

APPENDIX

A. China PEACE-Retrospective AMI Study Site Investigators by Hospital

Aba Tibetan and Qiang Autonomous Prefecture People's Hospital, ShipingWeng, ShuyingXie;
Affiliated Hospital of Guiyang Medical College, Lirong Wu, Jiulin Chen; Affiliated Hospital of Hainan Medical College, Tianfa Li, Jun Wang; Affiliated Zhongshan Hospital of Dalian University, Qin Yu, Xiaofei Li; Alxa League Central Hospital, Zhong Li, ShiguoHao, Yuzhen Zhang, Xuemei Wu;
Baiquan County People's Hospital, Yachen Zhang, Zhifeng Liu; Biyang People's Hospital, Zhongxin Wang, HaoJia; Bortala Mongol Autonomous Prefecture People's Hospital, Bayin Bate, BadengQiqige;
Changda Hospital Of Anshan, Xiang Jin, Ting Cai; Chengwu County People's Hospital, Fengqin Liu, Dayong Xu; Chenxi County People's Hospital, Xuejin He, Shui Yang; Chongren County People's Hospital, Chun Yuan, Jiping Wang; County People's Hospital of Jinning, LihuaGu, Lin Li, Shijiao Chen; Dalian Municipal Central Hospital, YongchaoZhi, Lili Sun; Dao County People's Hospital, Shengcheng Zhou, Lingjiao Jin; Daofu County People's Hospital, Yong Leng, Liangchuan Zhang, Tianyun Deng; Dingyuan County People's Hospital of Anhui Province, Yuanjin Wang, Wenhua Zhang, Xinmin Ma; Dongyang People's Hospital, Weimin Li, Liang Lu, Xuan Ge; Dulong and Nu Autonomous County People's Hospital of Gongshan, Xiaoping Wu, Yanming He; Dunhua City Hospital of Jilin Province, FanjuMeng, Jia Li; Fenghuang County People's Hospital, Dexi Liao, Guangyong Liu, Wen Qin; Fengshan County People's Hospital, Wen Long, Xiangwen Chen; Fourth Hospital of Baotou City, Baohong Zhang, Yonghou Yin, Bin Tian; Fourth People's Hospital of Zigong City, Yong Yi, Chaoyong Wu; Fugu County People's Hospital of Shaanxi Province, Baoqi Liu, Zhihui Zhao, Haiming Li; Fujian Provincial Hospital, YansongGuo, Xinjing Chen; Fuling Center Hospital of Chongqing City, Liquan Xiang, Lin Ning; Gannan County People's Hospital, Mei Chen, Xin Jin, Guiling Li; General Hospital of the Yangtze River Shipping, Xiuqi Li, Xing'an Wu; Gongcheng Yao Autonomous County People's Hospital, Congjun Tan, Mingfang Feng, Meili Wang; Guangchang County People's Hospital, Liangfa Wen, Xiang Fu, QunxingXie; Guilin People's Hospital, Wei Zhang, Yanni Zhuang, Hua Lu; Guiping People's Hospital, Jiaqian Lu, Yu Huang; Haerbin 242 Hospital, Yin Zhou, Qiuling Hu; Haiyan People's Hospital, Chunhui Xiao, Xiaoli Hu; Heling Ge Er County People's Hospital, Yongshuan Wu, Qiuli Wang; Helong Municipal People's Hospital, Youlin Xu, Xuefei Yu;

Henan Provincial People's Hospital, Chuanyu Gao, Jianhong Zhang, You Zhang; Heze Municipal Hospital, WentangNiu, Xiaolei Ma, Yong Wang; HGKY Group Company General Hospital, Xiaowen Pan, Yanlong Liu; Hua Xin HospitalFirst Hospital of Tsinghua University, Lifu Miao, Yanping Yin, Zhiying Zhang; Huairen People's Hospital, Shutang Feng; Huayin People's Hospital, Aiping Wang, Jiangli Zhang, Feipeng Li; Huaying People's Hospital , Hong Wang; Hunchun Hospital, Lijun Yu, Xinxin Zhao; Huizhou Municipal Central Hospital, Yuansheng Shen, Zhiming Li, Lizhen He; Hunan Province Mawangdui Hospital, ZhiyiRong, Wei Luo; Ji'an Municipal Central People's hospital, Xueqiao Wang; Jianghua Yao Autonomous County People's Hospital, Rongjun Wan, Jianglin Tang, Guanghan Wu; Jiangsu Haimen People's Hospital, Jie Wu, Bin Xu; Jiangxi Provincial People's Hospital, Qing Huang, Xiaohe Wu; Jiangzi County People's Hospital, Sang Ge, Pian Pu, PingcuoDuoji; Jilin Province People's Hospital, Hui Dai, Yuming Du, Wei Guo; Jilin Integrated Traditional Chinese & Western Medicine Hospital, Jilin Province, Jianping Shi; Jinghai County Hospital, Peihua Zhao, Jingsheng Sun; Jingxi County People's Hospital, Hongxiang Li, Wen Liang; Jingxing County Hospital, Zhiwen Dong, Zhenhai Zhao; Jingzhou Central Hospital, Xin Li, Qin Xu; Jiuquan City People's Hospital, Yaofeng Yuan, Zhirong Li; Jixi People's Hospital of The Jixi Municipal People's Hospital Medical Group, Jinbo Gao; Jize County Hospital, Qiu'eGuo; Kangbao County People's Hospital, Ruiqing Zhao, Guangjun Song; Keshiketengqi Hospital of Chifeng City, Lize Wang, Haiyun Song; Lanping Bai and Pumi Autonomous County People's Hospital, Jinwen He, Jinming He; Laoting County Hospital, Keyong Shang, Changjiang Liu, Kuituan Xi; Liaoyang Central Hospital, Rihui Liu, Peng Guo; Liaoyuan Central Hospital, ChaoyangGuo, Xiangjun Liu, Rujun Zhao, Zeyong Yu; Lindian County Hospital, Wenzhou Li, Xudong Jing, Huanling Wang; Linxiang People's Hospital, Xiyuan Zhao, Chao Zhang, Long Chen; Liujiang County People's Hospital, Meifa Wei, Yan Liu, Shengde Chen; Longyan First Hospital, Kaihong Chen, Yong Fang, Ying Liao; Luancheng County Hospital, Junli Wang, Tianyu Liu, Suzhe Cheng; Lucheng People's Hospital, Yunke Zhou, XiaoxiaNiu, Huifang Cao; Luchuan County People's Hospital, Zebin Feng, Min Feng; Luxi County People's Hospital, FeilongDuan, Haiming Yi; Luyi County People's Hospital, Yuanxun Xu, AnranGuo; Macheng People's Hospital, Xianshun Zhou, HongzhuanCai, Peng Zheng; Mengcheng First People's Hospital, GaofengGuo; MenglianLahudaiwa autonomous counties People's Hospital, Xiang Li; Min County

