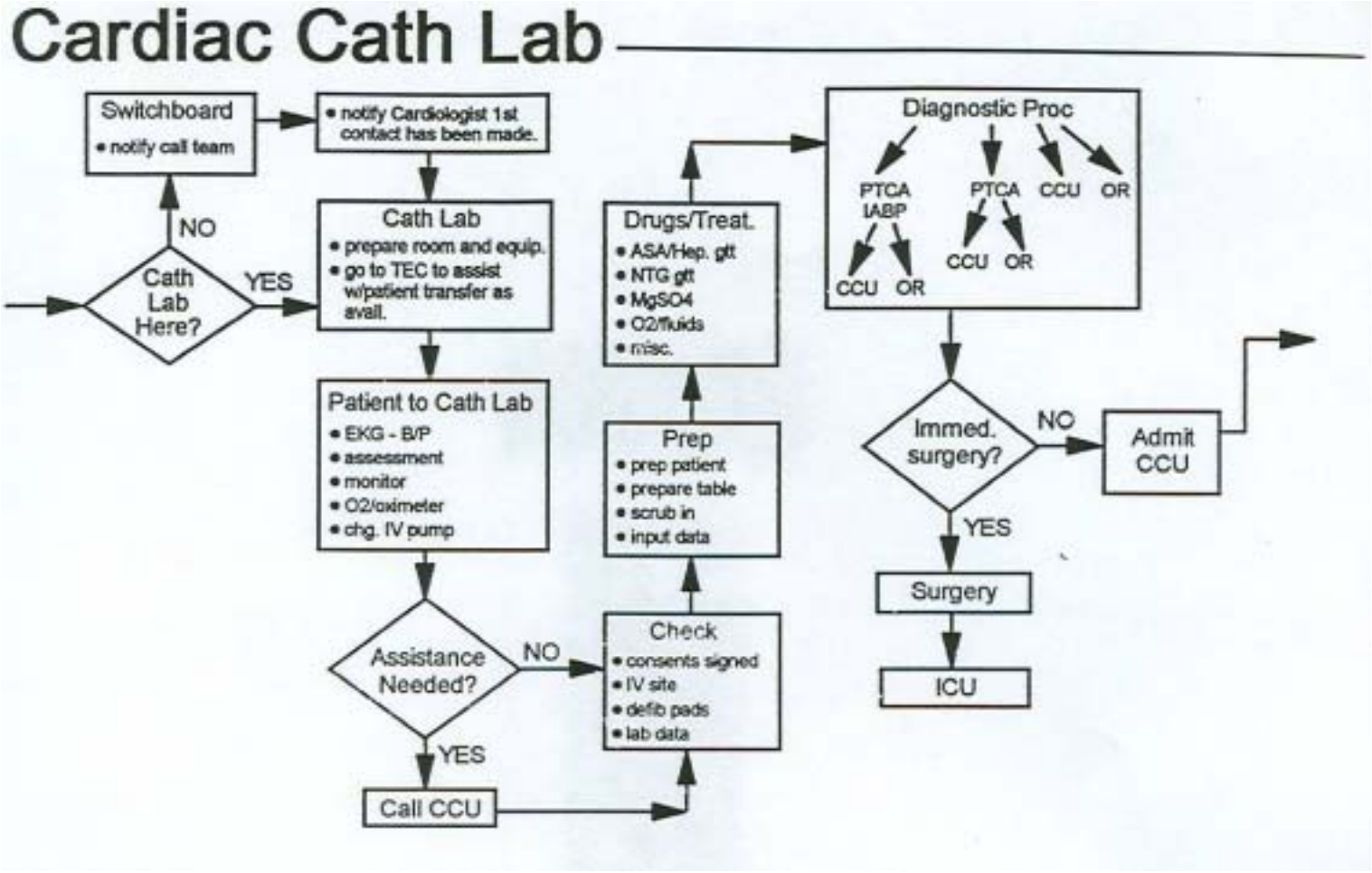
Emergency Room Flowchart



Changes Made

- Cath Lab
  - Reviewed Cath Lab process and eliminated extra, unnecessary steps
  - Cath Lab RN assist in ER as needed with medications and transport

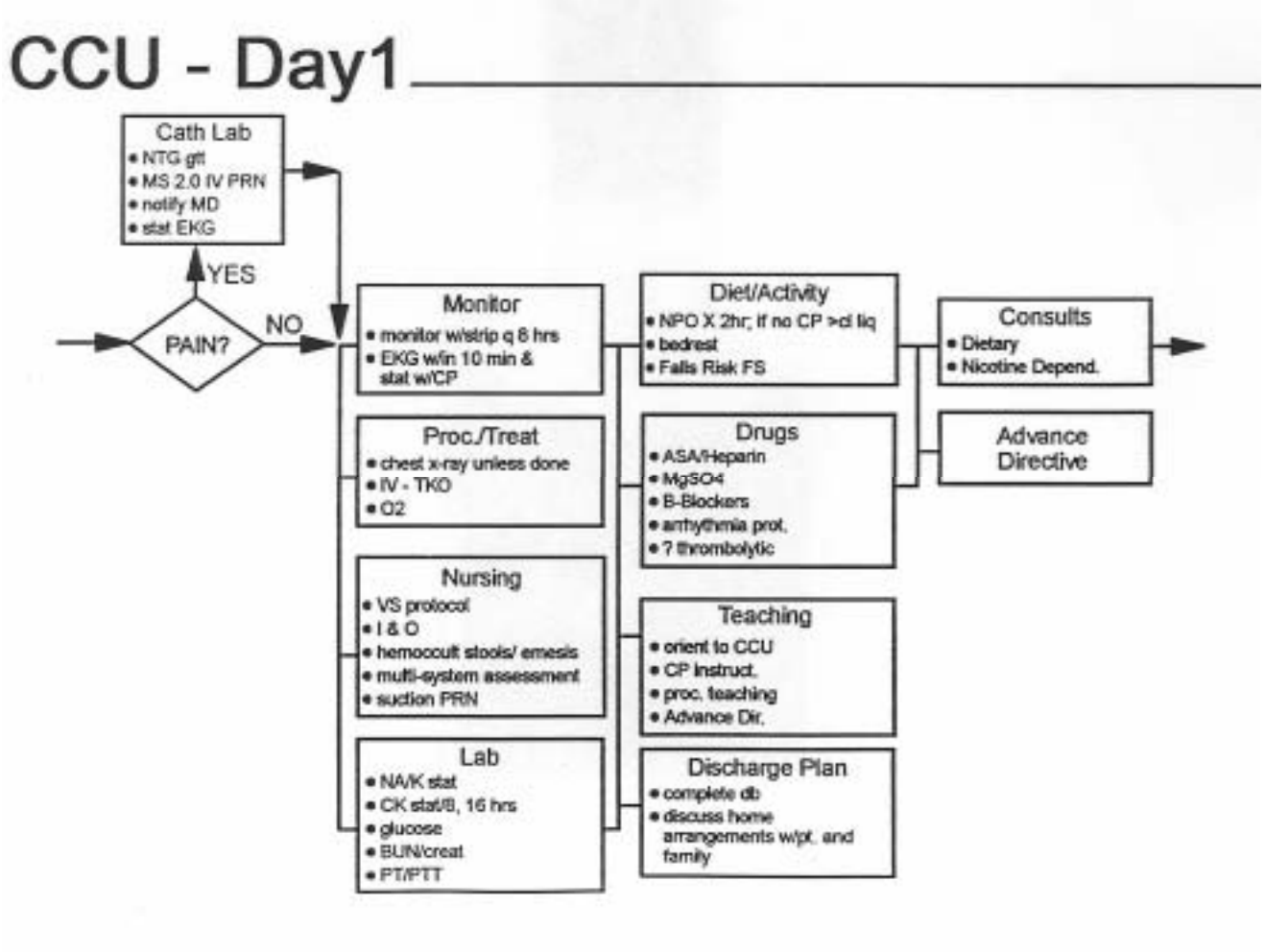
Cath Lab Flowchart



Changes Made

- Coronary Care Unit (CCU)
  - Pre-Printed admission orders that follow the guideline for MI patients.
  - Triggers for the provider to follow the standard of care
  - Empowered RNs

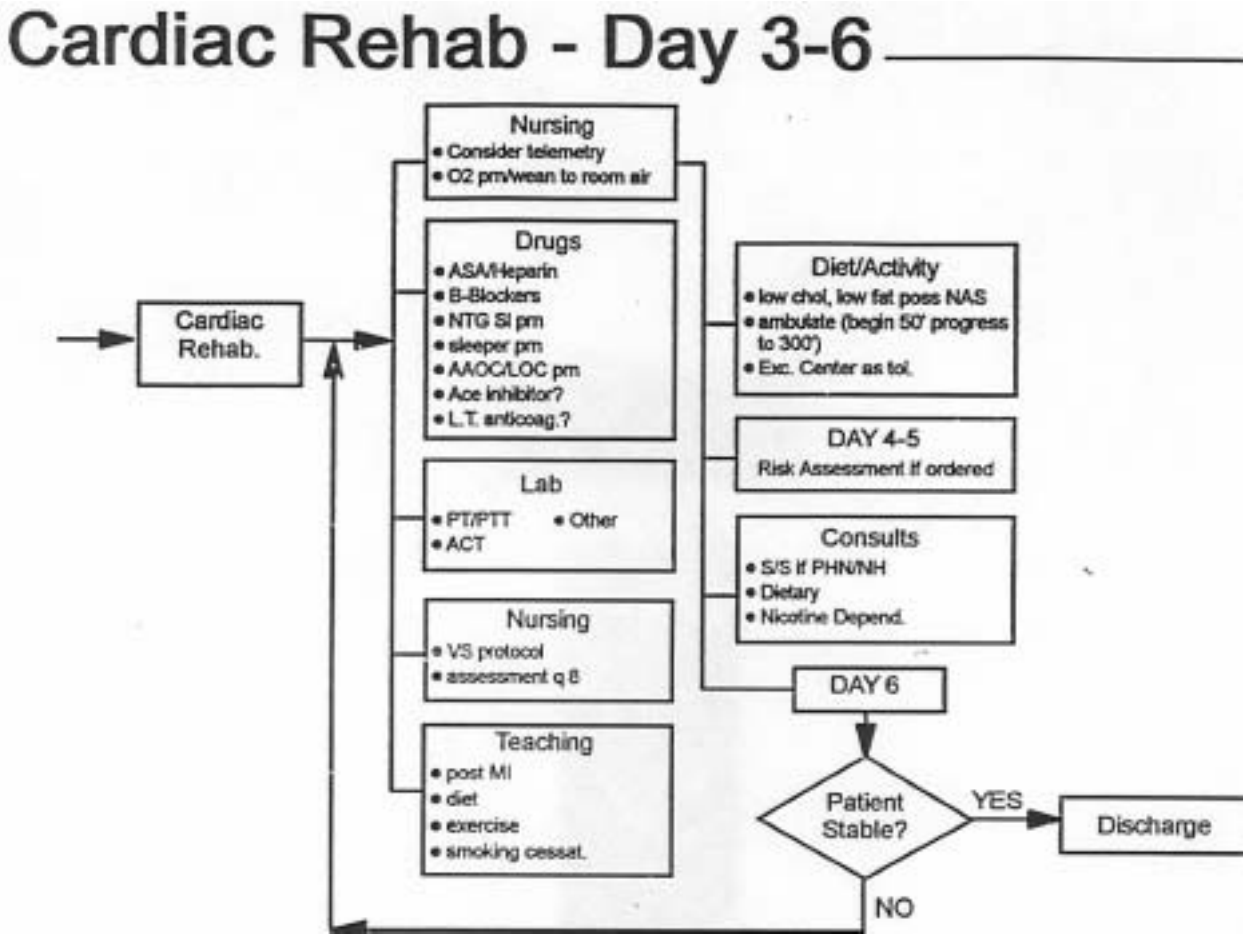
CCU Flowchart



Changes Made

- 6 West - Telemetry/Discharge
  - Standardized our teaching materials
  - Developed binders of information for our patients
  - Information is multidisciplinary
  - Standardized where to document our instructions

6West Flowchart



Addressograph or Patient Name and Medical Record Number

Gundersen Lutheran
1900 South Avenue, La Crosse, WI 54601

(FORM #209)

ACUTE MYOCARDIAL INFARCTION (AMI) PROTOCOL – ADMISSION

DATE: _____ TIME: _____

** Medications listed on this order are per the usual and standards of care for the diagnosis or condition this order represents. **

If all orders apply, sign the bottom.
If a specific order does not apply, draw single line through with your initials.
If multiple options exist, box must be checked.
Blank spaces must be completed.

