

Appendix A. Emergency Department Information System - Request for Proposal

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Adapted from Model Request for Proposal compiled by Todd B. Taylor, MD, FACEP, and Mercy Hospital of Pittsburgh, Department of Emergency Medicine, Computerization Work Group

Vendor Instructions:

Please indicate the availability each feature by placing a check-mark (or where appropriate a date or dollar figure) in the appropriate column to indicate the status of the feature as defined below. Space is made available for you to write in features not listed under the appropriate categories. If you need more space to comment, please note the item by the section letter and item number (i.e. "ED Patient Log" would be "A-1").

N.B. Terms in the *Interface Section* are neologisms defined in *About Face: Essentials of User Interface Design* by Alan Cooper.

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|--------------------------|---|
| Standard | The item is a standard feature of your system and available without modifying the source code. (Note: Setting table parameters & data entry is not considered as a modification to source code.) The item must be fully operational at more than one site. (If in beta testing list as "planned".) |
| With Modification | The feature is available with minor software modifications or as a third party add-in (Please note details in comment field). List an estimate of the additional costs associated with this modification. |
| Planned Date | The feature is not currently available but you have definite plans to add it in the future. Please indicate by quarter of the year (e.g., 3Q05 or 1Q06). |
| Comments | Special requirements, considerations, or clarification associated with the feature. |
| Not Available | Leave all columns blank if the feature is not available and not <i>currently</i> under development. |

| # | Item | Standard | With Modification | Planned Date | Comments |
|----------|---|----------|-------------------|--------------|----------|
| A | Available Modules and Basic Features | | | | |
| 1 | ED Patient Log | | | | |
| 2 | Patient Registration Module | | | | |
| 3 | Patient Tracking | | | | |
| 4 | Single, rapid, secure sign-on | | | | |
| 5 | Triage | | | | |
| 6 | Nursing Care Documentation | | | | |
| 7 | Physician Charting | | | | |
| 8 | On-line historical chart availability | | | | |
| 9 | Integration with Other Systems | | | | |
| 10 | EKG/Laboratory/Radiology Interface | | | | |
| 11 | Monitoring/Telemetry | | | | |
| 12 | Point-of-Care Testing | | | | |
| 13 | Hospital Pharmacy | | | | |
| 14 | Hospital Medical Staff Roster | | | | |
| 15 | On-call physician roster management | | | | |
| 16 | Phone dialing & call logging | | | | |
| 17 | Auto Fax Capable | | | | |
| 18 | CQI/TQM Capability | | | | |
| 19 | Report generation | | | | |
| 20 | Concurrent risk management for on-line QA | | | | |
| 21 | Patient Satisfaction Survey | | | | |
| 22 | Critical Pathways | | | | |
| 23 | Custom SQL queries | | | | |
| 24 | Diagnosis Coding | | | | |
| 25 | Trauma Registry | | | | |