People's Hospital, MinwuBao, Yuhong Liu; Nanjing First Hospital, Shaoliang Chen, HaiboJia, Hongjuan Peng; Nan'an Hospital, Duanping Dai, Shaoxiong Hong; Nantong Third People's Hospital, Song Chen, Dongya Zhang, Ying Wang; Nanyang Central Hospital, Yudong Li, Jianbu Gao, Shouzhong Yang; Ningwu County People's Hospital, Junhu An; Peking University People's Hospital, Chenyang Shen, Yunfeng Liu; Peking University Shenzhen Hospital, Chun Wu, Huan Qu, Saiyong Chen; People's Hospital of Jingyu, Yuhui Lin, Dehai Jiao; People's Hospital of Yueqing City, Manhong Wang, Qiu Wang; Pianguan County People's Hospital, YingliangXue, Ruijun Zhang; Puding County People's Hospital, Cheng Yuan, Lei Wu; Qinghai Red Cross Hospital, Jianqing Zhang, Chunmei Wei, Yanmei Shen; Qinshui County People's Hospital, Hehua Zhang, Hongmei Pan, Yong Gao; Qinyang People's Hospital, Xiaowen Ma, Yanli Liang, Tianbiao Wang; Queshan County People's Hospital, Daguo Zhao; Quzhou People's Hospital, XiaomingTu, Zhenyan Gao; Rongjiang County People's Hospital, Fangning Wang, Qiang Yang; Rudong County People's Hospital, Xiaoping Kang, Jianbin Fang, Dongmei Liu; Ruyang County People's Hospital, Chengning Shen, Mengfei Li; Shangluo Central Hospital, Yingmin Guan, Wenfeng Wang, Ting Xiao; ShangqiuChangzheng People's Hospital, Qian Wang; Shaoyang County People's Hospital, Fengyun Jiang, Kaiyou Wu; Shengsi People's Hospital, Songguo Wang; Shenyang Weikang Hospital, Xujie Fu, Shu Zhang, Lifang Gao; ShougangShuicheng Iron & Steel (Group) Co., Ltd. General Hospital, Min Zhang, Kai Fu, XiaojingDuan; Shuangshan Hospital Of Anshan, Rui Xiao, Ruixia Wu, Bin Li; Siziwang County People's Hospital, Hongtu Zhang, Yuerong Ma, Zhonghui Cao; SunanYugur Autonomous County People's Hospital, Zhansheng Ba, Wanhai Fu; Taizhou Hospital of Zhejiang Province, Jianjun Jiang, YafeiMi, Weiwei Zhou; The Affiliated Hospital of Beihua University, Feng Sun, Qi Zhang, Shiyu Zheng; The Fifth People's Hospital of Dalian, Jing Zhang, Yang Zhong; The First Affiliated Hospital of Hebei North University, Fangjiang Li, Xiaoyuan Wang; The First Affiliated Hospital of Henan University of Science & Technology, Pingshuan Dong, Laijing Du, Wei Liu; The First Affiliated Hospital Of Jia Mu Si University, Zhaofa He, Meihua Jin; The First Hospital of Fuzhou City, Ting Jiang, Zhuoyan Chen; The First Hospital of Xi'an, Manli Cheng, YuqiangJi; The First People's Hospital of Danzhou, Youhua Zhou, Jvyuan Li; The First People's Hospital of Guangzhou, Yizhi Pan, Jian Liu; The First People's Hospital of Guangyuan, Tianxun Wang, Ping Yang; The Fourth People's

Hospital of Shangqiu Shi, Guiyu Huang, JianjunPan, QingliangCai, Qianying Wang; The General Hospital of Yongzhou, Hunan Province, MingliLv; The people's hospital of Wuchuan, Yuanming Yi, Xuelian Deng; The People's Hospital of Yuanling, Wenhua Chen, RongCai; The People's Hospital of Zhijiang City, Bing Zhang; The Second Affiliated Hospital of Harbin Medical University, Bo Yu, Yousheng Xu, Zhengqiu Wang; The Second Affiliated Hospital of Kunming Medical University, Jun Shu, Ge Zhang, Kai Li; The Second Central Hospital of Baoding City, Guang Ma, PuxiaSuo; The Second People's Hospital of Liaoyuan City, Aimin Zhang, Yongfen Kang; Tianjin Medical University General Hospital, Zheng Wan, Yuemin Sun, Bo Bian; Tibet Autonomous Region People's Hospital, Xuejun Hu, DawaCiren; Tongchuan Mining Bureau Central Hospital, GuojiongJia, Jieli Pan; Tongliang County People's Hospital, Guofu Li, Hongliang Zhang, Longliang Zhan; Tongliao City Horqin District First People's Hospital, Junping Fang, Xinli Yu; Ulanqab Central Hospital, Dacheng Wang, Dajun Liu, Xinhong Cao; Wencheng County People's Hospital, Yi Tian, HaishengZhu, Wanchuan Liu; Wuhai People's Hospital, Zhaohai Zhou, Lei Shi; Wuhu Second People's Hospital, Wuwang Fang, Manxin Chen; Wulate County People's Hospital, FuqinHan, JianyeFu, Yunmei Wang; Wuqiang County People's Hospital, Binglu Liu, YanliangZhang, Xiupin Yuan; Wuyishan Municipal Hospital, Qingfei Lin, Yun Chen; Xiangtan County People's Hospital, Yuliang Zhu, ZhiqiangCai; Xing County People's Hospital, Xingping Li, LirongAo; Xingshan County People's Hospital, Shubing Wu, Hui Zhang; Xinmi First People's Hospital, Fusheng Zhao, Guangming Yang; Xinshao County People's Hospital, Renfei Liu, Wenwei Ai; Xiuwu County People's Hospital, JianbaoChang, Haijie Zhao; Xuanhan County People's Hospital, Qijun Ran, Xuan Ma; Xupu County People's Hospital, Shijun Jiang, Xiaochun Shu; Yanggao County People's Hospital, Zhiru Peng, Yan Han; Yanqing County Hospital, Jianbin Wang, Li Yang; Ying County People's Hospital, Yu Shen, Xingcun Shang; Yitong Manchu Autonomous County First People's Hospital, Haifeng Wang; Yongxing County People's Hospital, Hongyan Li, Zhisong Liao, Yang Cao; Yuanzhou District People's Hospital of Guyuan City, Xiaoping Gao, MeiyingCai, Lining You; Yuncheng Central Hospital, Xuexin Li, Shuqin Li, Yingjia Li; Yunlong County People's Hospital, Jianxun Yang, Song Ai, Jianfei Ma; Yuyao People's Hospital, Lailin Deng; ZhangjiachuanHui Autonomous County First People's Hospital, Keyu Wang, Shitang Gao, Jian Guan; Zhouning County Hospital, Banghua He, Youyi Lu; Zhuoni

County People's Hospital, Weirong Yang, Hong Li; Zhuozi County People's Hospital, Zhizhong Zhang,
Xiaohong Chi; Zuoyun County People's Hospital, Ru Duan, Guangli Wang.

B. China PEACE hospital survey: design, conduction, and materials

Participants

In the collaborative network, we invited the principal investigator and the coordinator of each hospital to participate in the survey. The definitions of the roles were established during the planning phase of the China PEACE-Retrospective AMI Study: typically, the director of the Cardiology Department or Internal Medicine Department at each hospital served as the principal investigator, and the China PEACE study coordinator was most often a physician selected by the principal investigator.

Survey design

We organized the survey in 4 sections: personal information of the respondent (part A); general information about the hospital and the department in charge of AMI care (part B); information about hospital practices relating to the diagnosis and treatment of cardiovascular heart disease (part C); and organizational learning characteristics and quality improvement for AMI care (part D). Organizational learning culture was measured using questions from the Short-Form Learning Organization Survey (LOS-27) and the Survival after AMI (SAMI) study.

The survey was written in English and translated into Chinese. To ensure accuracy, a double translation was conducted in which the survey was translated into Chinese and then back into English independently by 2 bilingual Chinese medical researchers. Modifications were made to the Chinese translation accordingly. Participants were informed at the start of the survey that their responses would be used to study institutional characteristics and medical care patterns.

Survey conduction

The survey was piloted using a convenience sample of 6 hospitals with percutaneous coronary intervention capability. The principal investigators were invited to participate in the pilot, and one study coordinator also volunteered to participate. The responses of the 6 principal investigators (3 via in-person interviews and 3 via self-administered paper-based survey) and 1 study coordinator (via self-administered paper-based survey) were collected. The cognitive interviewing methodology, in which individual in-person interviews were conducted with each pilot participant, was used to assess understanding of the pilot survey. For paper-based pilot surveys, cognitive interviewing consisted of retrospective (post-survey) probes; for in-person interviews, concurrent (during survey) probes allowed

participants to provide survey feedback in real-time. Based on the experience from the pilot, minor revisions were made to clarify the meaning of certain questions, and the sequence of questions was modified to improve logic and flow. No questions were removed or added. All data from the pilot testing were included in the final data set.