1. Admit as inpatient to CCU.
2. Admit to _____ Service
3. Allergies: _____
4. Aspirin: _____Yes Dose: _____once daily
   If patient unable to take oral, give aspirin by suppository.
   _____No Rationale: _____ Definite Aspirin Allergy
   _____ Abdominal/GI Bleed
   _____ Bleeding Diathesis
   _____ Hemorrhagic CVA
   _____ Active Ulcer
   _____ Other: _____
5. Heparin: _____Yes-Complete "Heparin Protocol Orders for Cardiac Conditions"
   _____Other: _____
   _____No Rationale: _____ Heparin Reaction
   _____ Hemorrhagic CVA
   _____ Hx bleeding disorder
   _____ Platelets <= 100
   _____ Hemorrhage-admit day
   _____ Rectal bleeding
   _____ Current GI bleed
   _____ Other: _____
6. Reperfusion Strategy:
   a) Thrombolytic: _____Yes Type: _____ Tenecteplase Protocol
   _____ Study Protocol _____
   _____ Other: _____

Continued...

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ACUTE MYOCARDIAL INFARCTION (AMI) PROTOCOL – ADMISSION

6. Reperfusion Strategy: (Continued)
_____No Rationale: _____Thrombolytic already given
_____No ECG changes
_____> 12 hours of pain
_____Abd/GI Bleed
_____Active Ulcer Disease
_____History Hemorrhagic CVA
_____Surgery past 2 months
_____History CVA within 1 year
_____Recent Trauma
_____Rectal Blood
_____R/O Aortic Dissection
_____History Hemorrhage in eye
_____History Bleeding Disorder
_____Other:_____

b) Emergency Cardiac Cath: _____Yes* _____No
*If yes, complete and sign HC orders.

7. Risk Assessment:
a) LV evaluation _____Yes _____No If yes, Type_____ Date_____
b) Non-emergent cardiac catheterization: _____Yes _____No
If yes, date: _____
If yes, complete and sign cardiac cath orders.

8. Beta Blocker: _____Yes Drug/Dose: _____
_____No Rationale:
_____Heart Block
_____SBP <100mmHg
_____Cardiogenic shock
_____Pulse < 50 beats per minute
_____Congestive Heart Failure
_____Other:_____

9. Nitroglycerin drip:
____Yes-Dose:_____ mcg/kg/minute. Titrate to keep systolic BP between _____and____ and pain free
____No-Rationale: _____Shock/hypotension first 24 hour
_____Patient has taken Phosphodiesterase 5 inhibitor (Viagra or class related agent) in past 24 hours
____Other: _____

Continued…

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(FORM #209)

ACUTE MYOCARDIAL INFARCTION (AMI) PROTOCOL – ADMISSION

10. One or two large bore plastic cannulae.
11. Intravenous (IV) Fluids: _____
12. Arrhythmia Protocol: ____Yes* ____No *If yes, complete and sign attached orders.
13. Ace Inhibitor:
    ____Yes Drug / Dose: _____
    ____No Rationale: _____ Ejection Fraction > 40%, no evidence of heart failure or hypertension
    _____ On Angiotension Receptor Blocker
    _____ Aortic Stenosis
    _____ Allergy to an ace inhibitor
    _____ Bilateral renal artery stenosis
    _____ Hypotension
    _____ Hyperkalemia
    _____ Renal Dysfunction
    _____ Angioedema
    _____ Other: _____
14. Lipid Lowering Agent: _____
15. Acetaminophen 325-650 mg by mouth every 4 hours as needed for pain. (Maximum 4000 mg/24 hours)
16. Sedation: _____
17. Sleeper: _____
18. LOC (Laxative of choice) by mouth, as needed for constipation.
19. AAOC (Antacid of choice) by mouth, as needed for indigestion.
20. Docusate Calcium 240 mg by mouth once daily, as needed for constipation.
21. Other medications: _____
    _____
    _____
    _____
    _____
22. Chest PA Portable (if not already done)
23. Cardiology consult.
24. ECG:
    a. On admit to CCU unless done at Gundersen Lutheran within 4 hours
    b. Daily times _____ days
    c. Thrombolytic given? [ ] YES - If yes, repeat ECG in 6 hours
       [ ] NO
    d. Repeat EKG with right chest leads if inferior wall myocardial infarction

Continued...

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(FORM #209)

ACUTE MYOCARDIAL INFARCTION (AMI) PROTOCOL – ADMISSION

25. Lab Protocol
- _____ INR, PTT (if not already done).
- _____ Hemogram once daily times 48 hours.
- _____ Creatinine, K+, Glucose (if not already done)
- _____ Troponin-Baseline on admission and in 9-12 hours.
- _____ Blood Bank - Draw and hold.
- _____ UA (if not already done)
- _____ Fasting LPA.
- _____ Hgb A1C if diabetic.
- _____ Platelets on admission and in 48 hours.
- _____ Other_____

26. Activity:
- _____ Bed rest while patient experiencing angina, then may be up to commode after being pain free for 2 hours.
- _____ Advance activity as tolerated after being pain free for 2 hours
- _____ Other:_____

27. Courtesy Notification: Dr._____

SIGNATURE: _____

Revised: August 2004

Gundersen Lutheran

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Gundersen Lutheran
1900 South Avenue, La Crosse, WI 54601

(PORM #208)

CCU STANDING ORDERS

DATE:_____TIME:_____ ALLERGIES:_____

** Medications listed on this order are per the usual and standards of care for the diagnosis or condition this order represents. **

If all orders apply, sign the bottom.
If a specific order does not apply, draw single line through with your initials.
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Blank spaces must be completed.

1. Vital Signs: Blood pressure, heart rate and respiratory rate once every 15 minutes until stable, then once every 2-4 hours if remains stable. May allow to sleep 2200-0600 if stable. Document heart rate and respiratory rate every 2 hours, temperature every 8 hours, every 4 hours if > 38.0 degrees Celsius.
2. Activity: Bed rest with bedside commode.
3. ECG monitor w/strip analysis every 8 hours and as needed.
4. Multi-system assessment per CCU Standards.
5. Daily Weight.
6. Input and Output every 12 hours. (Every 1 hour if on urimeter)
7. Suction at bedside.
8. Teaching:
   a) Orient to Unit on admission.
   b) Bill of Rights
   c) Advance Care Planning - Initiate/review.
   d) Standard precautions.
   e) Other teaching as appropriate; i.e. Diet, Activity, Social Services, Patient Education.
9. Consults: per functional screening form.
10. Diet: Nothing by mouth for 3 hours. If stable advance diet to low fat, low cholesterol, low salt. If the patient is diabetic, patient should also be on a carbohydrate controlled diet.
11. If sats < 90 start O_2 at 1-2L /minute. Titrate to keep sats $\geq$ 90. Notify MD if sats $\leq$ 90, on 4 L/nasal prongs.
12. ECG 12-lead stat with chest pain or ischemic equivalent - notify MD
13. Hypotension protocol: if symptomatic hypotension, begin infusion of 250 ml 0.9% sodium chloride (NS) at 250 ml/hour and notify MD immediately.
14. Insert 1 or 2, 16 or 18 gauge peripheral IV's. Hep lock according to protocol if capped

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1900 South Avenue, La Crosse, WI 54601

(FORM #211)

ACUTE MYOCARDIAL INFARCTION (AMI) PROTOCOL - TRANSFER ORDERS (6 West - Cardiac Rehab)

DATE: _____ TIME: _____

** Medications listed on this order are per the usual and standards of care for the diagnosis or condition this order represents. **

If all orders apply, sign the bottom.
If a specific order does not apply, draw single line through with your initials.
If multiple options exist, box must be checked.
Blank spaces must be completed.

1. Transfer to: _____
2. Telemetry Monitor: Complete and sign 6-West Telemetry Monitoring Orders and Arrhythmia Protocol.
3. Cardiac Rehab: _____ or PT Evaluation: _____ If Neither, Why: _____
4. Arrange left ventricular evaluation (if not already done)
   Type: _____
   Date: _____
5. Risk Assessment Scheduled. If not, why: _____
   a) Schedule GXT Date: _____
      Type: ____Regular ____ECHO ____Nuclear
   b) Cardiac Cath: Complete and sign Cardiac Cath Orders
6. Allergies: _____
7. Code Status: _____
8. **Medications:**
   a. Enteric-coated aspirin: ____Yes Dose: _____ daily
      ____No Why: _____ Aspirin Allergy
      _____ Abd/GI Bleed
      _____ Bleeding Diathesis
      _____ Hemorrhagic CVA
      _____ Active Ulcer
      _____ Misc: _____
   b. Heparin: ____Yes ____Continue Heparin Infusion @ _____ units/hour per CCU/6W Heparin Protocol or _____
      ____No Why: _____ Heparin Reaction
      _____ Hemorrhagic CVA
      _____ Hx bleeding disorder
      _____ Platelets <= 100
      _____ Hemorrhage-admit day
      _____ Rectal bleeding
      _____ Current GI bleed
      _____ Misc: _____

Continued...

Under Authorization from the P & T Committee another generically equivalent drug (identical in form and content) may be substituted for the drug ordered.

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(FORM #211)

ACUTE MYOCARDIAL INFARCTION (AMI) PROTOCOL - TRANSFER ORDERS (6 West - Cardiac Rehab)

c. Beta Blocker: ___Yes Drug/Dose:_____
___No Why: _____ Heart Block
_____ Cardiogenic shock
_____ CHF on Beta Blocker
_____ SBP <100mmHg
_____ Brady w/atropine
_____ Pulse <50
_____ COPD
_____ Misc:_____

d. ACE Inhibitor: ___Yes Drug/Dose:_____
___No Why: _____ Ace Inhibitor Intolerance
_____ Aortic stenosis
_____ SBP < 100mmHg
_____ Hypotension or shock while on ACE Inhibitor
_____ Creatinine > 2.0mm/dl.
_____ Misc:_____

e. Warfarin dose: _____
f. Clopidogrel 75 mg every day by mouth: Yes____ No____
g. Nitroglycerin Oral or Topical Drug/Dose: _____
h. Bupropion SR 150mg daily for 3 days by mouth then 150 mg two times a day for smoking cessation.
Yes____ No____ If nicotine dependent and willing to quit within 2 weeks.
i. H2 Blocker Drug/Dose: _____
j. Lipid Lowering Agent: _____
k. Nitroglycerin sublingual 0.4 mg every 5 minutes times 3 as needed for chest pain if blood pressure >100mmHg. Notify physician if used.
l. Acetaminophen 325-650 mg by mouth every 4 hours as needed for pain. (Maximum of 4000mg/24 hours)
m. Laxative of choice for constipation.
n. Antacid of choice for indigestion.
o. Docusate Calcium 240 mg by mouth once daily as needed for constipation.
p. Sedation: _____
q. Sleeper: _____
r. Other: _____
_____
_____

9. Lab Protocol: _____ Heparin Protocol
_____ INR if on Coumadin
_____ Other:_____

Revised: April 2004 SIGNATURE: _____

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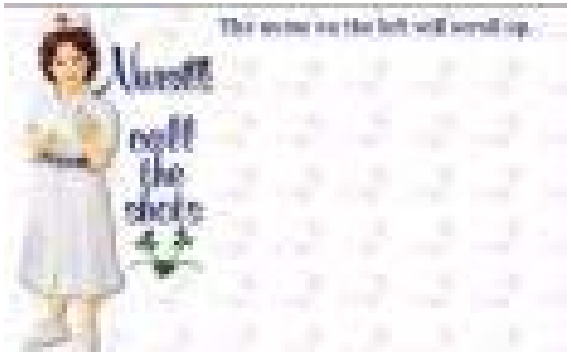

Addressograph or Patient Name and Medical Record Number

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1900 South Avenue, La Crosse, WI 54601

(FORM #193)

6-WEST STANDING ORDERS

DATE:_____ TIME:_____ ALLERGIES:_____

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If all orders apply, sign the bottom.