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|----|--|----------|-------------------|--------------|----------|
| 26 | Biosurveillance | | | | |
| 27 | Disaster Management (e.g., massive casualties) | | | | |
| 28 | Personnel Management | | | | |
| 29 | Emergency Physician Scheduling | | | | |
| 30 | Nurse/Ancillary Personnel Scheduling | | | | |
| 31 | Hospital-Wide System Capability (i.e. ICU, med/surg, lab, pharmacy, etc. capability) | | | | |
| 32 | Resource/Materials Management Capability | | | | |
| 33 | Patient Billing | | | | |
| 34 | Reference Material (i.e. On-line textbooks) | | | | |
| 35 | Discharge Planning & Instructions | | | | |
| 36 | Prescription Writing/Faxing | | | | |
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| B | Software Details | | | | |
|----------|---|--|--|--|--|
| 1 | Client-server architecture | | | | |
| 2 | Operating System (i.e. Unix, Win NT, Win 95) | | | | |
| 3 | Relational database subsystem (i.e. Oracle, MS SQL) | | | | |
| 4 | Front end system (i.e. MS Access, Paradox) | | | | |
| 6 | HL-7 compliance (with version number) | | | | |
| 7 | POSIX compliance | | | | |
| 8 | TCP/IP messaging | | | | |
| 9 | Sub-second response times | | | | |
| 10 | 100% up-time | | | | |
| 11 | Zero down-time for upgrades (no more than single server-reboot cycle) | | | | |
| 12 | Real-time data transfer between applications and institutions | | | | |
| 13 | Integrates multiple sites | | | | |
| 14 | Secure methodology for off-site access to system | | | | |
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| C | Hardware Details (please cite type/numbers usually required) | | | | |
|----------|--|--|--|--|--|
| 1 | Recommended File Server | | | | |
| 2 | Backup Server(s) or Methodology | | | | |
| 3 | Infrastructure for instant re-routing on system failure, or during backups | | | | |
| 4 | Work stations | | | | |
| 5 | Desktop | | | | |
| 6 | Bedside wall mounted LCD flat screen | | | | |
| 7 | Bedside rack mounted | | | | |
| 8 | Tablet PC | | | | |
| 9 | Portable Data Assistant (PDA) | | | | |
| 10 | Network Configuration | | | | |
| 11 | Type (i.e. TPE, AUI, BNC) | | | | |
| 12 | Topology (i.e. token ring, star) | | | | |
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| D | ED Log/Registration Features | | | | |
| 1 | Customizable registration data input screens | | | | |
| 2 | “Single-swipe” registration using provincial Medicare cards, with download of demographics from magnetic stripe | | | | |
| 3 | Demographic registration download from hospital system | | | | |
| 4 | Integrates optional quick-triage | | | | |
| 5 | Allows pre-hospital “call-in” registration | | | | |
| 6 | Allows bedside registration | | | | |
| 7 | John/Jane Doe quick registration | | | | |
| 8 | Merge John/Jane Doe charts with final chart | | | | |
| 9 | CEDIS presenting complaints | | | | |
| 10 | JCAHO Compliant ED log | | | | |
| 11 | Data upload to hospital system | | | | |
| 12 | Out-of-province liability forms produced/signed at registration | | | | |
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| E | Patient Tracking Features | | | | |
|----------|---|--|--|--|--|
| 1 | Automatic patient tracking via infrared or other method | | | | |
| 2 | Patient movement creates location time stamp log | | | | |
| 3 | Assign nurse to patient | | | | |
| 4 | Assign same nurse to multiple patients in single step | | | | |
| 5 | Assign doctor to patient | | | | |
| 6 | Assign same doctor to multiple patients in single step | | | | |
| 7 | Transfer multiple patients between providers in single step | | | | |
| 8 | Anonymous login for infrequent users | | | | |
| 9 | Electronic signature available for validation | | | | |
| 10 | Accept and verify “after the fact” actions | | | | |
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| F | Status Board Displays | | | | |
|----------|---|--|--|--|--|
| 1 | Customizable fields on status board displays | | | | |
| 2 | Text metaphor of the ED for patient location tracking | | | | |
| 3 | Graphical metaphor of the ED for patient location tracking | | | | |
| 4 | Alert of room status (i.e. clean, dirty, saved) | | | | |
| 5 | Alert to signify individual patient triage status | | | | |
| 6 | Alert to signify overall department status, i.e. Department Workload measurements | | | | |
| 7 | Alert set to customizable thresholds for waiting times, etc. | | | | |
| 8 | Can select sub-views of ED | | | | |
| 9 | Sub-views offer graphical indication of number of patients in various categories in other parts of ED. | | | | |
| 10 | Different default sub-views for specific PCs/tablet PCs/PDAs | | | | |
| 11 | Different default sub-views for specific users/user groups: worklists per caregiver, station, or shift | | | | |
| 12 | Nursing sub-views show orders due | | | | |
| 13 | Displays flag when all pending actions are completed (i.e., patient ready for re-evaluation or disposition) | | | | |