The survey was available in 2 forms: web-based e-survey, in which each participant was able to log in with a unique password to a website where the survey was hosted, and PDF-based survey, in which subjects digitally marked their answers in PDF files and returned the files via email. We applied 2 methods to ensure the quality of the responses. We checked the response data for completeness, either by automatic verification (web-based) or by manual check by our staff (PDF-based), and on the basis of logic. For the web-based e-survey submissions, we used automatic logic check and verification while subjects were responding to the survey, and recorded total time spent on the survey. For the PDF-based survey submissions, we conducted a manual logic check, focusing on whether subjects correctly skipped inapplicable questions as indicated by the instructions in other parts of the survey. In cases of missing or illogical (e.g., questions incorrectly skipped or completed) data for PDF-based surveys, we contacted respondents by email and/or phone, informed them of which questions needed to be resolved, and asked them to resubmit the survey with the necessary changes.

Survey questionnaires

A. Personal information			
A.1	Gender:	<input type="radio"/> Male	<input type="radio"/> Female
A.2	Education	<input type="radio"/> Junior high school <input type="radio"/> Senior high school (technical school or technical secondary school) <input type="radio"/> College (junior college) <input type="radio"/> Postgraduate	
A.3	Clinical job title:	<input type="radio"/> Consultant <input type="radio"/> Attendant <input type="radio"/> Resident <input type="radio"/> Nurse <input type="radio"/> Other, please specify: ____	
A.4	Senior administrative position in hospital:	<input type="radio"/> No <input type="radio"/> Yes, please specify: ____	
A.5	You have been working in the department for __ years.		
B. General Information of the hospital and the department			
<p>Instructions: This section focuses on characteristics of your hospital and department. For all questions, please reflect upon them during the 1-year period from 1/1/2011 to 12/31/2011 (for some of them, please consider 1/1/2001 to 12/31/2001, and 1/1/2006 to 12/31/2006, as specified). Even some questions in this section might be somewhat hard to answer immediately, especially those about the characteristics of your hospital or department in 2001 and 2006. Please try best to find the answer - as accurate as possible - to every applicable question.</p>			
B.1	Affiliated hospital of medical college:	<input type="radio"/> No <input type="radio"/> Yes, please specify the name of the college: _____ [Skip to B3]	
B.2	Teaching hospital of medical college:	<input type="radio"/> No <input type="radio"/> Yes, please specify the name of the college: _____	
Total No. in your department			
		In 2001	In 2006
B.3	Beds		
B.4	Consultants		
B.5	Attendants		
B.6	Residents		
B.7	Nurses		
B.8	Is there any other department in your hospital providing inpatient treatment for AMI?	<input type="radio"/> No <input type="radio"/> Yes, please specify the name of the department: _____	
B.9	Coronary Care Unit (CCU) in hospital?	<input type="radio"/> No <input type="radio"/> Yes, please specify the No. of beds: _____	
B.10	Cath lab in hospital?	<input type="radio"/> No [Skip to B12] <input type="radio"/> Yes, please specify when started: _____	
B.11	How many qualified cardiac interventionalist there are in your hospital:	_____	<input type="radio"/> unknown
B.12	Could CABG be performed in hospital?	<input type="radio"/> No <input type="radio"/> Yes, please specify the No. of cases in 2011: _____	

B.13 Independent emergency department?
 No Yes, please specify the No. of cardiologists in charge in emergency department normally: _____

B.14 Formal GCP training of clinical staff in your department?
 No Yes Unknown

B.15 Have your apartment participated in international clinical trials?
 No Yes, please specify the names of the trials: _____ Unknown

B.16 SFDA certified site for CVD drug trials?
 No Yes Unknown

B.17 Existence of Ethics Committee in hospital?
 No Yes Unknown

Total No. in your hospital

	In 2001	In 2006	In 2011
B.18 Patients with stroke			
B.19 Patients with ischemic stroke			
B.20 Patients with hemorrhagic stroke			

B.21 Independent neurology department?
 No Yes, please specify the No. of beds in the department: _____

B.22 Carotid endarterectomy performed in hospital?
 No Yes, please specify when started: _____ Unknown

B.23 Carotid stenting performed in hospital?
 No Yes, please specify when started: _____ Unknown

The average cost of the following items in your hospital

Items	Cost, ¥
B.24 Biochemical test, including glucose, lipid, liver function, renal function, CRP or hsCRP	
B.25 Coagulation function test	
B.26 BNP or NT-proBNP	
B.27 Stress test	
B.28 UCG	
B.29 Cardiac CT	
B.30 Carotid US	

C. Diagnosis and treatment for CHD

Instructions: This section focuses on hospital processes and care of patients with AMI. For all questions, please reflect upon them during the 1-year period from 1/1/2011 to 12/31/2011.

C.1 Routine diagnostic test of CK for ACS patients after admission?
 No Yes, please specify the average time delay in reporting results: _____ Unknown

C.2 Routine diagnostic test of CK-MB for ACS patients after admission?
 No Yes, please specify the average time delay in reporting results: _____ Unknown

C.3 Routine diagnostic test of troponin for ACS patients after admission?
 No Yes, please specify the average time delay in reporting results: _____ Unknown

C.4 Are patients who are stable after PCI admitted to an intensive care unit? SAMI-Q25
 Always Usually Sometimes Rarely Unknown

C.5 Did your emergency department use a uniform protocol to care for patients who arrived to the emergency department with **STEMI**? SAMI-Q26
 No Yes Unknown

C.6 Did your emergency department use a uniform protocol to care for patients who arrived to the emergency department with **Unstable Angina/NSTEMI**? SAMI-Q27
 No Yes Unknown

C.7 Did your hospital use simulations (i.e., trial exercises, dry-runs) to practice any of the following AMI care processes? [*Check all that apply*] SAMI-Q28
 Door-to-balloon or door-to-drug protocols
 Chest pain in hospitalized patients
 Inpatient codes (e.g., cardiac arrest, respiratory failure)
 None above
 Unknown

C.8 To which patient care unit were patients who were stable with Unstable Angina/NSTEMI most likely admitted? SAMI-Q29
 CCU ICU Step-down unit Designated chest pain/telemetry/cardiology floor
 General medicine floor We did not have a routine method of assigning beds for patients with Unstable Angina/NSTEMI Unknown

C.9 Did all, or nearly all, patients with AMI have a cardiologist as their primary attending physician? SAMI-Q30
 No Yes [**Skip to C11**] Unknown

- C.10 Were cardiology consults required for all patients with AMI? SAMI-Q30a
- No Yes Unknown
- C.11 In the intensive care unit, who was primarily responsible for the care of patients with AMI? [*Check all that apply*] SAMI-Q31
- Critical care physicians (i.e., intensivists)
- Cardiologist/s based exclusively in the unit
- Other cardiologists
- Other, please specify: _____
- Unknown
- C.12 Electronic medical record?
- No [**Skip to C14**] Yes, please specify when started: _____ Unknown
- C.13 Did your hospital use an electronic medical record (EMR) in the following areas? [*Check all that apply*] SAMI-Q34
- Emergency department
- Inpatient floors
- Critical care units
- Affiliated ambulatory offices/clinics
- None above
- C.14 On the inpatient floors, did your hospital have the following electronic capabilities? [*Check all that apply*] SAMI-Q35
- Computerized assisted physician order entry
- Computer prompts to alert user to potential drug-drug interactions or allergies
- Computer prompts to alert user to potential errors in dosing and information
- Computer prompts to alert user to medication order expiration
- Computer prompts to improve adherence to core measures for AMI care (e.g., beta-blocker use)
- None above

C.15 In the emergency department, were prior ECG's electronically available at the time of care?
SAMI-Q36
 No Yes Unknown

C.16 Did physicians regularly use explicit protocols or clinical pathways for patients with AMI?_
SAMI-Q37
 No Yes Unknown

C.17 Did clinicians on the inpatient care units regularly use order sets (either paper-based or electronic) for patients with STEMI? SAMI-Q38
 No Yes Unknown

C.18 Did clinicians on the inpatient care units regularly use order sets (either paper-based or electronic) for with Unstable Angina/NSTEMI? SAMI-Q39
 No Yes Unknown