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If multiple options exist, box must be checked.

Blank spaces must be completed.

1. Telemetry: NO___ YES___ (Complete 6-West Telemetry Protocol).
2. Vital signs once every 8 hour shift if not otherwise ordered. May allow to sleep 2200-0600 if stable.
3. Activity:
   a) Ambulate as tolerated to independence.
      Record distance and tolerance on 48 hour flow sheet.
   b) Other: _____.
4. Diet: Low fat, low cholesterol, and no salt packet. Carbohydrate controlled if diabetic or diet per dietitian
5. Daily weight. YES_____ NO_____
6. Ins and Outs one time per shift YES_____ NO_____
7. Instruct patient to notify nursing staff of any chest discomfort or ischemic symptoms.
8. 12-Lead ECG STAT chest pain/discomfort and notify MD.
9. O_2 saturation STAT for shortness of breath.
10. Nicotine: If patient uses tobacco products or quit within the last year, give informational packet.
11. Initiate Tobacco Cessation Pharmacotherapy Protocol: ___Yes ___No (See order sheet)
12. Medications:
    a) Antacid of choice: _____
    b) Laxative of choice: _____
    c) Sleeper: _____
    d) Acetaminophen 325-650 mg orally every four hours as needed for pain or elevated temperature. (Do not exceed 4000 mg/24 hours)
    e) Anxiety: _____
    f) Nitroglycerin 0.4 mg sublingual as needed for chest pain or ischemic symptoms.

DISCHARGE PLANNING

Anticipated Discharge: 2-4 days___ 5-8 days___ 9-12 days___ Other___

DATE/TIME ORDERED:_____

Continued...

Under Authorization from the P & T Committee another generically equivalent drug (identical in form and content) may be substituted for the drug ordered. ☐

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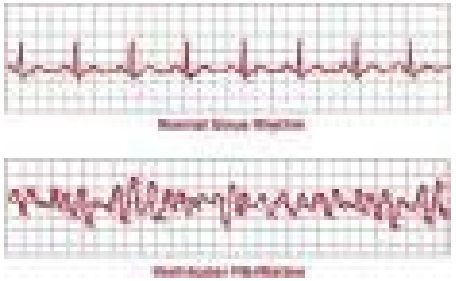

Gundersen Lutheran

1910 South Avenue, La Crosse, WI 54601

PATIENT NAME

CLINIC NUMBER

(FORM # 021)

DATE AND TIME ORDERED - PLEASE WRITE MEDICATION ORDERS BETWEEN THE DASHED LINES

Imprint Patients Name Here

CARDIOVASCULAR DISCHARGE ORDERS

DATE: _____

DIAGNOSIS: _____

1. Appointments:
   - a. Physician: _____ at _____.
     Physician: _____ at _____.
   - b. Cardiology Nurse Clinician for Risk Factor Reduction Clinic _____ at _____.
   - c. Phase II Cardiac Rehab at _____
     Direct Referral YES ____ NO ____

   - OR -

   - d. Specific Appointments:
     Exercise Physiology for evaluation and consult YES at _____ (time) NO____
     Nutrition Clinic YES at _____ (time) NO____
     Diabetes Education YES at _____ (time) NO____
   - e. Labs
     Lipoprotein analysis @_____ weeks.
     SGOT @ _____ weeks
     INR on _____ draw @ _____.
     Report to _____.
     Other: _____.

2. Risk Factors Addressed:

a. Smoking cessation	YES____	NO____	N/A____
b. Physical activity/exercise	YES____	NO____	N/A____
c. Diet	YES____	NO____	N/A____
d. Hypertension	YES____	NO____	N/A____
e. Diabetes	YES____	NO____	N/A____
f. Stress	YES____	NO____	N/A____
g. Posteenopausal	YES____	NO____	N/A____

3. Medications

a. ASA	YES____	NO____
b. Beta Blocker	YES____	NO____
c. ACE Inhibitor	YES____	NO____
d. Lipid Lowering Agent	YES____	NO____
e. Coumadin	YES____	NO____
f. Anti-Platelet Agent	YES____	NO____
g. Digoxin	YES____	NO____
h. NTG SL prn	YES____	NO____
i. Pre-Adaission Meds Re-addressed	YES____	NO____
j. Pain Medications	YES____	NO____

SIGNATURE: _____

Revised: October, 1998

Under Authorization from the P & T Committee another generically equivalent drug (identical in form and content) may be substituted for the drug ordered. ☐

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Addressograph or Patient Name and Medical Record Number

Gundersen Lutheran

(FORM #025)

ARRHYTHMIA PROTOCOL

DATE: _____ TIME: _____ ALLERGIES: _____

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Blank spaces must be completed.

1. Diagnosis and reason for monitoring: _____
   _____
2. Intravenous (IV) Orders:
   a. Intermittent needle, flush with normal saline 2.5 ml every 24 hours as needed.
   b. Other: _____.
3. Protocol for Ventricular Arrhythmias: For sustained and/or symptomatic VT, call a code and arrange for immediate transfer to ICU or CCU (if patient is on a Med/Surg unit). Notify MD - STAT Cardiology consult.
4. Complex Arrhythmia Protocol: Notify MD.
   a. Ventricular Fibrillation/Pulseless VT: Call Code Blue. Immediately defibrillate and follow ACLS protocol.
   b. Pauses > 4 seconds or symptomatic bradycardia with ventricular rate ≤ 40, Atropine per ACLS protocol. May apply external pacing patches.
   c. Pulseless Electrical Activity: Call Code Blue. Begin CPR. Administer Epinephrine per ACLS protocol.
      If heart rate < 60 beats/minute give Atropine per ACLS protocol.
   d. For a,b,c that occur, do STAT Na/K/Mg/Ca/ABG.
5. For sustained tachy- or brady- arrhythmias, STAT 12-lead EKG.

Revised: April 2004 SIGNATURE: _____

Under Authorization from the P & T Committee another generically equivalent drug (identical in form and content) may be substituted for the drug ordered. ☐

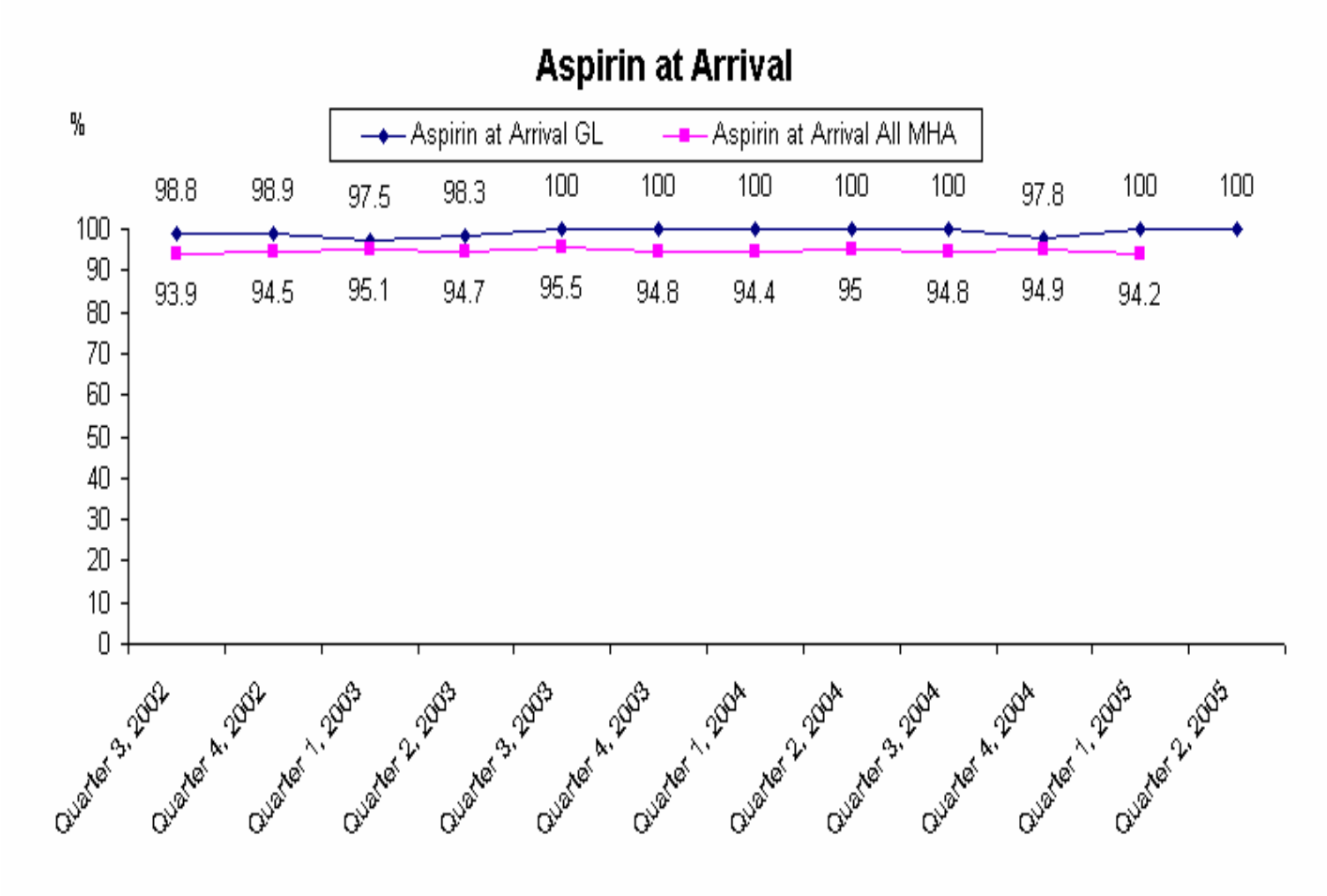
Gundersen Lutheran

Results

- AMI Care Path is embedded in our Standing Orders
- Incorporated concurrent review with immediate feedback to providers
- Developed education plan that is part of our resident program
- Review all outliers on a monthly basis

Results

- 99+% compliance consistently
- We have embedded the process into the daily care of our AMI patients
- Our mortality rate from 1994 for AMI patients has decreased


