

3.0 SCOPE OF WORK

The current GME (Graduate Medical Education) Resident Tracking Software is a home grown system using both Word and Excel as its base and designed by the Department of Graduate Medical Education for their specific applications. Software required under this proposal must be able to import existing data into a centralized data location and to complete tasks historically performed using multiple, incompatible methods through one common interface.

This contract is for the Software, Training and Maintenance of the Resident Software Tracking System.

3.0.1 **The Contractor's application must incorporate the following design elements**

- 3.0.2 The Contractor's design must have web interface that uses open (non-proprietary) standards such as HTML, XHTML, XML, CSS, XForms, etc.
- 3.0.3 The Contractor's application must work with Internet Explorer Version 6 and above, Mozilla based browsers such as Firebox and Apple's Safari browser and support text based formats.
- 3.0.4 The Contractor's design elements must be separate from data elements by way of the use of "Cascading Style Sheets" or similar open standard that separates data elements.
- 3.0.5 The Contractor's application must have built in encryption by way of an open standard, such as Secure Sockets Layer (SSL/https).
- 3.0.6 The Contractor's system must meet confidentiality standards for the transfer of electronic healthcare records as outlined by HIPAA.
- 3.0.7 The Contractor's system must use open or readily accessible proprietary standards (SQL-based, Oracle, etc.)
- 3.0.8 Mobile Device Compatibility
 - 3.0.8.1 Mobile Devices must be supported by way of device independent technology.
 - 3.0.8.2 Software must support mobile devices such as PDAs (Pocket PC or Palm), smart phones such as Blackberry, iPhones or any other cell phone with internet browser capability.
 - 3.0.8.3 Software must support real-time or docking device synchronization upload to the server.
 - 3.0.8.4 Software must simplify installation downloads from the Web.

- 3.0.8.5 Software must allow the user to enter data through mobile device including (not limited to) conferences, duty hours, procedure logs and schedules.
- 3.0.9 General Reporting and Audit Capability
 - 3.0.9.1 Software must provide the ability to produce standard summary reports as well as include the capability to produce custom reporting (ad hoc).
 - 3.0.9.2 Software must support functionality with external report writers (e.g. Crystal Reports) and/or flat file export capability of select data elements for reporting needs.
 - 3.0.9.3 Software must provide the ability to identify data changes through and audit report.
- 3.0.10 General System Access Management
 - 3.0.10.1 Software accessibility must be managed by a designated system administrator located at UMDNJ. The administrator will manage system users and systems access including (not limited to) adding/deleting users, access restriction to system functionality and read-only capability and access to input/modify data. Preferably, the system should allow for the development of user types to manage system access.
- 3.0.11 General Archive and Retrieval Capability
 - 3.0.11.1 The system must allow unlimited real-time access to historical data reference and reporting needs.

3.1 **Affiliate Hospital Monthly Billing**

The GME office must prepare a monthly affiliate billing report based upon the resident rotation schedules in order for the New Jersey Medical School (NJMS) Office of Finance to generate an invoice for the reimbursement of resident salaries from the affiliate hospitals.

- 3.1.1 Software must have the ability to calculate affiliate hospital charges based upon resident block schedules and contract terms.
- 3.1.2 Software must have the ability to manage affiliate hospital contract terms to ensure accuracy in calculating invoice amounts.
- 3.1.3 Software should provide the capability to manage invoices issued internally for review (draft) and externally (final) for payment. This includes the ability to draft preliminary invoices, tracking ability for outstanding invoices and documentation/audit trail of modified final invoices.
- 3.1.4 Software must support invoice processing of multiple funding sources including internal accounts, external accounts and grants.

- 3.1.4 Software must provide the ability to produce standard summary reports as well as include the capability to produce custom reporting (ad hoc).

3.2 Evaluations

The Accreditation Council for Graduate Medical Education (ACGME), NJMS, GME programs and University require that evaluations relative to the performance of the house staff, rotation experience and faculty assessments are completed. A standard system and centralized repository is necessary to ensure that these requirements are met.