C.19 Which of the following types of physicians were at the hospital 24-hours/day and 7-days/week?
[Check all that apply] SAMI-Q42
 Critical care physicians (i.e., intensivists)
 Non-interventional cardiologists
 Interventional cardiologists
 Cardiology fellows (including non-interventional and interventional)
 Hospitalists
 None above

C.20 Are there any protocols used to guide nurses on when to call the attending cardiologist for patients with AMI? SAMI-Q43
 No Yes Unknown

C.21 Patients with acute coronary syndrome who arrived by Emergency medical service (ambulance):
 None [**Skip to C25**] 1–25% 26–50% 51–75% 76–100%
Unknown

C.22	Emergency medical service routinely gives pre-alert calls? <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Unknown
C.23	Patients with acute coronary syndrome who undergo ECG en route to hospital: <input type="radio"/> None <input type="radio"/> 1–25% <input type="radio"/> 26–50% <input type="radio"/> 51–75% <input type="radio"/> 76–100% <input type="radio"/> Unknown
C.24	Emergency medical service routinely tell your hospital the results of ECG? <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Unknown
C.25	Formal training of triage staff for assessing acute coronary syndrome? <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Unknown
C.26	Dedicated space in triage area for immediate ECG? <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Unknown
C.27	Written criteria for immediate ECG in emergency department? <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Unknown
C.28	Expected interval between patients' arriving and ECG? <input type="radio"/> ≤5 min <input type="radio"/> 6–20 min <input type="radio"/> >20 min <input type="radio"/> No expected time <input type="radio"/> Unknown
C.29	Dedicated ECG technicians in emergency department? <input type="radio"/> No <input type="radio"/> Yes, only some shifts <input type="radio"/> Yes, always <input type="radio"/> Unknown
C.30	Thrombolysis for AMI patients in hospital? <input type="radio"/> No [Skip to C38] <input type="radio"/> Yes, please specify when started: _____
C.31	Does your hospital have a set protocol to identify eligible patients for thrombolysis? <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Unknown
C.32	Does your hospital have a set protocol to assess contraindications of thrombolysis? <input type="radio"/> No <input type="radio"/> Yes <input type="radio"/> Unknown
C.33	Who makes the decision about thrombolysis in your hospital? <input type="radio"/> Emergency medicine physician alone <input type="radio"/> Emergency medicine physician with a cardiac consultation <input type="radio"/> Only Cardiologist <input type="radio"/> Unknown

- C.34 In your hospital, where do patients with AMI receive thrombolysis?
- In the emergency department
 - In the cardiology department (or general medicine department)
 - In the ICU or CCU
 - Unknown
- C.35 Where are the thrombolytic medicines stored and prepared?
- Stored and prepared in the department where thrombolysis is done
 - Prepared in the department where thrombolysis is done, but stored in another location
 - Stored and prepared in some location other than the department where thrombolysis is done
 - Unknown
- C.36 Informed Consent before thrombolysis?
- Not necessary
 - Only orally obtained informed consent is needed
 - One written informed consent form is needed
 - More than one written informed consent form is needed
 - Unknown
- C.37 Prepayment before thrombolysis?
- No
 - Yes, please specify the average amount approximately: ____ (“-1” if unknown)
 - Unknown
- C.38 Primary PCI was performed in your hospital for STEMI patients?
- No **[Skip to C60]**
 - Yes, please specify when started: ____
- C.39 Activation of catheterization laboratory on weekdays?
- Emergency medicine physician with cardiologist
 - Cardiologist alone
 - Emergency medicine physician alone
 - Unknown

- C.40 Activation of catheterization laboratory at night and on weekends?
- Emergency medicine physician with cardiologist
 - Cardiologist alone
 - Emergency medicine physician alone
 - Unknown
- C.41 Process for activating catheterization team?
- After communicating with the emergency department, interventional cardiologist activates catheterization laboratory by calling staff or a central page operator
 - Emergency department makes at least two calls: one to the interventional cardiologist and another to a central page operator, who pages catheterization laboratory staff
 - Emergency department makes a single call to a central page operator, who then pages interventional cardiologist and catheterization laboratory staff
 - No standard approach
 - Other
 - Unknown
- C.42 Activation of on-call staff for catheterization laboratory?
- Page operator is not used
 - Page operator is used; confirmation of page receipt is required
 - Page operator is used; no confirmation of page receipt is required
 - No standard approach
 - Unknown
- C.43 First physician notified after STEMI diagnosis in emergency department?
- Cardiologist
 - Interventional cardiologist
 - Patient's primary care physician
 - Other or variable
 - Unknown
- C.44 Laboratory and radiographic results are needed to activate catheterization laboratory?
- Yes
 - No
 - No standard approach
 - Unknown

- C.45 Process after emergency medical service transmits ECG results?
- Emergency department waits for patient to arrive at hospital to determine whether catheterization laboratory should be activated
 - Emergency department contacts cardiologist while the patient is en route to determine whether catheterization laboratory should be activated
 - Emergency department activates catheterization laboratory while the patient is still en route to the hospital
 - No standard approach or variable approach
 - Not applicable because ECG data not transmitted en route
 - Not applicable because ECG never performed en route
 - Unknown
- C.46 Expected interval between page and arrival of staff in catheterization laboratory?
- ≤ 20 min
 - 21–30 min
 - > 30 min
 - No expected time
 - Unknown
- C.47 Expected interval between page and arrival of interventional cardiologist?
- ≤ 20 min
 - 21–30 min
 - > 30 min
 - No expected time
 - Unknown
- C.48 Someone is always available to transport patients from emergency department to catheterization laboratory?
- No
 - Yes
 - Unknown
- C.49 Initiation of patient transport from emergency department to catheterization laboratory?
- After catheterization laboratory notifies emergency department it is ready
 - A set interval after the decision is made regarding PCI
 - No standard approach
 - Other approach
 - Unknown

- C.50 Minimum number of nurses and technicians required in catheterization laboratory before patient is transported from emergency department?
- Interventional cardiologist must be present
 - Interventional cardiologist may not be present but need presence of 1 staff person
 - Interventional cardiologist may not be present but need presence of 2-4 staff person
 - No set number
 - Unknown
- C.51 Elective catheterization cases rescheduled for emergency PCI?
- Yes
 - No
 - It depends
 - Unknown
- C.52 If interventionalist is present, number of staff required to begin PCI?
- 1
 - 2
 - 3
 - 4
 - Unknown
- C.53 Catheterization laboratory is left so that next PCI can begin promptly?
- Yes
 - No
 - No standard policy
 - Unknown
- C.54 Cardiology fellows participate in performing PCI?
- No
 - Yes
 - Unknown
- C.55 Staff in critical care area are routinely cross-trained to cover catheterization laboratory?
- No
 - Yes
 - Unknown
- C.56 Location of catheterization laboratory?
- Elevator required to travel from emergency department
 - Same floor as emergency department
- C.57 An attending cardiologist is always at the hospital?
- No
 - Yes
 - Unknown

C.58	Informed Consent before primary PCI? <ul style="list-style-type: none"><input type="radio"/> Not necessary<input type="radio"/> Only orally obtained informed consent is needed<input type="radio"/> One written informed consent form is needed<input type="radio"/> More than one written informed consent form is needed<input type="radio"/> Unknown
C.59	Prepayment before primary PCI? <ul style="list-style-type: none"><input type="radio"/> No<input type="radio"/> Yes, please specify the average amount approximately ____ (“-1” if unknown)<input type="radio"/> Unknown
C.60	Does your hospital measure the following time intervals? <i>[Check all that apply]</i> <ul style="list-style-type: none"><input type="checkbox"/> Door to ECG<input type="checkbox"/> Door to needle<input type="checkbox"/> Door to balloon<input type="checkbox"/> None above<input type="checkbox"/> Unknown
C.61	Do your hospital feedback the time intervals to someone? <i>[Check all that apply]</i> <ul style="list-style-type: none"><input type="checkbox"/> No<input type="checkbox"/> Yes, to physician staff involved in the care<input type="checkbox"/> Yes, to nursing staff involved in the care<input type="checkbox"/> Yes, to pharmacy staff involved in the care<input type="checkbox"/> Yes, to other staff involved in the care<input type="checkbox"/> Unknown

- C.62 Do your hospital report the analyze results about the time intervals regularly? *[Check all that apply]*
- No
 - Yes, to departments involved in the care (the emergency department, the cardiology department)
 - Yes, to other department in your hospital
 - Yes, to other institutions outside your hospital
 - Unknown

D. Organizational learning characteristics

Instructions: This section focuses on the organizational learning and measurements to improve AMI care, including supportive environment and leadership, experimentation and training, knowledge acquisition, reflection and performance monitoring, etc. Please draw on your own experiences in your current role working with clinical staff and administration. For all questions, please reflect upon them during the 1-year period from 1/1/2011 to 12/31/2011.