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| 14 | Monitor the return of lab tests and visually flag lab results that are delayed more than a specified amount of time | | | | |
| 15 | Flag abnormal vital signs in an obvious way | | | | |
| 16 | Flag critical lab values in an obvious way | | | | |
| 17 | One-click display of lab values from personalized status screens | | | | |
| 18 | Optional cascading windows or similar option for more than one patient in a room & available for all rooms | | | | |
| 19 | Can use hallway positions as "rooms" | | | | |
| 20 | Indicators for "out-of-department" patients available for all tracking screens. | | | | |
| 21 | "Out-of-department" indicators allow access to full patient display on request | | | | |
| 22 | Continuously-incremented length-of-stay indicator available | | | | |
| 23 | "Quick lookup" when someone calls about a patient: by name; shows patient status | | | | |
| 24 | Tracking board as "screen blanker" after set time period | | | | |
| 25 | Visual Analog Indications Of: | | | | |
| 26 | # patients in waiting room waiting to be brought to a room | | | | |
| 27 | # patients in a room waiting to be seen by a physician | | | | |
| 28 | # patients seen by physician but awaiting completion of nursing tasks | | | | |
| 29 | # patients awaiting completion of diagnostic tests | | | | |
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| G | Triage | | | | |
|----------|--|--|--|--|--|
| 1 | Automated vital signs input (direct from automated monitors) with validation/correction | | | | |
| 2 | Listing of currently-available triage algorithms | | | | |
| 3 | Customizable algorithms for triage ordering of labs & x-rays by triage nurse | | | | |
| 4 | Triage algorithms can be branching based on user choices | | | | |
| 5 | Triage algorithms can display graphical elements (e.g., picture of ankle and foot to explain Ottawa criteria). | | | | |
| 6 | Presenting complaint/triage information can trigger specific question prompts, i.e. SARS screening | | | | |
| 7 | Automated entry of historical data from prior visits, including: | | | | |
| 8 | Allergies | | | | |
| 9 | Previous tetanus toxoid administration date, if logged | | | | |
| 10 | Advance Directives | | | | |
| 11 | Special needs | | | | |
| 12 | Automated entry of common complaints | | | | |
| 13 | Automated entry of common medications/dosages | | | | |
| 14 | Automated entry of common past medical history | | | | |
| 15 | Entry of textual data for uncommon complaints via: | | | | |
| 16 | Keyboard | | | | |
| 17 | Check off boxes | | | | |
| 18 | Mouse | | | | |
| 19 | Touch screen | | | | |
| 20 | Pen Stylus | | | | |
| 21 | Handwriting recognition | | | | |
| 22 | Voice recognition | | | | |
| 23 | Method for postponing detailed triage notes in urgent situations (e.g., Jane/John Doe) | | | | |