Aspirin at Arrival
%
Aspirin at Arrival GL
Aspirin at Arrival All MHA
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94.5
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94.9
94.2
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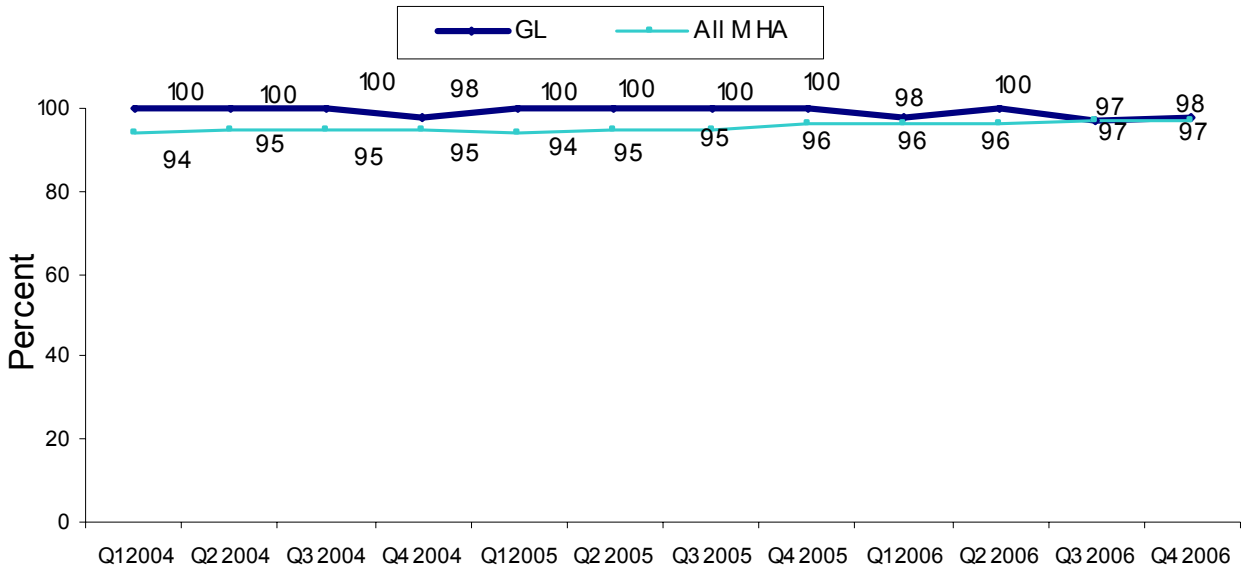
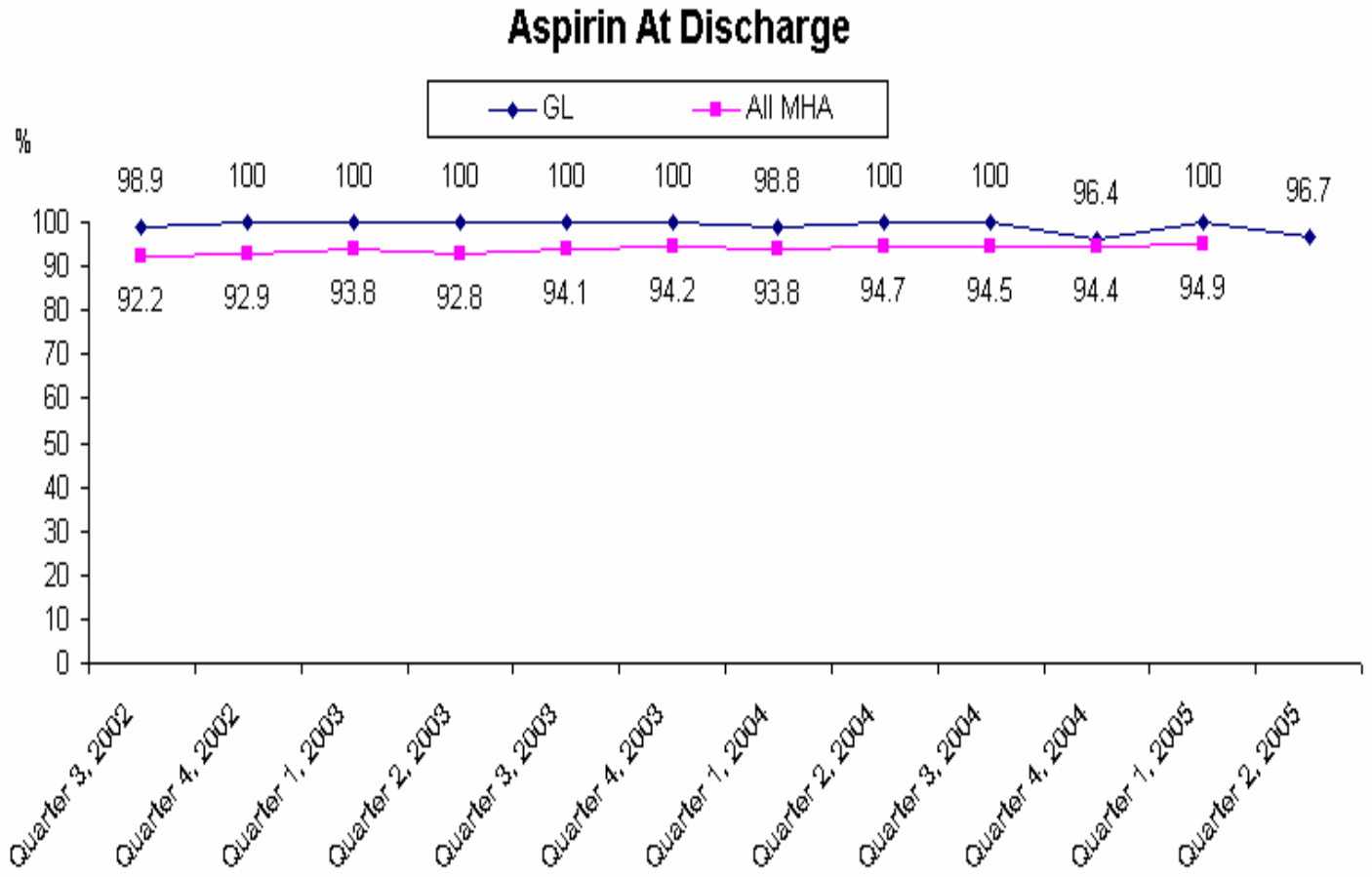
Quarter 3, 2002
Quarter 4, 2002
Quarter 1, 2003
Quarter 2, 2003
Quarter 3, 2003
Quarter 4, 2003
Quarter 1, 2004
Quarter 2, 2004
Quarter 3, 2004
Quarter 4, 2004
Quarter 1, 2005
Quarter 2, 2005

Gundersen Lutheran
Aspirin within 24 Hrs of Arrival



MHA - Maryland Hospital Association Numerator/Denominator per quarter

Q104 - 56/56	Q105 - 41/41	Q106 - 52/53
Q204 - 50/50	Q205 - 45/45	Q206 - 41/41
Q304 - 40/40	Q305 - 32/32	Q306 - 36/37
Q404 - 45/46	Q405 - 50/50	Q406 - 41/42


Aspirin At Discharge
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Quarter 4, 2002
Quarter 1, 2003
Quarter 2, 2003
Quarter 3, 2003
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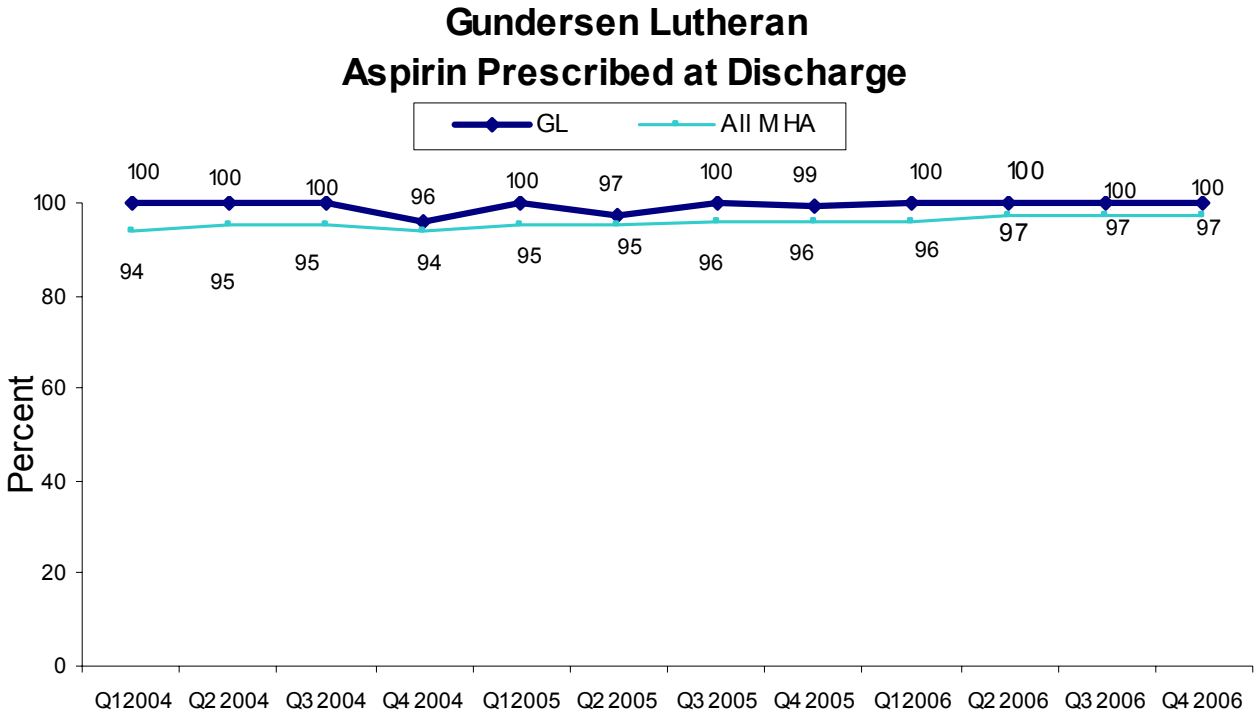
Quarter 4, 2004
Quarter 1, 2005
Quarter 2, 2005



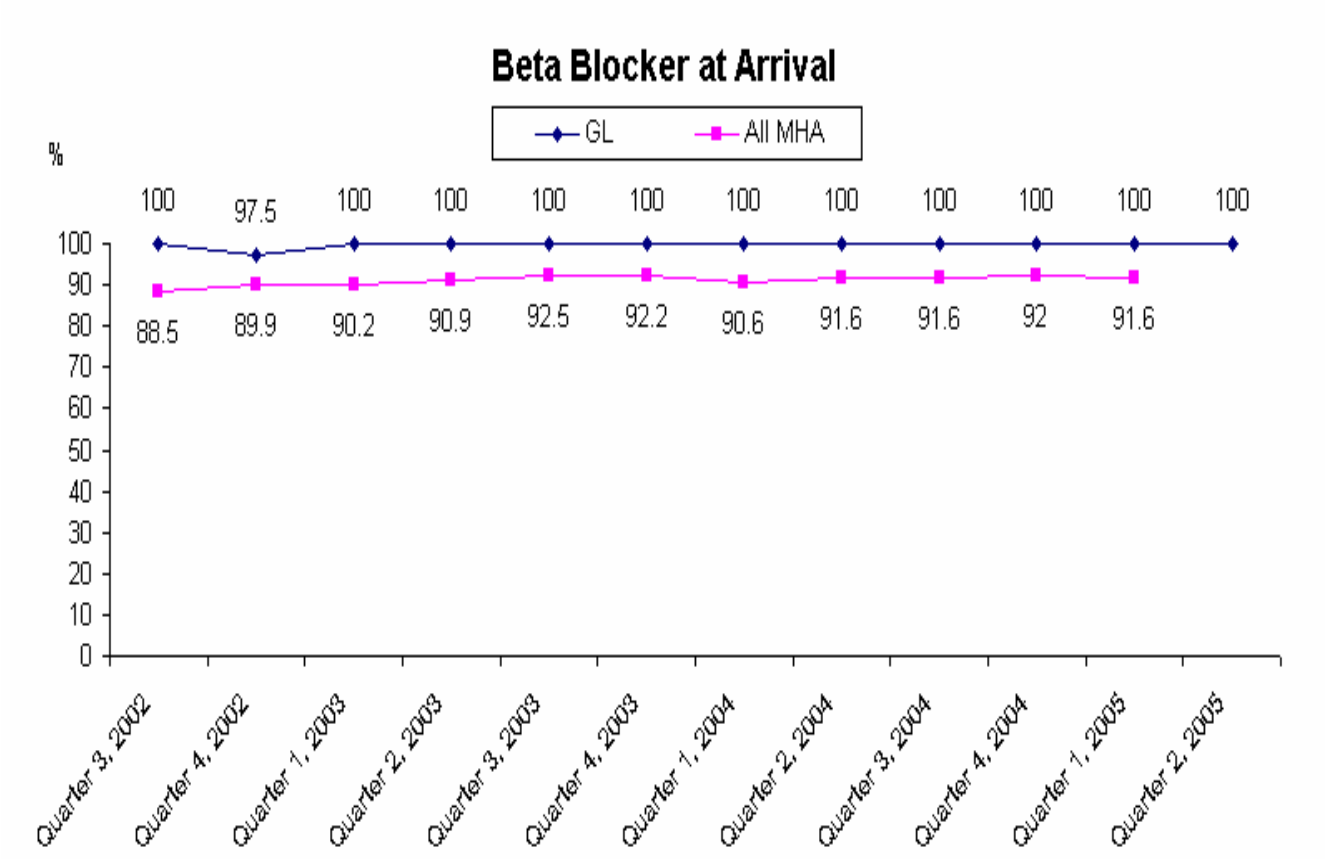
MHA - Maryland Hospital Association Numerator/Denominator per quarter