Although some questions in this section look similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems most reasonable.

The definition of "workgroup" below is the department, unit, ward, or group caring AMI patients that you are working at.

This section adopts 7-point (from highly inaccurate to highly accurate). If you think the options are difficult to understand or distinguish, please grade the accuracy here using actual numbers, while 1 is the lowest (highly inaccurate), 7 is the highest (highly accurate), then choose the corresponding option.

- D.1 In this workgroup, people value new ideas.
- highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
 - highly accurate
- D.2 Clinicians are encouraged to creatively solve problems related to AMI care processes. (60)
- Never Rarely Sometimes Usually Always
- D.3 Innovative ideas about AMI care are shared widely in the hospital. (61)
- Never Rarely Sometimes Usually Always
- D.4 Differences in opinions are welcomed in this workgroup.
- highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
 - highly accurate

- D.5 In this workgroup, people are open to alternative ways of getting work done.
 highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
 highly accurate
- D.6 People in this workgroup are eager to share information about what doesn't work as well as to share information about what does work.
 highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
 highly accurate
- D.7 This workgroup frequently compares its performance to: Best-in-class organizations.
 highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
 highly accurate
- D.8 This workgroup frequently compares its performance to: Other similar workgroups.
 highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
 highly accurate
- D.9 This workgroup consistently collects information on technological trends.
 highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
 highly accurate
- D.10 If you make a mistake in this workgroup, it is often held against you. (Among clinicians taking care of patients with AMI, there is a tendency to blame individuals for errors in patient care). (66)
 Never Rarely Sometimes Usually Always
- D.11 Clinicians caring for patients with AMI are easily able to address problems and tough issues with their department heads/chiefs. (56)
 Never Rarely Sometimes Usually Always
- D.12 Department heads/chiefs are easily able to address problems and tough issues with senior level administration.(57)
 Never Rarely Sometimes Usually Always
- D.13 Nurses are comfortable checking with physicians if they have concerns about patient care.(65)
 Never Rarely Sometimes Usually Always

- D.14 Clinicians involved in the care of patients with AMI value each others' skills and talents (e.g., physicians value nurses' skills and talents and vice-versa).(58)
- Never Rarely Sometimes Usually Always
- D.15 Clinicians involved in the care of patients with AMI avoid sharing responsibility for medical errors.
- Never Rarely Sometimes Usually Always. (59)
- Never Rarely Sometimes Usually Always
- D.16 Were physicians explicitly encouraged to disclose medical errors to patients or their family members? (7)
- Never Rarely Sometimes Usually Always
- D.17 This workgroup engages in productive conflict and debate during discussions.
- highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
- highly accurate
- D.18 In this workgroup, we frequently identify and discuss underlying assumptions that might affect key decisions.
- highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
- highly accurate
- D.19 The hospital has the resources and information it needs to reduce 30-day mortality rates in patients with AMI. (51)
- Never Rarely Sometimes Usually Always
- D.20 Senior-level administration is supportive of efforts to improve AMI care. (52)
- Never Rarely Sometimes Usually Always
- D.21 There is simply no time for reflection in this workgroup.
- highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
- highly accurate
- D.22 In this workgroup, people are too busy to invest time in improvement.
- highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
- highly accurate

- D.23 My manager(s) establish(es) forums for and provide(s) time and resources for identifying problems and organizational challenges.
- highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
- highly accurate
- D.24 My manager(s) establish(es) forums for and provide(s) time and resources for reflecting and improving on past performance.
- highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
- highly accurate
- D.25 My manager(s) listen(s) attentively.
- highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
- highly accurate
- D.26 My manager(s) invite(s) input from others in discussions.
- highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
- highly accurate
- D.27 This workgroup experiments frequently with new product/service offerings.
- highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
- highly accurate
- D.28 This workgroup experiments frequently with new ways of working.
- highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
- highly accurate
- D.29 This workgroup frequently employs pilot projects or simulations when trying our new ideas.
- highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
- highly accurate
- D.30 This workgroup has a formal process for conducting and evaluating experiments or new ideas.
- highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
- highly accurate

- D.31 Experienced employees in this workgroup receive training when new initiatives are launched.
- highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
- highly accurate
- D.32 Experienced employees in this workgroup receive training when shifting to a new position.
- highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
- highly accurate
- D.33 Newly hired employees in this workgroup receive adequate training.
- highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
- highly accurate
- D.34 Did your hospital provide training to EMS providers about AMI care? (17)
- Yes, about monthly
- Yes, about quarterly
- Yes, about annually
- Yes, other: _____
- No
- Unknown
- D.35 This workgroup has forums for meeting with and learning from: Experts from outside the organization.
- highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
- highly accurate
- D.36 This workgroup has forums for meeting with and learning from: Experts from other departments/teams/divisions.
- highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
- highly accurate
- D.37 This workgroup has forums for meeting with and learning from: Customers/clients.
- highly inaccurate inaccurate somewhat inaccurate not sure somewhat accurate accurate
- highly accurate

- D.38 This workgroup regularly conducts post-audits, after-action reviews, and debriefings.
- highly inaccurate
 - inaccurate
 - somewhat inaccurate
 - not sure
 - somewhat accurate
 - accurate
 - highly accurate
- D.39 Did your hospital have regular ‘morbidity and mortality’ conferences (or another educational session) for discussing individual cases involving patients with AMI? (5)
- Never
 - Rarely
 - Sometimes
 - Usually
 - Always
- D.40 Did your hospital review the deaths of patients with AMI? (4a)
- No, we did not review these cases (**go to D44**)
 - Yes, we reviewed only deaths with potential quality issues (i.e., unexpected deaths)
 - Yes, we reviewed *all* deaths
 - Other, please specify: _____
 - Unknown
- D.41 Did your hospital have a **designated person or group** to review the deaths of patients with AMI (i.e., on an individual case level) that occurred during hospitalization? (4)
- Never
 - Rarely
 - Sometimes
 - Usually
 - Always
- D.42 How long after the occurrence of the death were the cases typically reviewed? (4b)
- Within one week of the death
 - Within one month of the death
 - Within 3 months of the death
 - Other, please specify: _____
 - We did not have a set timeframe for reviewing these cases
 - Unknown

- D.43 Who usually reviewed these cases? (4c)
- a. Senior management of the hospital
 - Never Rarely Sometimes Usually Always
 - b. Cardiology chiefs
 - Never Rarely Sometimes Usually Always
 - c. Nursing directors
 - Never Rarely Sometimes Usually Always
 - d. Other physicians participating in the care of patients with AMI
 - Never Rarely Sometimes Usually Always
 - e. Quality Improvement/Quality Management department staff
 - Never Rarely Sometimes Usually Always
- D.44 Did your hospital have a **designated person or group** to review any of the following **adverse events** in patients with AMI (i.e., on an individual case level)? (6)
- a. Sentinel events (unexpected occurrence involving death or serious physical or psychological injury) that occurred during hospitalization
 - Never Rarely Sometimes Usually Always
 - b. Unexpected transfers from a floor (non-monitored unit) to an intensive care unit
 - Never Rarely Sometimes Usually Always
 - c. Catastrophic complications that occurred immediately after discharge from the hospital
 - Never Rarely Sometimes Usually Always
- D.45 How long after the occurrence of these adverse events were the cases typically reviewed? (6a)
- Within one week of the adverse event
 - Within one month of the adverse event
 - Within 3 months of the adverse event
 - Other, please specify: _____
 - We did not have a set timeframe for reviewing these cases
 - Unknown