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| 24 | Management of incoming calls from referring physicians and flags patient icon/entry to show this status | | | | |
| 25 | Management of incoming calls for patients not known to system & "attach" to patient record once patient arrives | | | | |
| 26 | Location assignment from any terminal | | | | |
| 27 | Assign rooms ahead of ambulance arrival | | | | |
| 28 | System monitor at entrance directs EMS correct room (e.g., shows "Ambulance 235" over "Stretcher 10" on geographic display) | | | | |
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| H | Nursing Care Documentation/Ordering | Standard | With Modification | Planned Date | Comments |
|----|---|----------|-------------------|--------------|----------|
| 1 | Same capability as "Triage" module | | | | |
| 2 | Automated vital signs input (direct from automated monitors) with validation/correction | | | | |
| 3 | Extended vital signs (e.g., orthostatics, mental status, GCS) | | | | |
| 4 | Automated entry of nursing assessment | | | | |
| 5 | Automated entry of common charting notations | | | | |
| 6 | Entry of textual data for uncommon items | | | | |
| 7 | Keyboard | | | | |
| 8 | Check off boxes | | | | |
| 9 | Mouse | | | | |
| 10 | Touch screen | | | | |
| 11 | Pen Stylus | | | | |
| 12 | Handwriting recognition | | | | |
| 13 | Voice recognition | | | | |
| 14 | Automated entry of common medications/dosages | | | | |
| 15 | Method for postponing detailed notes in urgent situations | | | | |
| 16 | Method for entering notes for unknown patient (e.g., John Doe) | | | | |
| 17 | Algorithm notation for common situations (e.g., cardiac arrest) | | | | |
| 18 | Listing of all currently available algorithms provided | | | | |
| 19 | Calculation of common drips (e.g. nitroglycerine) | | | | |
| 20 | Document medications, including IVs | | | | |
| 21 | Flag critical information for physician to review | | | | |
| 22 | Document patient education | | | | |
| 23 | Date/time stamp for each activity | | | | |
| 24 | Bedside ordering (treatment, lab, x-ray) | | | | |
| 25 | Label-printing for lab samples | | | | |
| 26 | Auto-page porters for specimen pickup with status collected | | | | |
| 27 | Print medication information, discharge instructions | | | | |
| 28 | Incident reporting | | | | |
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|----------|---|----------|-------------------|--------------|----------|
| I | Physician Charting | | | | |
| 1 | Same capability as nursing module | | | | |
| 2 | Customizable for individual physicians | | | | |
| 3 | Review & print all data collected to date | | | | |
| 4 | Historical chart review | | | | |
| 5 | Automatic entry with confirmation of chief complaint, medications, allergies, PMH, SOC, FH, etc. | | | | |
| 6 | Automated entry of common history and physical exam items | | | | |
| 7 | Entry of textual data for uncommon items | | | | |
| 8 | Keyboard | | | | |
| 9 | Check off boxes | | | | |
| 10 | Mouse | | | | |
| 11 | Touch screen | | | | |
| 12 | Pen Stylus | | | | |
| 13 | Handwriting recognition | | | | |
| 14 | Voice recognition | | | | |
| 15 | Integrated voice dictation/transcription | | | | |
| 16 | Annotated anatomical drawings | | | | |
| 17 | Document patient education | | | | |
| 18 | Optional automated printing of bar code-labeled physician paper chart, for seamless auto-scanning as image file into history field of physician chart | | | | |
| 19 | Automated scanning of paper charts produced during periods of system down-time, into electronic medical record | | | | |
| 20 | Importing of digital images into documentation | | | | |
| 21 | Listing of current algorithms available | | | | |
| 22 | Algorithm ordering of labs & x-rays for common problems | | | | |
| 23 | Algorithm charting for common situations & procedures (e.g., cardiac arrest, chest tube, intubation) | | | | |
| 24 | Incorporation of Clinical Practice Guidelines | | | | |
| 25 | Flag potentially inappropriate orders; ask for confirmation | | | | |
| 26 | Automatic calculation of clinical scoring systems (pneumonia severity index, Glasgow Coma Score, Apache score, etc.) | | | | |
| 27 | Automated entry of common medications/dosages | | | | |
| 28 | Calculation of common medication dosages by weight | | | | |
| 29 | Charting & Ordering (treatment, lab, x-ray) | | | | |
| 30 | Bedside | | | | |
| 31 | Desktop Workstation | | | | |
| 32 | Mobile/wireless | | | | |
| 33 | Flag "stat" critical nursing orders | | | | |
| 34 | Advance Directives | | | | |
| 35 | Free text ordering for irregular orders | | | | |
| 36 | Incident reporting | | | | |
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|----------|---|----------|-------------------|--------------|----------|
| J | Pharmacy Ordering/Prescription Writing | | | | |
| 1 | Default order "sets" | | | | |
| 2 | Customizable orders for individual physicians/groups | | | | |
| 3 | Free text orders, i.e. for irregular/untemplated orders | | | | |
| 4 | Quick selection of common medications | | | | |
| 5 | Automatic calculation of dose based on weight | | | | |
| 6 | Automatic adjustment of dose based on renal function, if available in lab system | | | | |
| 7 | Include patient drug information with discharge instructions | | | | |
| 8 | Allergy checking | | | | |
| 9 | Drug interaction checking including patients current meds | | | | |
| 10 | Checking lab values for drug contraindications, i.e. elevated creatinine | | | | |
| 11 | Ability to check New Brunswick Prescription Drug, Blue Cross, etc. formularies for coverage | | | | |
| 12 | Relative cost data with suggested alternative | | | | |
| 13 | Recommended drugs for common treatments | | | | |
| 14 | Electronic signing of verbal physician orders | | | | |
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|----------|--|--|--|--|--|
| K | Results Reporting | | | | |
| 1 | "One-click" call-up of results from tracking displays | | | | |
| 2 | Reporting of laboratory values to personalized displays (i.e. workstations, tablet PC, PDA, etc.) | | | | |
| 3 | Alerts for critical laboratory values to personalized displays (i.e. physician's tablet PC, PDA, pager, etc.) | | | | |
| 4 | Highlights critical lab values, abnormal values | | | | |
| 5 | Graphing of numeric results as trend over time | | | | |
| 6 | Ability to copy results to other parts of chart, i.e. consultant letters | | | | |
| 7 | Electronic signing of results, discharge summaries, etc. | | | | |
| 8 | Incorporates Point-of-Care test results | | | | |
| 9 | Accepts lab data input from ED personnel (urinalyses, urine pregnancy tests, rapid strep tests) and can track separately from patient record for QA purposes | | | | |
| 10 | Radiology Readings: | | | | |
| 11 | Accepts x-ray interpretations by emergency physician | | | | |
| 12 | Allows radiologists to flag significant discrepancies on-screen and alert on-duty ED personnel | | | | |
| 13 | For flagged discrepancies, will seek out and input radiology reading from radiology transcription system | | | | |
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|----------|---|--|--|--|--|
| L | Discharge Planning & Instructions | | | | |
| 1 | Multilingual | | | | |
| 2 | French | | | | |
| 3 | Other | | | | |
| 4 | Basic Discharge Data Set | | | | |
| 5 | # of instructions included | | | | |
| 6 | Based on (e.g., Ohio ACEP set, proprietary, etc.) | | | | |