Q1 04 83/84 Q105 - 71/71 Q106 - 82/82

Q2 04 93/93 Q2 05 - 58/60 Q2 06 - 66/66

Q3 04 72/72 Q3 05 - 66/66 Q3 06 - 65/65

Q4 04 - 81/84 Q405 - 77/78 Q4 06 - 76/76


Beta Blocker at Arrival
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All MHA
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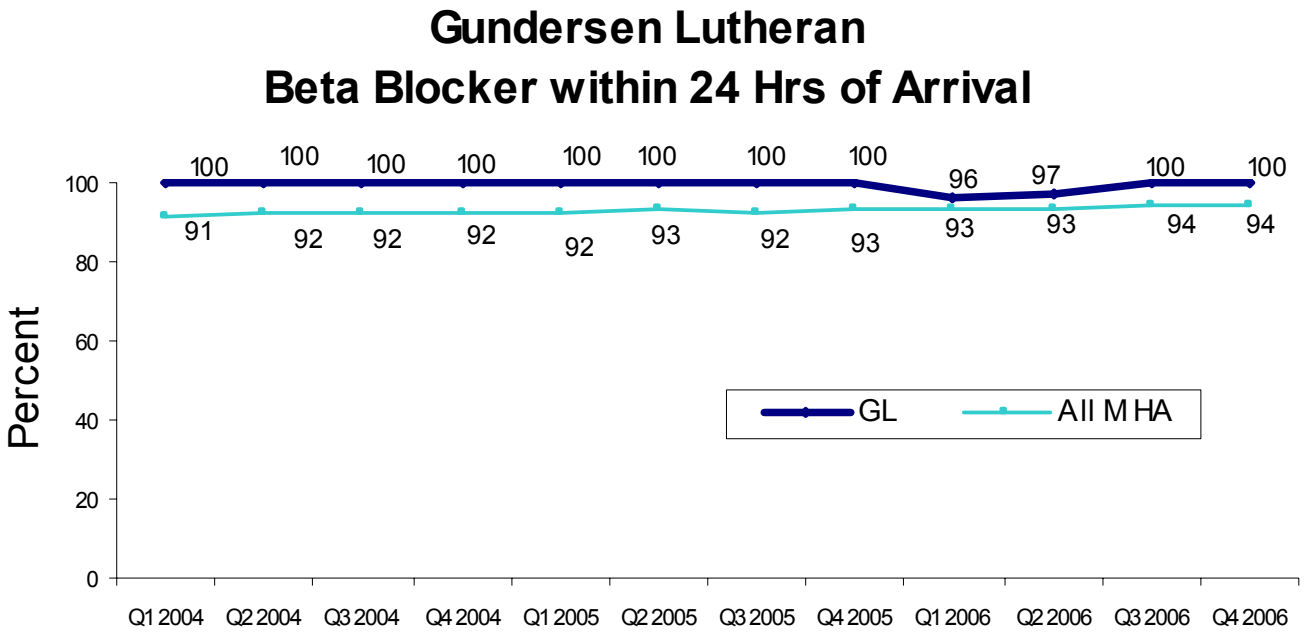
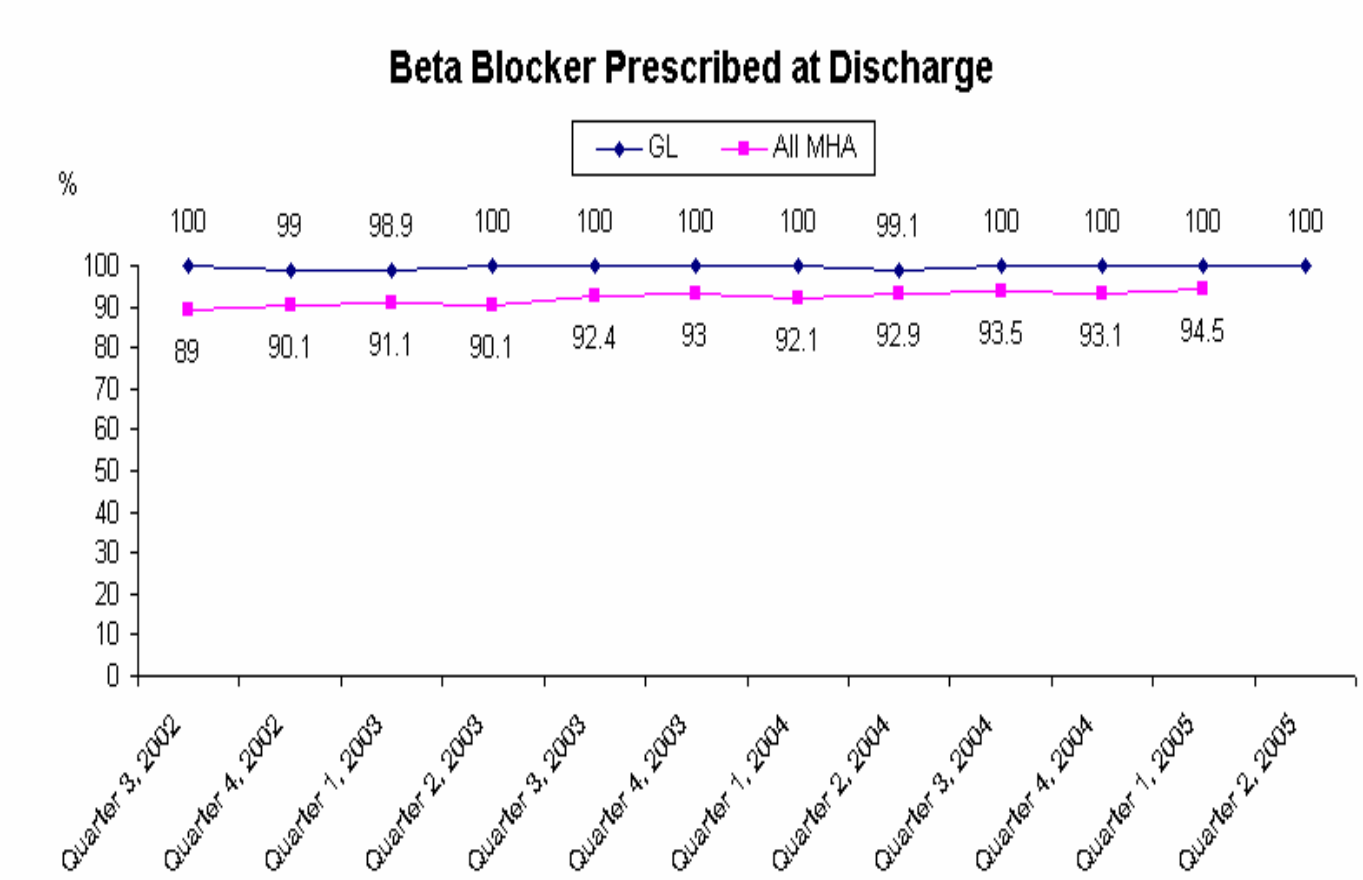
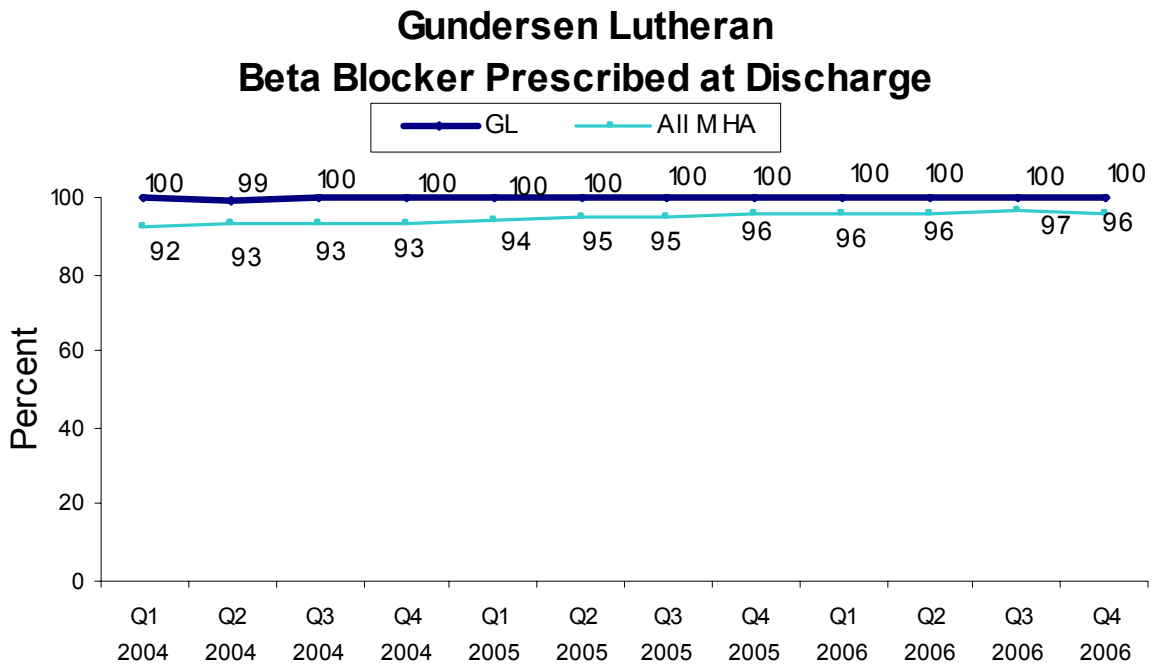
20
10
0
Quarter 3, 2002
Quarter 4, 2002
Quarter 1, 2003
Quarter 2, 2003
Quarter 3, 2003
Quarter 4, 2003
Quarter 1, 2004
Quarter 2, 2004
Quarter 3, 2004
Quarter 4, 2004
Quarter 1, 2005
Quarter 2, 2005