- D.46 Who usually reviewed these cases? (6b)
- a. Senior management of the hospital
 - Never Rarely Sometimes Usually Always
 - b. Cardiology chiefs
 - Never Rarely Sometimes Usually Always
 - c. Nursing directors
 - Never Rarely Sometimes Usually Always
 - d. Other physicians participating in the care of patients with AMI
 - Never Rarely Sometimes Usually Always
 - e. Quality Improvement/Quality Management department staff
 - Never Rarely Sometimes Usually Always
 - f. Other, please specify: ____
- D.47 Did your hospital use root cause analysis or a similar method to understand the following problems in AMI care?
- a. Poor adherence to the core medication (i.e., anti-platelet agents) measures
 - Never Rarely Sometimes Usually Always
 - b. Delay to fibrinolytic therapy or percutaneous coronary intervention (PCI)
 - Never Rarely Sometimes Usually Always
- D.48 Did your hospital review data on **30-day mortality rates** (deaths occurring within 30 days of admission, including both inpatient and post-discharge deaths) in patients admitted with AMI (Check all that apply) (10)
- Yes, through the medical insurance data system
 - Yes, through a regional database system
 - Yes, we internally collect our own data on deaths
 - Yes, other, please specify: ____
 - No [**Skip to D52**]
 - Unknown

- D.49 How quickly were **mortality rates** in patients with AMI available to your hospital (i.e., what was the most current data available to your hospital)? (10a)
- Within 6 months of care delivery
 - 6 months to 1 year after care delivery
 - 1 - 2 years after care delivery
 - Less frequently than 2 years of care delivery
 - Unknown
- D.50 Did your hospital regularly compare its performance to other hospitals on either **inpatient** in patients with AMI? (14)
- Never Rarely Sometimes Usually Always
- D.51 Did your hospital have **efforts** to improve any of the following inpatient acute myocardial infarction (AMI) quality measures? (1)
- a. Adherence to the core medication (i.e., anti-platelet agents) measures
- Never Rarely Sometimes Usually Always
- b. Time to fibrinolytic therapy or percutaneous coronary intervention (PCI)
- Never Rarely Sometimes Usually Always
- D.52 Beyond these quality measures, did your hospital initiate **efforts** to improve any of the following in patients admitted with AMI? (2)
- a. Inpatient mortality in patients with AMI
- Never Rarely Sometimes Usually Always
- b. **Post-discharge** mortality (death occurring after discharge, but within 30 days of admission) in patients with AMI
- Never Rarely Sometimes Usually Always
- c. Readmission within 30 days from prior admission in patients with AMI
- Never Rarely Sometimes Usually Always

- D.53 Did your hospital have a quality improvement **team(s)** devoted to improving: (3)
- a. Inpatient mortality in patients with AMI
- Never Rarely Sometimes Usually Always
- b. Post-discharge mortality (death occurring after discharge, but within 30 days of admission) in patients with AMI
- Never Rarely Sometimes Usually Always
- D.54 3a. Please indicate members of either the inpatient or post-discharge mortality **team(s)**.
- a. Senior management of the hospital
- Never Rarely Sometimes Usually Always
- b. Hospital governing board
- Never Rarely Sometimes Usually Always
- c. Chief of cardiology
- Never Rarely Sometimes Usually Always
- d. Nursing directors
- Never Rarely Sometimes Usually Always
- e. Other physicians participating in the care of patients with AMI
- Never Rarely Sometimes Usually Always
- f. Quality Improvement/Quality Management department staff
- Never Rarely Sometimes Usually Always
- g. Other please specify: _____
- D.55 Nurses are engaged in efforts to improve AMI care. (53)
- Never Rarely Sometimes Usually Always
- D.56 Cardiologists are engaged in efforts to improve AMI care. (54)
- Never Rarely Sometimes Usually Always
- D.57 Emergency medicine physicians are engaged in efforts to improve AMI care. (55)
- Never Rarely Sometimes Usually Always

- D.58 Did your hospital have one or more physician champions focused on improving either **inpatient** or **30-day mortality** in patients with AMI? (12)
- Never Rarely Sometimes Usually Always
- D.59 Did your hospital have one or more nurse champions focused on improving either **inpatient** or **30-day mortality** in patients with AMI? (13)
- Never Rarely Sometimes Usually Always
- D.60 After we make changes to improve AMI care, we fail to evaluate their effectiveness. (67)
- Never Rarely Sometimes Usually Always
- D.61 Did cardiology and emergency department staff meet together to review care for patients with AMI? (15)
- Yes, about monthly
- Yes, about quarterly
- Yes, about annually
- Yes, other: _____
- No [**Skip to D63**]
- Unknown
- D.62 What was typically discussed at these meetings? (15a).
- a. Care of patients with ST-elevation myocardial infarction (STEMI)
- Never Rarely Sometimes Usually Always
- b. Care of patients with Unstable Angina/**non**-STEMI (NSTEMI)
- Never Rarely Sometimes Usually Always
- c. Care of patients with chest pain, in general
- Never Rarely Sometimes Usually Always

- D.63 Did clinicians from your hospital meet with emergency medical system (EMS) providers to review the care of patients with AMI? (16)
- Yes, about monthly
 - Yes, about quarterly
 - Yes, about annually
 - Yes, other: _____
 - No
 - Unknown
- D.64 There is good coordination among the different departments involved with the care of patients with AMI. (62)
- Never Rarely Sometimes Usually Always
- D.65 Departments caring for patients with AMI (e.g., cardiology, emergency medicine) communicate easily with each other.(64)
- Never Rarely Sometimes Usually Always
- D.66 Clinicians caring for patients with AMI share new evidence-based approaches with the AMI team.(63)
- Never Rarely Sometimes Usually Always
- D.67 Which best describes the quality of your interaction with hospitals **that referred patients to you with AMI**?(18)
- Very collaborative (we shared data along with strategies for improving AMI care) Somewhat collaborative (we communicated regularly, but we did not share data and strategies)
 - Not collaborative (we had no or minimal contact with the referring hospital/s)
 - Not applicable [**Skip to D69**]

- D.68 Did your hospital routinely give feedback to the referring hospital/s on any of the following?
(18a.)
- a. Time to transfer
 Never Rarely Sometimes Usually Always
- b. AMI-related procedures performed
 Never Rarely Sometimes Usually Always
- c. Patient outcome
 Never Rarely Sometimes Usually Always
- d. Other please specify: _____
- D.69 Which best describes the quality of your interaction with hospitals **that you referred patients to with AMI?** (19)
- Very collaborative (we shared data along with strategies for improving AMI care) Somewhat collaborative (we communicated regularly, but we did not share data and strategies)
- Not collaborative (we had no or minimal contact with hospitals in our region)
- Not applicable
- D.70 Was your hospital part of a regional effort or consortium of hospitals to improve AMI care? (20)
- Never Rarely Sometimes Usually Always

C. Definition of In-hospital Complications

1) Re-infarction

Indicate if there is physician documentation of recurrent myocardial infarction during hospitalization.

2) Cardiogenic shock

Indicate if there is physician documentation of cardiogenic shock during hospitalization.

3) Ischemic stroke

Indicate if there are physician documentations of new-onset ischemia stroke and stroke-related symptoms during hospitalization. The stroke-related symptoms include: trouble walking/loss of balance/incoordination, one-sided numbness or hemi-anesthesia, one-sided facial numbness or hemi-anesthesia, mouth askew and drooling, dysarthria or slurred speech, loss of vision or blurred version in one or both eyes, dizziness with vomiting, severe headache and vomiting, unconsciousness, and hyperspasmia.

4) Congestive heart failure

Indicate if there is physician documentation of heart failure during hospital stay. This include those without a history of heart failure but develop heart failure during hospitalization, and those with a history of heart failure as a chronic comorbidity and develop worsening heart failure during hospitalization.