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| 7 | Customizable to individual physician | | | | |
| 8 | Ability to initiate discharge planning (i.e. patient education) at any point (e.g., from triage) | | | | |
| | Work/school release | | | | |
| 9 | Physician referral with automatic phone/address information | | | | |
| 10 | Ability to provide directions to common locations (e.g., nearby 24-hour pharmacies) | | | | |
| 11 | Ability to manage/print common forms (e.g., AMA, informed consents, transfer) | | | | |
| 12 | Can log patient's signature electronically for above, to acknowledge receipt of discharge instructions, etc. | | | | |
| 13 | System can be set to require a physician signature on any EKG prior to patient leaving the ED | | | | |
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| M | Integration with Other Systems | Standard | With Modification | Planned Date | Comments |
|----|---|----------|-------------------|--------------|----------|
| 1 | Emergency Department record merges seamlessly into Hospital Information System/inpatient record | | | | |
| 2 | Integrates with hospital's lab-ordering & reporting system | | | | |
| 3 | Integrates with hospital radiology dictation/reporting/digital imaging display systems | | | | |
| | Order "panels" of labs via lab-ordering features | | | | |
| 4 | Automatically fax or hard-copy visit summary to primary-care physician | | | | |
| 5 | Automatically fax or hard-copy visit summary to consultants or clinics | | | | |
| 6 | "One-touch" buttons for consulting/paging with easily-updated daily on-call table | | | | |
| 7 | Print order requisitions in all departments, where required | | | | |
| 8 | Provide a list commercial systems that have been integrated: | | | | |
| 9 | Eclipsys E7000 HIS | | | | |
| 10 | Cerner laboratory | | | | |
| 11 | Cerner pharmacy | | | | |
| 12 | Agfa IMPAX | | | | |
| 13 | Meditech Payroll/Personnel | | | | |
| 14 | Datex-Ohmeda monitoring | | | | |
| 15 | SpaceLabs monitoring | | | | |
| 16 | HP PageWriter XLI cardiographs | | | | |
| 17 | Medtronic LIFEPAK 12 | | | | |
| 18 | Pulmonetic Systems LTV 1000 ventilator | | | | |
| 19 | Puritan Bennett 7200 ventilator | | | | |
| 20 | BiPAP Vision ventilator | | | | |
| 21 | Nellcor N-20 oximetry | | | | |
| 22 | capnography | | | | |
| 23 | Burdick Spirotouch | | | | |
| 24 | Abbott LifeCare i.v. infusion pumps | | | | |
| 25 | Baxter i.v. infusion pumps | | | | |
| 26 | i-STAT | | | | |
| 27 | Bayer Clinitek | | | | |
| 28 | SMS messaging | | | | |
| 29 | Access to hospital intranet: library services, Micromedex, etc. | | | | |
| 30 | Access to Internet: PubMed, ncemi.org, etc. | | | | |
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| N | CQI/TQM Capability | | | | |
| 1 | Concurrent risk management for on-line QA | | | | |
| 2 | Automatically track QA parameters for delayed analysis | | | | |
| 3 | Critical Pathways | | | | |
| 4 | Follow-up & call back tracking | | | | |
| 5 | Patient Satisfaction Survey | | | | |
| 6 | User defined chart flags | | | | |
| 7 | Census Analysis (# of patients in ED by hour, shift, day, week, month, year, etc.) | | | | |
| 8 | Number & percentages of patients: | | | | |
| 9 | seen in different ED areas | | | | |
| 10 | by disposition (i.e. admit, transfer, discharge) | | | | |
| 11 | by acuity | | | | |
| 12 | by type of diagnosis | | | | |
| 13 | Sort & Report By: | | | | |
| 14 | disposition (i.e. admit, transfer, discharge) | | | | |
| 15 | acuity | | | | |
| 16 | type of diagnosis | | | | |
| 17 | patients seen by a particular doctor or nurse | | | | |
| 18 | death reports | | | | |
| 19 | reportable diseases | | | | |
| 20 | return visits within a specified time frame | | | | |
| 21 | Custom Queries: | | | | |
| 22 | relational database: Note name if commercial product | | | | |
| 23 | database dictionary of all tables, fields, result types/names | | | | |
| 24 | decryption key(s) for any encrypted data fields | | | | |
| 25 | Query by Example (QBE) | | | | |
| 26 | allows user-entered SQL queries on all data fields | | | | |
| 27 | automatic scheduled periodic SQL queries, with automatic alerts for specified abnormals (i.e. for biosurveillance) | | | | |
| 28 | Time Capture Log | | | | |
| 29 | Patient arrival | | | | |
| 30 | Triage | | | | |
| 31 | Registration | | | | |
| 32 | To room | | | | |
| 33 | Seen by physician | | | | |
| 34 | Orders given | | | | |
| 35 | IV starts, drugs administered, other treatments | | | | |
| 36 | Labs drawn and sent | | | | |
| 37 | Labs expected back (user-customizable time frame) | | | | |
| 38 | Labs back | | | | |
| 39 | Time to x-ray, etc. | | | | |
| 40 | Back from x-ray, etc. | | | | |
| 41 | Phone consult ordered (and name or service) | | | | |
| 42 | Consultant paged | | | | |
| 43 | Consultant answered | | | | |
| 44 | Consultant arrived | | | | |
| 45 | Disposition decision made | | | | |
| 46 | Admitting called | | | | |
| 47 | Bed ready | | | | |
| 48 | Patient disposition completed | | | | |
| 49 | Time to X-ray report by radiologist | | | | |
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| O | Diagnosis/Intervention Coding | | | | |
| 1 | Automatic ICD-9 coding from diagnosis | | | | |
| 2 | Automatic ICD-10-CA coding from diagnosis | | | | |
| 3 | Automatic CCI (Canadian Classification of Health Interventions) coding from orders & procedure notes | | | | |
| 4 | Will integrate and automatically produce local procedural coding systems (i.e. New Brunswick Medicare) | | | | |
| 5 | Supports NANDA International Taxonomy II for nursing diagnoses | | | | |
| 6 | Supports current Nursing Intervention Classifications (NIC) and Nursing Outcomes Classifications (NOC) | | | | |
| 7 | Integration with Canadian Institute of Health Informatics databases: | | | | |
| 8 | Canadian Medication Incident Reporting and Prevention System (CMIRPS) | | | | |
| 9 | Canadian Organ Replacement Register (CORR) | | | | |
| 10 | Continuing Care Reporting System (CCRS) | | | | |
| 11 | Hospital Morbidity Database (HMDB) | | | | |
| 12 | National Ambulatory Care Reporting System (NACRS) | | | | |
| 13 | National Prescription Drug Utilization Information System (NPDUIS) | | | | |
| 14 | National Trauma Registry (NTR) | | | | |
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|----------|--|--|--|--|--|
| P | Patient Billing | | | | |
| 1 | Automatic posting of charges & supplies | | | | |
| 2 | Automatic charge capture | | | | |
| 3 | Billing review at time of service | | | | |
| 4 | Interface with standard billing software | | | | |
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| Q | Reference Material | | | | |
| 1 | On-line textbooks | | | | |
| 2 | Emergency Drug Reference | | | | |
| 3 | Dosage information | | | | |
| 4 | ACLS algorithms | | | | |
| 5 | Hospital policy and procedure repository | | | | |
| 6 | Hospital forms repository (e.g., AMA, Informed Consent) | | | | |
| 7 | Critical pathways | | | | |
| 8 | Patient education databases | | | | |
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Appendix A. Emergency Department Information System - Request for Proposal