Numerator/Denominator per quarter

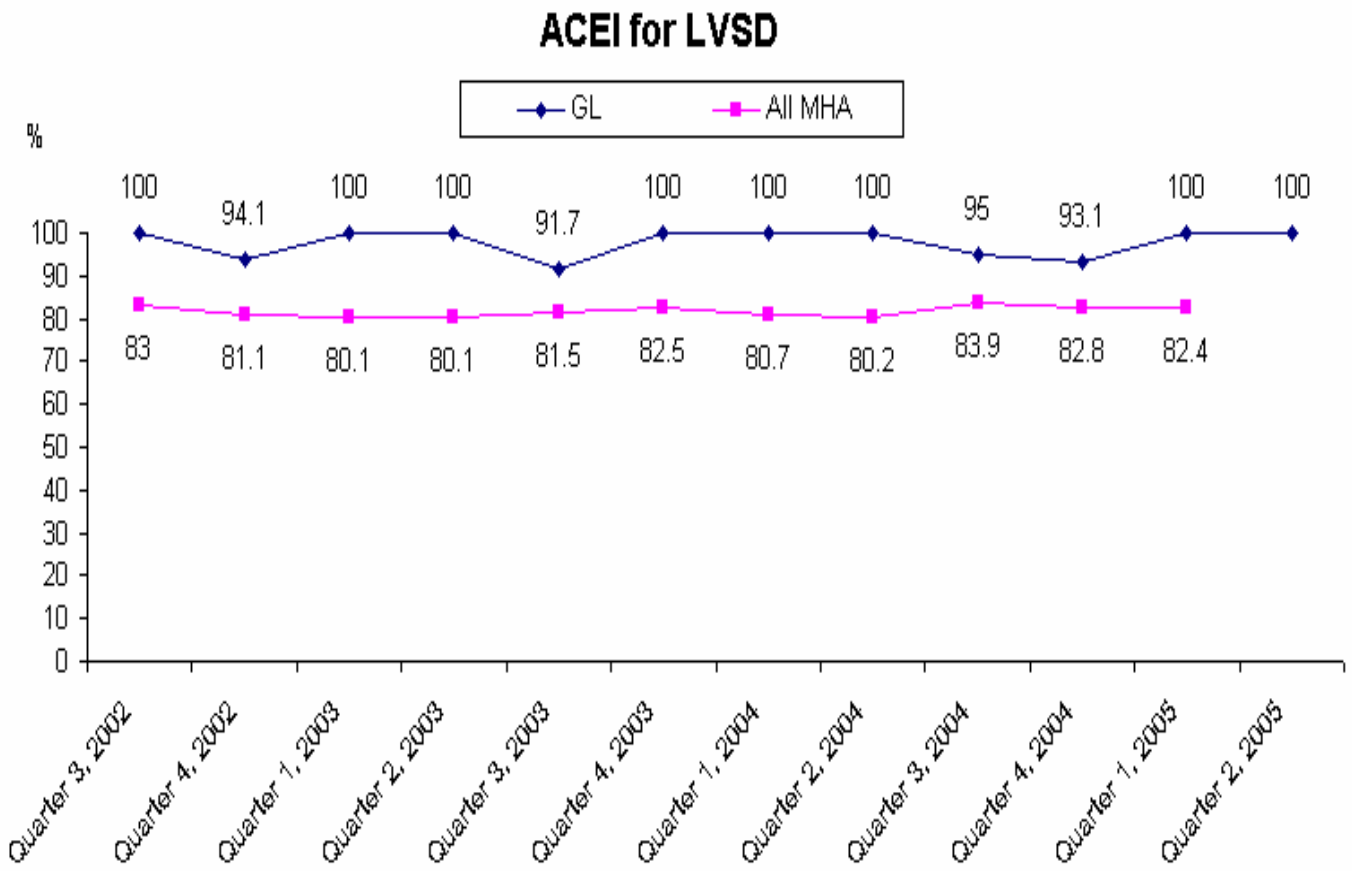
Q104 - 53/53	Q105 - 33/33	Q106 - 45/47
Q2 04 - 47/47	Q2 05 - 40/40	Q2 06 - 34/35
Q3 04 - 32/32	Q3 05 - 36/36	Q1306 - 23/23
Q4 04 - 43/43	Q405 - 36/36	Q4 06 - 30/30


Beta Blocker Prescribed at Discharge
GL
All MHA
%
100
90
80
70
60
50
40
30
20
10
0
100 99 98.9 100 100 100 100 99.1 100 100 100 100
89 90.1 91.1 90.1 92.4 93 92.1 92.9 93.5 93.1 94.5
Quarter 3, 2002
Quarter 4, 2002
Quarter 1, 2003
Quarter 2, 2003
Quarter 3, 2003
Quarter 4, 2003
Quarter 1, 2004
Quarter 2, 2004
Quarter 3, 2004
Quarter 4, 2004
Quarter 1, 2005
Quarter 2, 2005

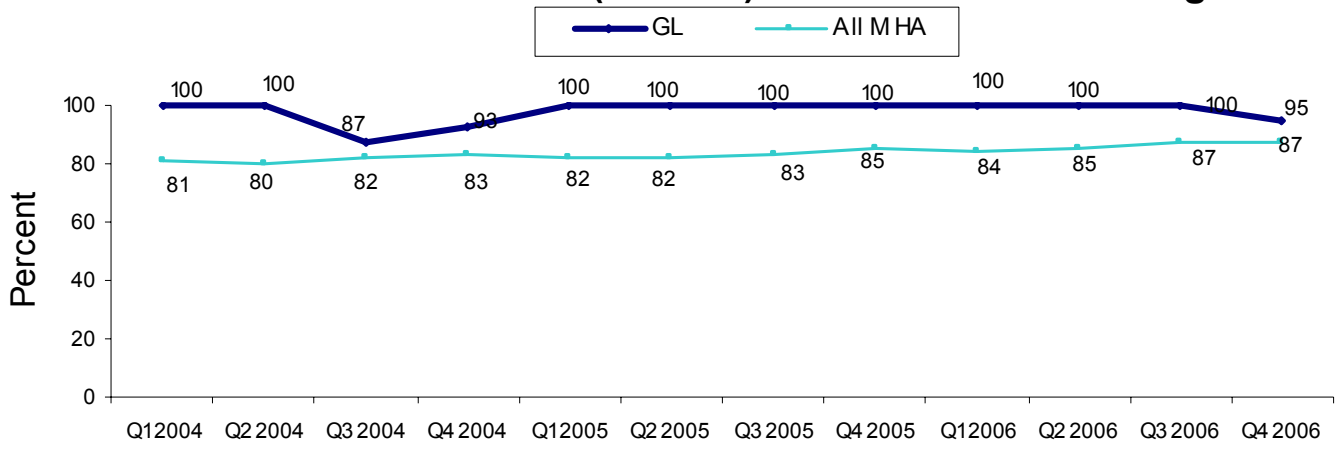


Numerator/Denominator per quarter

Q104 - 84/84	Q105 - 81/81	Q106 - 101/101
Q204 110/111	Q205 - 71/71	Q106 - 80/80
Q304 - 87/87	Q305 - 76/76	Q106 - 81/81
Q404 - 96/96	Q405 - 94/94	Q106 - 104/104

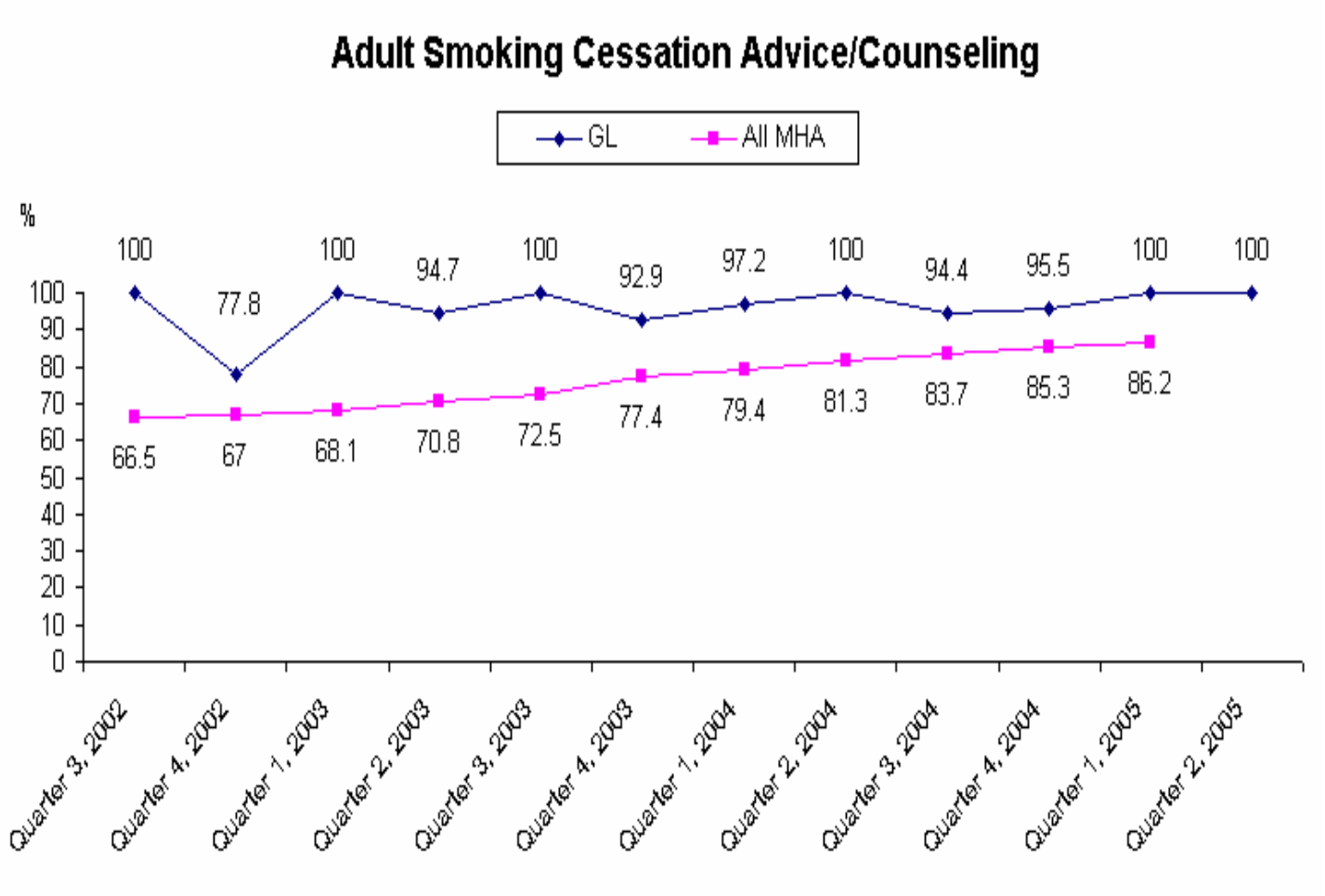

ACEI for LVSD
GL
All MHA
%
100
90
80
70
60
50
40
30
20
10
0
100
94.1
100
100
91.7
100
100
100
95
93.1
100
100
83
81.1
80.1
80.1
81.5
82.5
80.7
80.2
83.9
82.8
82.4
Quarter 3, 2002
Quarter 4, 2002
Quarter 1, 2003
Quarter 2, 2003
Quarter 3, 2003
Quarter 4, 2003
Quarter 1, 2004
Quarter 2, 2004
Quarter 3, 2004
Quarter 4, 2004
Quarter 1, 2005
Quarter 2, 2005