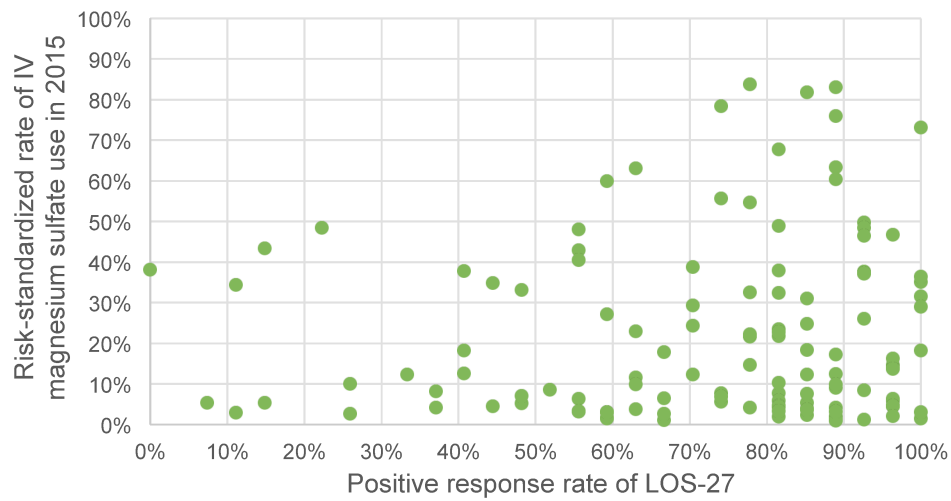
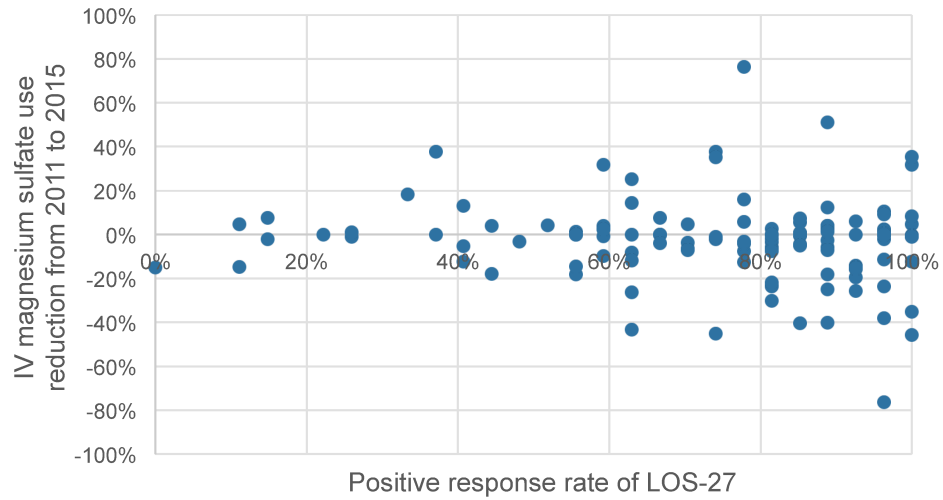
D. Baseline characteristics of patients with hypokalaemia

Characteristics	Overall	Use N(%)	Non-Use(%)	P value
Patient characteristics				
Age				0.005
<55	753(19.9)	170(20)	583(19.8)	
55-64	873(23)	225(26.5)	648(22)	
65-74	1135(29.9)	260(30.6)	875(29.8)	
>=75	1029(27.2)	195(22.9)	834(28.4)	
Gender				0.621
Female	1508(39.8)	332(39.1)	1176(40)	
Male	2282(60.2)	518(60.9)	1764(60)	
Hypertension	2318(61.2)	547(64.4)	1771(60.2)	0.060
Diabetes	655(17.3)	131(15.4)	524(17.8)	0.101
Dyslipidemia	212(5.6)	38(4.5)	174(5.9)	0.106
Currently smoking	1170(30.9)	286(33.6)	884(30.1)	0.057
Prior ischemic stroke	452(11.9)	102(12)	350(11.9)	0.940
Prior myocardial infarction	325(8.6)	91(10.7)	234(8)	0.012
Prior CABG/PCI	97(2.6)	23(2.7)	74(2.5)	0.759
Chest discomfort	3380(89.2)	764(89.9)	2616(89)	0.455
Left branch block at presentation	59(1.6)	16(1.9)	43(1.5)	0.384
Cardiac arrest at presentation	80(2.1)	28(3.3)	52(1.8)	0.006
Cardiogenic shock at presentation	306(8.1)	83(9.8)	223(7.6)	0.040
Acute stroke at presentation	102(2.7)	16(1.9)	86(2.9)	0.098
Heart rate at presentation, bpm				0.457
<50	163(4.3)	36(4.2)	127(4.3)	
50-110	3331(87.9)	739(86.9)	2592(88.2)	
>110	296(7.8)	75(8.8)	221(7.5)	
SBP at presentation, mmHg				0.046
<120	1263(33.3)	314(36.9)	949(32.3)	
120-139	1096(28.9)	223(26.2)	873(29.7)	

140-159	771(20.3)	162(19.1)	609(20.7)	
>=160	660(17.4)	151(17.8)	509(17.3)	
Reperfusion therapies				<0.001
No reperfusion	557(14.7)	156(18.4)	401(13.6)	
Fibrinolytic therapy	2809(74.1)	585(68.8)	2224(75.6)	
Primary PCI	424(11.2)	109(12.8)	315(10.7)	
Hospital characteristics				
Teaching hospital	3042(80.3)	707(83.2)	2335(79.4)	0.015
PCI capable hospital	2455(64.8)	581(68.4)	1874(63.7)	0.013
Hospital level				0.047
Secondary or lower	1507(39.8)	313(36.8)	1194(40.6)	
Tertiary hospital	2283(60.2)	537(63.2)	1746(59.4)	
Economic geographic region				0.682
Eastern	798(21.1)	184(21.6)	614(20.9)	
Central	2163(57.1)	474(55.8)	1689(57.4)	
Western	829(21.9)	192(22.6)	637(21.7)	
Urban/Rural				0.023
Rural	1739(45.9)	361(42.5)	1378(46.9)	
Urban	2051(54.1)	489(57.5)	1562(53.1)	

E. Predictors of the use of IV magnesium sulphate

Variable	Unadjusted		Adjusted	
	OR (95%CI)	P value	OR (95%CI)	P value
New onset of heart failure	1.86(1.51-2.28)	<0.0001	1.69(1.37-2.09)	<0.0001
Cardiac arrest at presentation	3.81(2.5-5.82)	<0.0001	3.38(2.19-5.21)	<0.0001
Aspirin within 24-hour	1.7(1.51-1.93)	<0.0001	1.43(1.22-1.67)	<0.0001
Statins within 24-hour	1.64(1.45-1.85)	<0.0001	1.33(1.13-1.57)	0.0005
Reperfusion therapies				
None	-		-	
Fibrinolytic therapy	1.57(1.33-1.85)	<0.0001	1.6(1.35-1.9)	<0.0001
Primary PCI	1.65(1.42-1.92)	<0.0001	1.69(1.44-1.98)	<0.0001

F. Correlations between positive response rate of LOS-27 and IV magnesium sulphate**use**

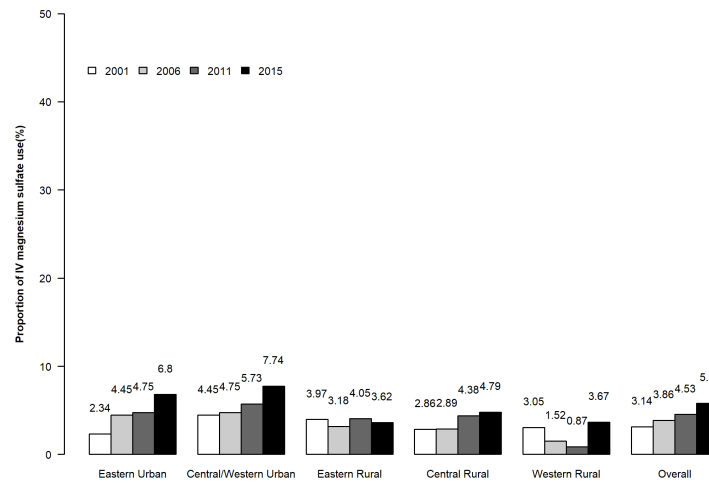
G. Comparisons between patients with and without IV magnesium sulfate therapy after propensity score matching