| # | Item | Standard | With Modification | Planned Date | Comments |
|----------|---|----------|-------------------|--------------|----------|
| R | Hospital Personnel Management | | | | |
| 1 | Emergency Physician Scheduling | | | | |
| 2 | Nurse/Ancillary Personnel Scheduling | | | | |
| 3 | Acuity based staffing reports | | | | |
| 4 | ED staff addresses and phone numbers on secured system | | | | |
| 5 | Medical Staff Roster | | | | |
| 6 | On-line hospital medical staff roster | | | | |
| 7 | On-call physician roster management | | | | |
| 8 | Sort by specialty | | | | |
| 9 | Sort by managed care plan | | | | |
| 10 | Sort by office location | | | | |
| 11 | One-touch dialing/paging for all staff | | | | |
| 12 | Users able to log suggested corrections to any data table for later review/approval by system administrator | | | | |
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| S | Trauma Registry | | | | |
|----------|--|--|--|--|--|
| 1 | Injury Severity Score | | | | |
| 2 | Revised Trauma Score | | | | |
| 3 | Weighted Trauma Score | | | | |
| 4 | Trauma Score-Injury Severity Score (TRISS) | | | | |
| 5 | Glasgow Coma Score | | | | |
| 6 | Pediatric Glasgow Coma Score | | | | |
| 7 | Probability of survival calculations | | | | |
| 8 | Database for capture of standard trauma data | | | | |
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| T | Resource/Materials Management Capability | | | | |
|----------|--|--|--|--|--|
| 1 | Supply ordering and maintenance | | | | |
| 2 | Restock/resupply lists | | | | |
| 3 | Equipment tracking (i.e. EMS equipment left with patient flagged for return, sign out equipment borrowed by other departments) | | | | |
| 4 | Automatic equipment tracking (i.e. infrared system similar to that used to track patients) | | | | |
| 5 | Maintenance schedule tracking | | | | |
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Appendix A. Emergency Department Information System - Request for Proposal