Gundersen Lutheran
ACEI for LVSD(EF < 40) Prescribed at Discharge

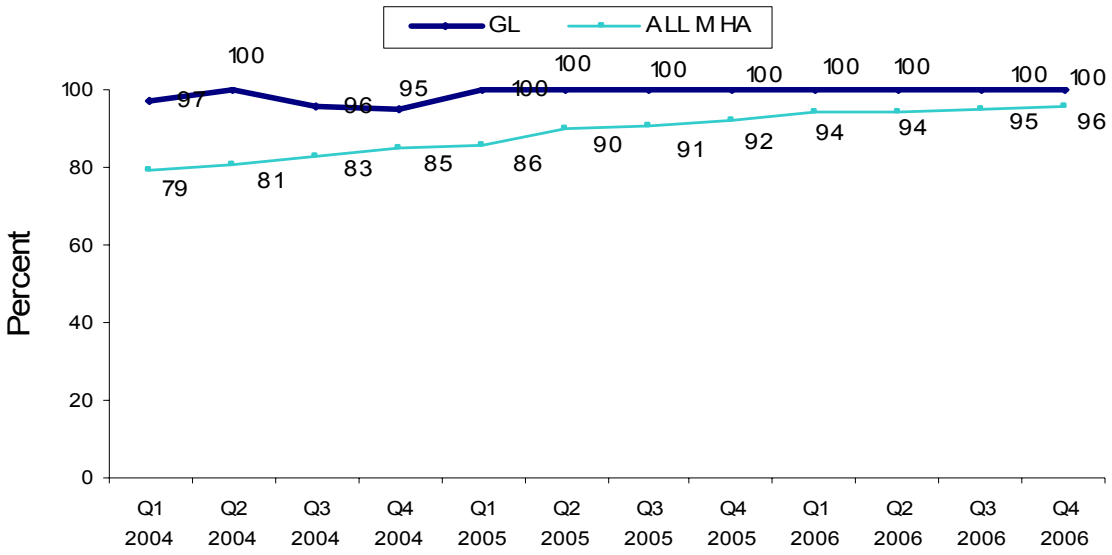


MHA - Maryland Hospital Association Numerator/Denominator per quarter

Q104 13/13	Q105 9/9	Q106 - 15/15
Q204 17/17	Q2 05 12/12	Q106 - 11/11
Q304 20/23	Q3 05 22/22	Q106 - 15/15
Q404 27/29	Q405 - 15/15	Q106 - 18/19

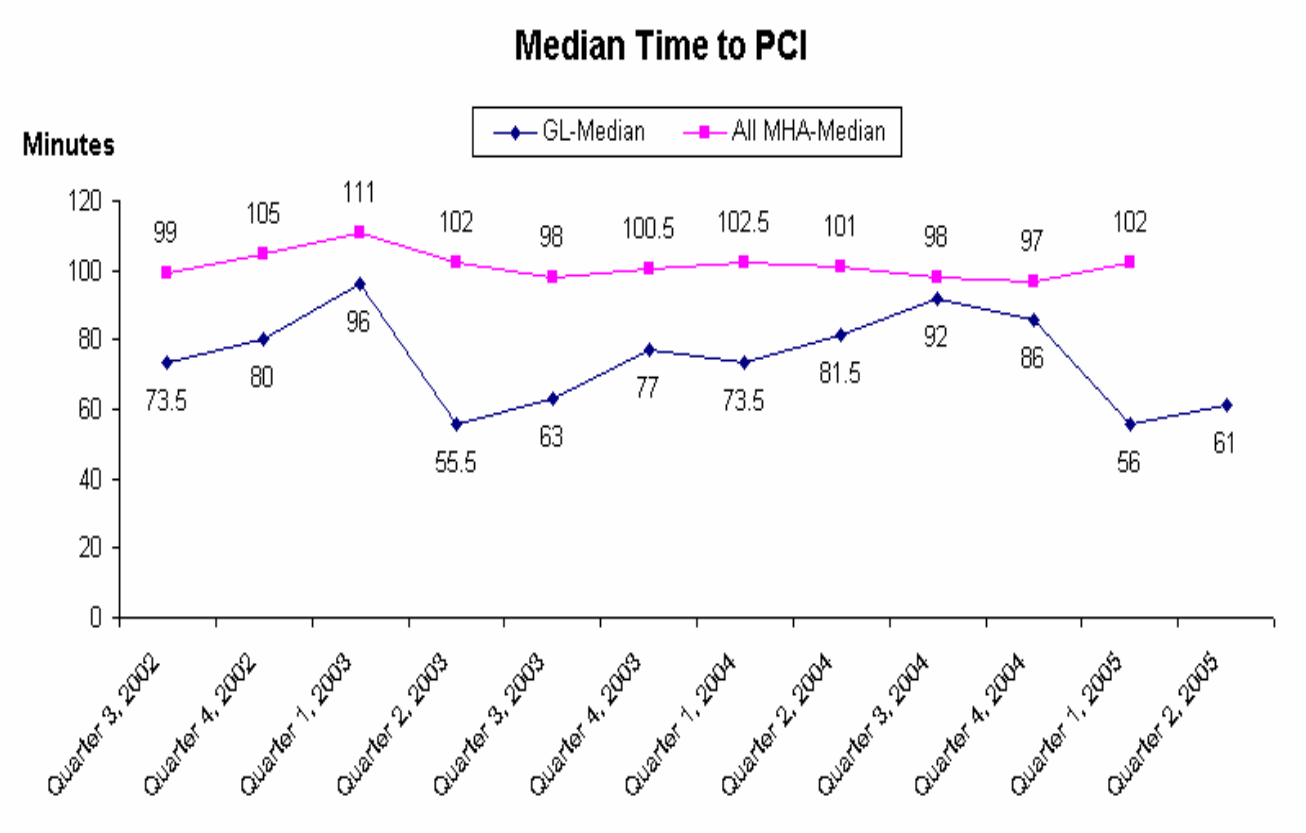

Adult Smoking Cessation Advice/Counseling
GL
All MHA
%
100
90
80
70
60
50
40
30
20
10
0
100
77.8
100
94.7
100
92.9
97.2
100
94.4
95.5
100
100
66.5
67
68.1
70.8
72.5
77.4
79.4
81.3
83.7
85.3
86.2
Quarter 3, 2002
Quarter 4, 2002
Quarter 1, 2003
Quarter 2, 2003
Quarter 3, 2003
Quarter 4, 2003
Quarter 1, 2004
Quarter 2, 2004
Quarter 3, 2004
Quarter 4, 2004
Quarter 1, 2005
Quarter 2, 2005

Gundersen Lutheran
Adult Smoking Cessation Advice/Counseling

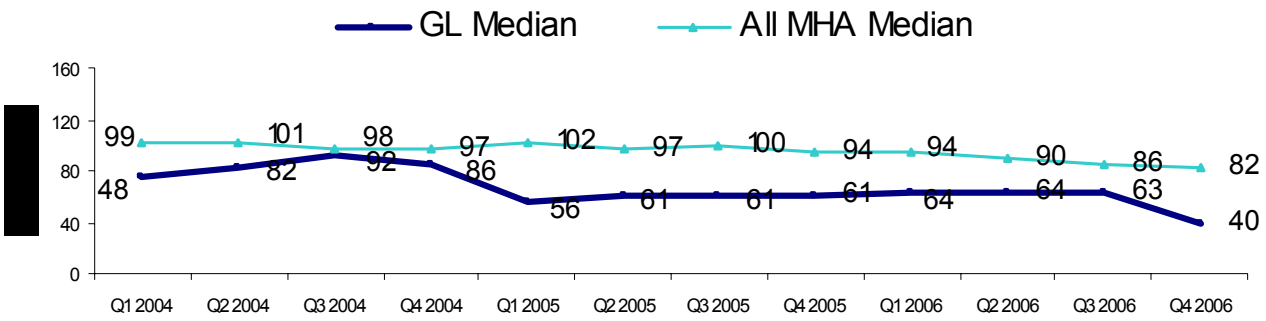


Numerator/Denominator per quarter

Q104 35/36	Q105 - 30/30	Q106 - 29/29
Q2 04 39/39	Q2 05 - 20/20	Q106 - 20/20
Q3 04 27/28	Q3 05 - 21/21	Q106 - 31/31
Q4 04 - 21/22	Q405 - 25/25	Q106 - 30/30


Median Time to PCI
GL-Median
All MHA-Median
Minutes
120
100
80
60
40
20
0
99
105
111
102
98
100.5
102.5
101
98
97
102
73.5
80
96
55.5
63
77
73.5
81.5
92
86
56
61
Quarter 3, 2002
Quarter 4, 2002
Quarter 1, 2003
Quarter 2, 2003
Quarter 3, 2003
Quarter 4, 2003
Quarter 1, 2004
Quarter 2, 2004
Quarter 3, 2004
Quarter 4, 2004
Quarter 1, 2005
Quarter 2, 2005