Characteristics	Use N(%)	Non-Use(%)	P value
Patient characteristics			
Age			
55-64	1072(24.4)	1037(23.6)	.794
65-74	1290(29.4)	1283(29.2)	
<55	938(21.3)	959(21.8)	
≥75	1094(24.9)	1115(25.4)	
Gender			
Female	1346(30.6)	1299(29.6)	.274
Male	3048(69.4)	3095(70.4)	
Hypertension	2247(51.1)	2196(50)	.277
Diabetes	889(20.2)	878(20)	.77
Dyslipidemia	235(5.3)	244(5.6)	.672
Currently smoking	1496(34)	1470(33.5)	.558
Number of risk factors			
1	2055(46.8)	1997(45.4)	.445
2	1049(23.9)	1047(23.8)	
≥3	232(5.3)	229(5.2)	
None	1058(24.1)	1121(25.5)	
Prior ischemic stroke	546(12.4)	484(11)	.040
Prior myocardial infarction	416(9.5)	382(8.7)	.207
Prior CABG/PCI	104(2.4)	107(2.4)	.834
Chest discomfort	4021(91.5)	4046(92.1)	.331
Left branch block at presentation	65(1.5)	44(1.0)	.043
Cardiac arrest at presentation	81(1.8)	79(1.8)	.873
Cardiogenic shock at presentation	279(6.3)	236(5.4)	.051
Acute stroke at presentation	77(1.8)	66(1.5)	.354
Heart rate at presentation, bpm			.733
<50	177(4.0)	183(4.2)	
50-110	3886(88.4)	3898(88.7)	
>110	331(7.5)	313(7.1)	
SBP at presentation, mmHg			.621
<120	1565(35.6)	1607(36.6)	
120-139	1299(29.6)	1307(29.7)	
140-159	913(20.8)	899(20.5)	
≥160	617(14)	581(13.2)	
Medication within 24 hours			
Aspirin	2688(61.2)	2686(61.1)	.965

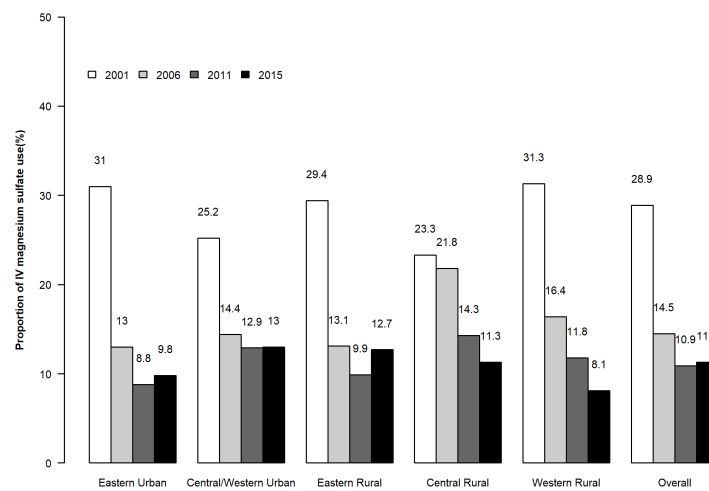
Statins	2398(54.6)	2442(55.6)	.345
ACE inhibitors or angiotensin receptor	2541(57.8)	2567(58.4)	.574
Beta-blockers	1768(40.2)	1748(39.8)	
Clopidogrel	1845(42)	1894(43.1)	.290
Reperfusion therapies			.941
No reperfusion	3130(71.2)	3131(71.3)	
Fibrinolytic therapy	746(17.0)	754(17.2)	
Primary PCI	518(11.8)	509(11.6)	
Hospital characteristics			
Teaching hospital	3462(78.8)	3530(80.3)	.072
PCI-capable hospital	2768(63.0)	2788(63.5)	.650
Hospital level			.451
Secondary or lower	1576(35.9)	1610(36.6)	
Tertiary	2818(64.1)	2784(63.4)	
Economic geographic region			
Central	1115(25.4)	1186(27.0)	.191
Eastern	2360(53.7)	2288(52.1)	
Western	919(20.9)	920(20.9)	
Urban/Rural			
Rural	1724(39.2)	1721(39.2)	.948
Urban	2670(60.8)	2673(60.8)	

H. Trends different dosage of intravenous magnesium sulfate therapy in 2001, 2006, 2011 and 2015 in five economic-geographic regions.

Single dosage of intravenous magnesium sulfate therapy

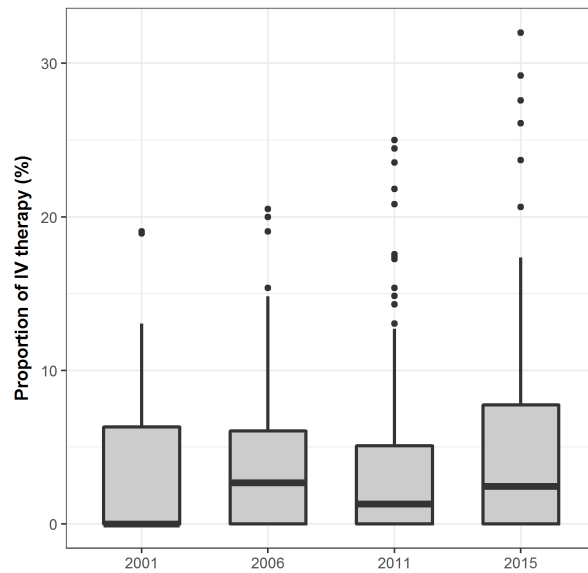


Multiple dosage of intravenous magnesium sulfate therapy

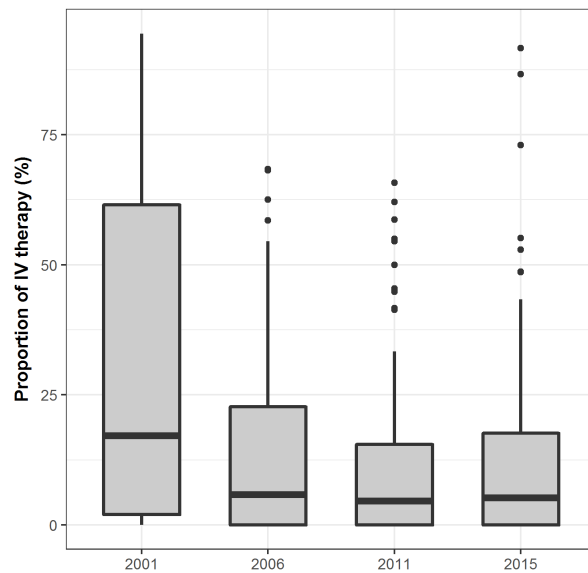


I. Different dosage of IV magnesium sulfate use in 2001, 2006, 2011 and 2015 among all hospitals.

Single dose of IV magnesium sulfate

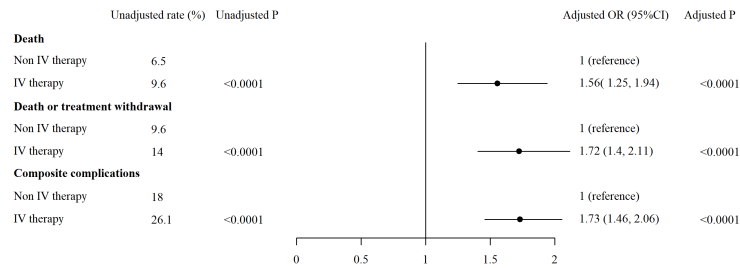


Multiple doses of IV magnesium sulfate



J. In-hospital outcomes between patients with different dosage of and without IV magnesium sulphate.

Single dose compared with no-use of IV magnesium sulphate



Multiple doses compared with no-use of IV magnesium sulphate