| # | Item | Standard | With Modification | Planned Date | Comments |
|----------|--|----------|-------------------|--------------|----------|
| U | Hospital-Wide System Capability Modules | | | | |
| 1 | Can relevant parts of the Emergency Department record be retrieved by receiving or consulted staff in: | | | | |
| 2 | ICU | | | | |
| 3 | Medical/Surgical Floor | | | | |
| 4 | Surgical Unit | | | | |
| 5 | Laboratory | | | | |
| 6 | Pharmacy | | | | |
| 7 | Radiology | | | | |
| 8 | Occupational Health | | | | |
| 9 | Outpatient Clinic | | | | |
| 10 | Off-site Primary Care Providers | | | | |
| 11 | Off-site Consultants | | | | |
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| V | Disaster Management | | | | |
| 1 | Method for handling a disaster (e.g., massive casualties) | | | | |
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|----------|--|--|--|--|-----------------|
| W | Patient Record Management | | | | |
| 1 | Archive Capacity expressed in # of patient records | | | | |
| 2 | Concurrent charting by doctor, nurse, clerk, etc. | | | | |
| 3 | Post discharge addenda | | | | |
| 4 | Electronic signature | | | | |
| 5 | Records available in on-line storage for up to ?# months | | | | # Months: _____ |
| 6 | Printout of all logged activity for printed chart | | | | |
| 7 | Scanned-image for paper based documents (e.g., EMS, police reports, outside documents) | | | | |
| 8 | Digital image data storage | | | | |
| 9 | EKG | | | | |
| 10 | Radiology | | | | |
| 11 | Photographs | | | | |
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| X | Security | | | | |
| 1 | Security lock out to avoid alterations to chart after completion | | | | |
| 2 | Option to append notes to chart after completion | | | | |
| 3 | Login for each interaction | | | | |
| 4 | Login at terminal until logout | | | | |
| 5 | Login allowed only by those scheduled to work | | | | |
| 6 | Login from pick list | | | | |
| 7 | Automatic login via infrared badge, swipe card, finger print, etc. | | | | |
| 8 | Automatic logout after user defined time period | | | | |