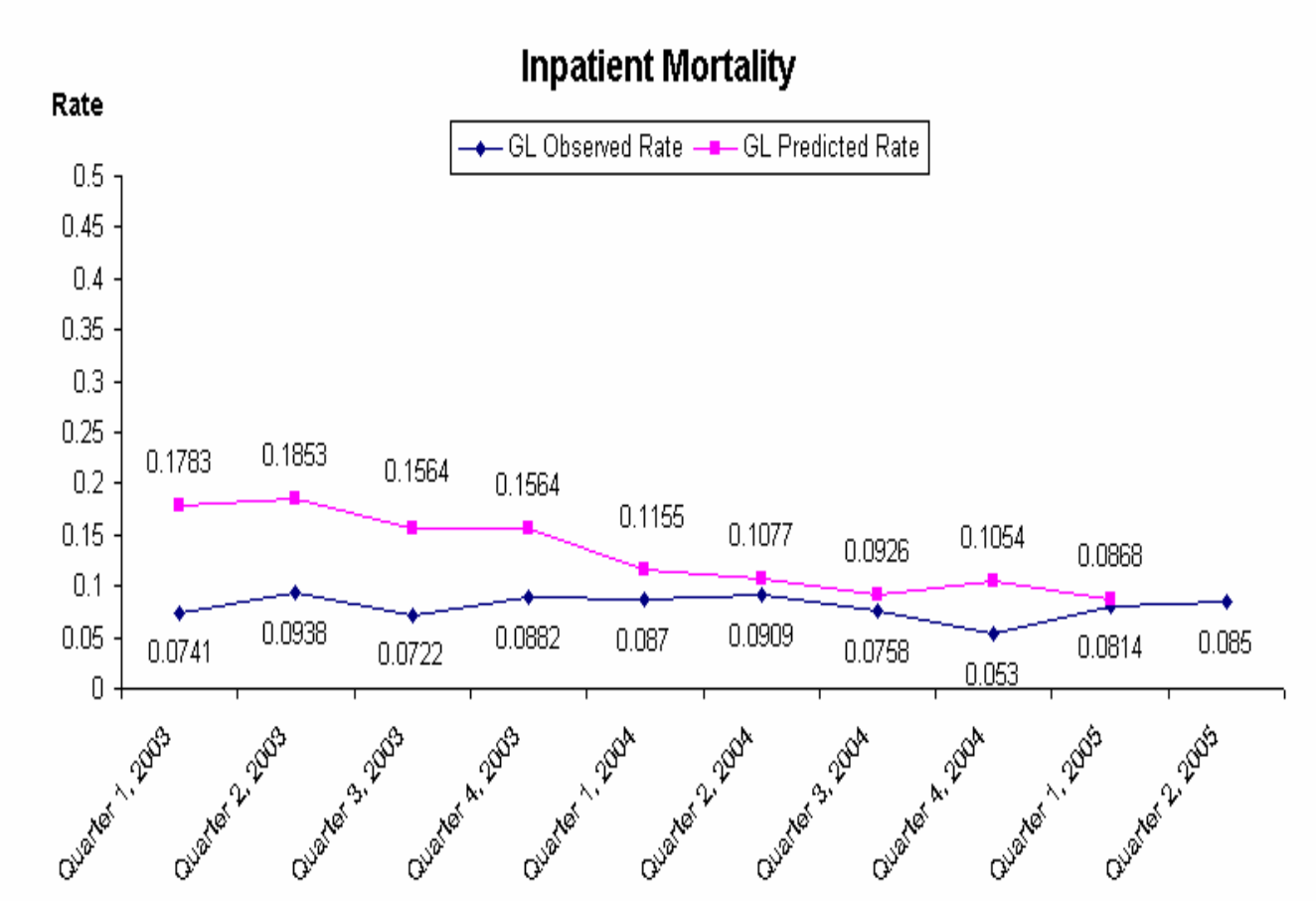
Gundersen Lutheran
Median Time to PCI

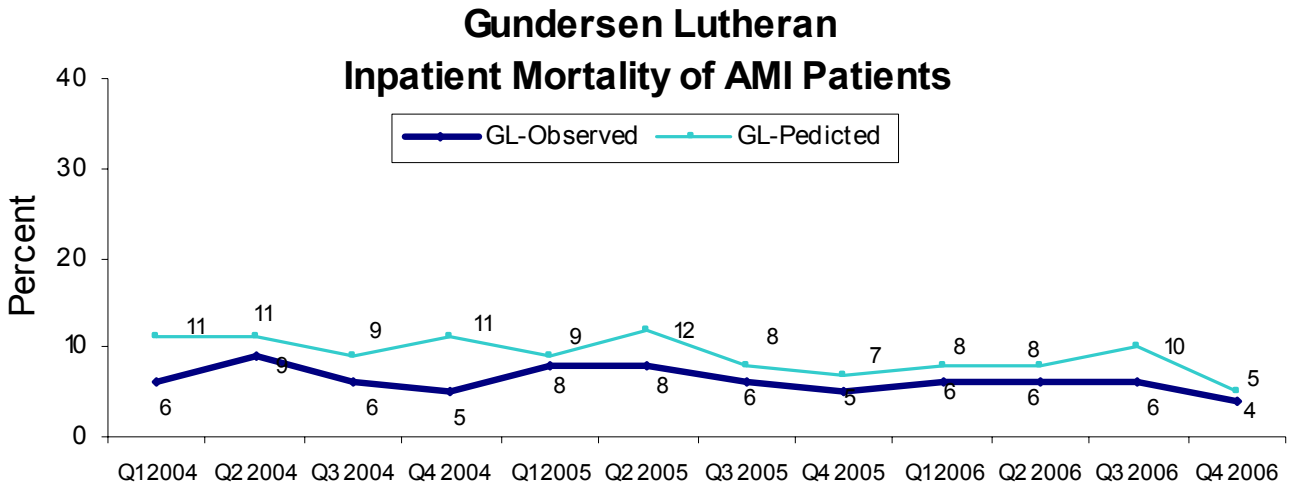


Gundersen Lutheran

Q1 04 - n=10	Q1 05 - n=9	Q1 06 - n=9
Q2 04 n=16	Q2 05 - n=9	Q2 06 - n=9
Q3 04 - n=10	Q3 05 - n=11	Q3 06 - n=12
Q4 04 - n=9	Q4 05 - n=16	Q4 06 - n=7

Qi Project defines an outlier as any data points exceeding 24 hours. Oulier values are excluded from the aggregatedata of this report. AHA/ACC Guidelines recommend


Inpatient Mortality
Rate
GL Observed Rate
GL Predicted Rate
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0.1783
0.1853
0.1564
0.1564
0.1155
0.1077
0.0926
0.1054
0.0868
0.0741
0.0938
0.0722
0.0882
0.087
0.0909
0.0758
0.053
0.0814
0.085
Quarter 1, 2003
Quarter 2, 2003
Quarter 3, 2003
Quarter 4, 2003
Quarter 1, 2004
Quarter 2, 2004
Quarter 3, 2004
Quarter 4, 2004
Quarter 1, 2005
Quarter 2, 2005



Observed Numerator/Denominator per quarter

Q104 8/92	Q105 - 7/86	Q106 - 7/108
Q2 04 10/110	Q2 05 - 6/71	Q1206 - 5/81
Q3 04 5/84	Q3 05 - 4/63	Q3 06 - 5/84
Q4 04 - 5/94	Q405 - 4/87	Q4 06 - 4/106

Barriers

- Dealing with “Cookbook Medicine”
- New people are hired and take care of the patients—requires diligence with ongoing education

Successful Ingredients

- Great Physician leader
- Flowcharted the current and ideal so we know where we were and where we wanted to go
- Built the carepath right into the standing orders
- Built in feedback loops at the point of care
- Followed basic QPI principles

Successful Ingredients

- The right multidisciplinary team members
  - MDs (Cardiology, Internal Medicine, ER)
  - Clinical Nurse Specialist
  - Pharmacy
  - Social Worker
  - Cardiac Educators
  - Staff from all departments
  - QPI facilitator
  - Data support from HIM

Successful Ingredients

- Ongoing Education
  - Cardiologists
  - Cardiothoracic Surgeons
  - Medical Residents
  - Internal Medicine
  - RN staff
- Consistent Data Reporting, showing progress and successes

Where are we now? 2007

- Gundersen Lutheran Heart Institute has developed and implemented a program that is designed to get ST elevation AMI patients to the Cardiac Cath Lab as quickly as possible.

Priority One Heart Attack Program

Heart Attack Program

Removing time barriers to get a heart attack patients' blocked arteries open as quickly as possible is the goal of the Priority One Heart Attack Program

Only

Heart Institute
Gundersen Lutheran

Heart Attack Program

Priority One's goal is to deliver treatment (angioplasty or stenting) to heart attack patients within 90 minutes of their presenting to their local emergency room.

Only Heart Institute Guadalupe Lutheran

PRIORITY ONE

Heart Attack Program

Gundersen Lutheran's Priority One Heart Attack Program combines teamwork and expertise from:

Community Hospitals

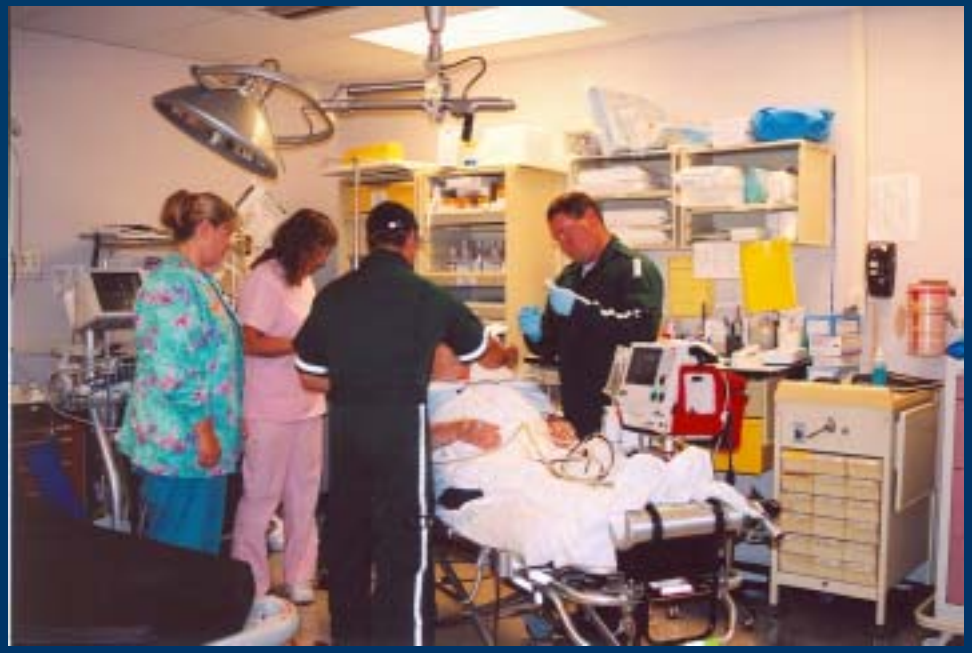
Only

Heart Institute

Gundersen Lutheran

PRIORITY ONE

Heart Attack Program

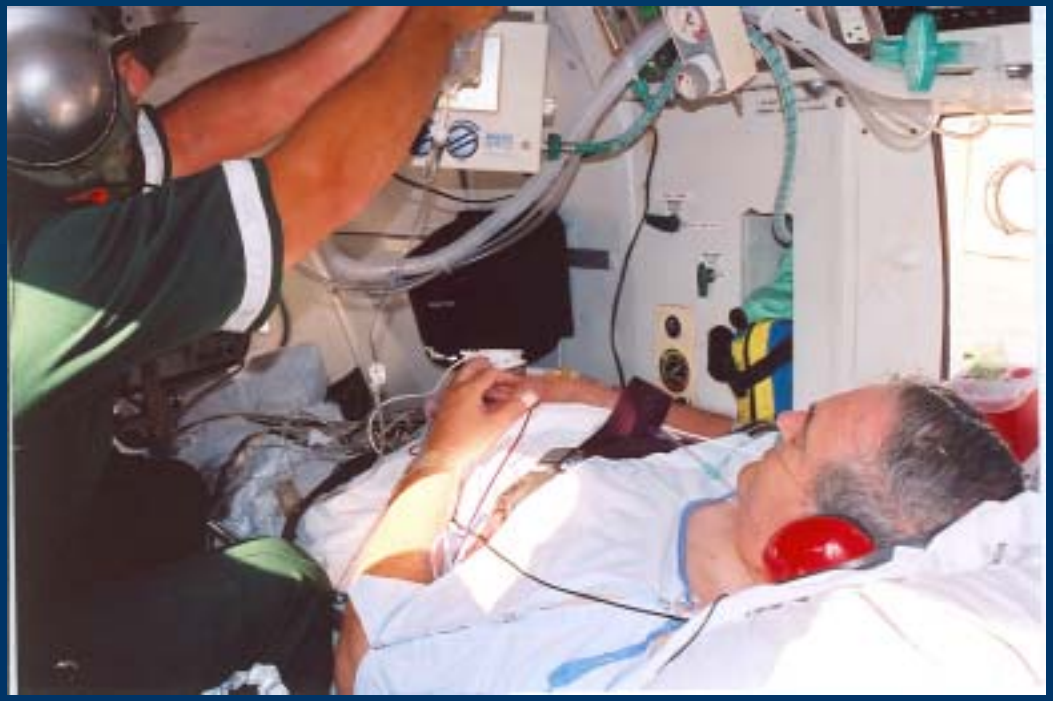


Area emergency rooms stabilize the patient, then make ONE CALL to Gundersen Lutheran to activate the Priority One team…

Only Heart Institute Gundersen Lutheran

PRIORITY ONE

Heart Attack Program



MedLink AIR, or local ground ambulance crews, quickly transport the patient to Gundersen Lutheran…

Only

Heart Institute

Gundersen Lutheran

PRIORITY ONE

Heart Attack Program

…Where an expert team is waiting to provide treatment that will open the blocked artery.

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PRIORITY ONE

Heart Attack Program

The Cardiac Catheterization Lab team quickly prepares the patient for the procedure that will open the blocked artery.

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Heart Attack Program

Partnered Hospital Sites:

Winona Health – Community Memorial Hospital, Winona, MN
Black River Memorial Hospital,
Black River Falls, WI
Vernon Memorial Hospital, Viroqua, WI
St. Joseph's Hospital, Hillsboro, WI
Regional Health Services of Cresco, IA
Gundersen Lutheran Trauma & Emergency Center
Gundersen Lutheran - Onalaska Urgent Care
Prairie du Chien Memorial Hospital,Prairie du Chien, WI
Winneshiek Medical Center – Decorah, IA
Franciscan Skemp Healthcare Mayo Health System – Arcadia, WI
Veterans Memorial Hospital – Waukon,IA
Tomah Memorial Hospital – Tomah, WI
Tri-County Memorial Hospital – Whitehall, WI
Franciscan Healthcare – Sparta, WI
Boscobel Hospital – Boscobel, WI
Richland Center Hospital – Richland Center, WI
Palmer Luther Health Center – West Union, IA

Only
Heart Institute
Gundersen Lutheran

Priority One Heart Attack Program

Questions?