Appendix A. Emergency Department Information System - Request for Proposal

| # | Item | Standard | With Modification | Planned Date | Comments |
|---|--|----------|-------------------|--------------|----------|
| 9 | Automatic logout after task completion | | | | |
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| Y | User Interface | | | | |
|----|--|--|--|--|--|
| 1 | Direct-manipulation for common actions, e.g., drag-and-drop: | | | | |
| 2 | Moving patients | | | | |
| 3 | Applying nurses to patients | | | | |
| 4 | Applying physicians to patients | | | | |
| 5 | Changing patient status | | | | |
| 6 | Entering orders | | | | |
| 7 | Modal option for drag & drop (i.e., can pick up once and drop multiple times, e.g., for applying nurse to multiple patients) | | | | |
| 8 | Other options for batch reassignment of patients to a new nurse or physician | | | | |
| 9 | System knows which nurse is assigned to which area, and offers to change nurse to new area nurse when patient transferred from one area to another | | | | |
| 10 | Charged cursor for drag-and-drop operations | | | | |
| 11 | Chord-click and ESC cancel for drag-and-drop with visual stamp of cancellation | | | | |
| 12 | Free cursor hinting to indicate pliancy, or active visual hinting | | | | |
| 13 | Pedagogic vector for all actions | | | | |
| 14 | Keyboard vector for all actions | | | | |
| 15 | Pedagogic vector has teaching link to: direct manipulation, keyboard and button shortcuts | | | | |
| 16 | Popup help ("tooltips") for all screen items | | | | |
| 17 | Indexed context-sensitive hypertext help | | | | |
| 18 | Help system includes tutorial w/ screen shots of major screens. | | | | |
| 19 | Help system has "stay on top" option for at selected dialog box | | | | |
| 20 | Data-entry dialog boxes offer "memory" of recent entries | | | | |
| 21 | Monocline grouping of pedagogic vector (i.e., no menus more than 2 deep) | | | | |
| 22 | Interface totally avoids dialog boxes with meta-questions | | | | |
| 23 | Vendor commits to removing excise tasks found by users | | | | |
| 24 | Status bar with hints | | | | |
| 25 | Uses standard Windows95 button icons for standard functions | | | | |
| 26 | Alphabetical find-by-typing/arrow-key selection for long lists | | | | |
| 27 | One-touch (one-click) access to common secondary programs | | | | |
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| Z | Installation & Training | | | | |
|---|---|--|--|--|--------|
| 1 | Average installation time required | | | | Days: |
| 2 | Typical amount of training time necessary for each end user | | | | Hours: |
| 3 | Per hour cost for additional training after initial training period | | | | |
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Appendix A. Emergency Department Information System - Request for Proposal

| # | Item | Standard | With Modification | Planned Date | Comments |
|-----------|--|----------|-------------------|--------------|-----------------|
| AA | Fault Tolerance | | | | |
| 1 | Average mean time between failures based on past experience | | | | Months: |
| 2 | Zero downtime via redundancy, mirroring, instant re-routing | | | | |
| 3 | Standby off-site disaster recovery | | | | |
| 4 | Method for rapid recovery from software crashes | | | | |
| 5 | Support days/hours: | | | | Days: Times: |
| 6 | Anticipated longevity of current product | | | | |
| 7 | Will the company continue to support/upgrade current hardware platforms? | | | | |
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|-----------|--|--|--|--|------|
| AB | Company Business History | | | | |
| 1 | Year established: | | | | 19__ |
| 2 | Corporate structure (e.g. publicly traded, privately owned): | | | | |
| 3 | Number of full time employees: | | | | |
| 4 | Number of current installations (excluding alpha/beta sites): | | | | |
| 5 | Number of Canadian installations (excluding alpha/beta sites): | | | | |
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