- 3.2.1 Software accessibility must be managed by a designated system administrator located at UMDNJ. The administrator will determine user access to the system including, the ability to design/develop evaluations, to complete evaluations, view access, modify, approve/acknowledge, and retrieval of historical information.
- 3.2.2 Software must provide both standard/basic evaluation forms as well as provide options for customization.
- 3.2.3 Software must provide the ability to measure responses based upon a variety of scales, including, frequency and competency scales.
- 3.2.4 Software must allow for free-text entry of additional comments and feedback not captured elsewhere in the evaluation questionnaire.
- 3.2.5 Software should have the capability to automatically generate a notice to complete and of completed evaluations as well as generate periodic reminders of outstanding submissions. System should allow distribution to multiple personnel to track compliance.
- 3.2.6 Software must enable the completion of an evaluation for any personnel regardless of assignment (i.e. assessor need not have worked directly with assessee).
- 3.2.7 Software must allow for anonymous feedback submission as indicated.
- 3.2.8 Software must allow for electronic signature of assessor, assessee and other personnel.
- 3.2.9 Software must allow the assessee an opportunity to provide evaluation review feedback and for the assessor to provide final review comments.
- 3.2.10 Software should allow for select users to designate evaluation drafts as read-only after submission (e.g. post assessor submission but prior to review with assessee). A final evaluation (post review with assessee) should be saved disallowing further modifications or additions as indicated by a selected user. Evaluations should be accessible as read-only at all times.

- 3.2.11 Software must provide the ability to produce standard summary reports as well as include the capability to produce custom reporting (ad hoc). Summary reports must include department/peer score averages, median scores, mean and totals for a specific timeframe, individual response averages, minimum/maximum score averages for a determined period of time and program and standard deviation for all calculated aggregate scores.
- 3.2.12 Software should produce audit reporting capability throughout the evaluation process (i.e. complete evaluation, review with assessee, append signatures, etc.) to support compliance efforts.

3.3 Block Schedules

Block schedules are the driving force in the program office, GME office, finance, affiliate hospital and other departments where house staff rotate. They are the source documentation for the IRIS report and Medicare billing.

- 3.3.1 Software accessibility must be managed by a designated system administrator located at UMDNJ. The administrator will determine user access to the system including, the ability to design/develop rotation schedules, to complete and approve schedules, assign view-only access, modify rotation schedules as needed, and archive capability.
- 3.3.2 Software must allow for the development hourly, daily, weekly and monthly rotation schedule design.
- 3.3.3 Software must allow users to identify the rotation by location (e.g. 5West Newborn), training site (e.g. University Hospital), experience type (e.g. inpatient) and the specialty associated with the rotation (e.g. Pediatrics). The software should have the capability to identify rotations as clinical, non-clinical, research and elective.
- 3.3.4 Software must have a user friendly web interface entry of departmental block schedules.
- 3.3.5 Software must allow view and modification capability by program, by department, by trainee, and by overall GME program.
- 3.3.6 Software must be able to have block schedules that trigger evaluation notifications.
- 3.3.7 Software must allow staff from different departments to schedule simultaneously.
- 3.3.8 Software must provide the ability to produce standard summary reports as well as include the capability to produce custom reporting (ad hoc). Standard reports should include (not limited to) personal rotation schedules, departmental schedules (by location, by specified daily/weekly/monthly view etc.) and FTE summary by location/department or other rotation indicators.

3.4 **Continuity Clinics**

All house staff must track the patients and procedures they perform in order for them to fulfill ACGME and specialty board requirements. The Continuity Clinic module must track a history of each patient that a physician sees and patient diagnosis.

- 3.4.1 Software accessibility must be managed by a designated system administrator located at UMDNJ. The administrator will determine user access to the system including, the ability to input/modify/view case logs.
- 3.4.2 Software must have the capability to limit view of protected health information at the record level by an individual user.
- 3.4.3 Software must allow for the case to be identified as a continuity clinic visit.
- 3.4.4 Software must provide the ability to produce standard summary reports as well as include the capability to produce custom reporting (ad hoc). Standard reports should include (not limited to) tracking reports of patient visits, diagnosis totals (by resident and program),

3.5 **Procedure Logger**

Procedures must be tracked to achieve required training goals. Reports are necessary to track attending physician's supervision of resident logged procedures.

- 3.5.1 Software accessibility should be managed by a designated system administrator located at UMDNJ. The administrator will determine user access to the system including, the ability to input/modify/view case logs.
- 3.5.2 Software must allow for procedures to be entered via a desktop computer or PDA.
- 3.5.3 Software should allow supervisors to confirm procedures, and indicate a pass/fail status.
- 3.5.4 Software must generate electronic notification reminders for supervisors to prompt procedure confirmation logged by trainees.
- 3.5.5 Software should have the capability to indicate that a trainee has completed the requisite number of procedures and is eligible to be credentialed.
- 3.5.6 Software should allow residents and administrators to be notified electronically when procedure credentialing requirements have been satisfied.

- 3.5.7 Software should allow custom view capability to show/hide fields to track individual procedures.
- 3.5.8 Software must provide the ability to produce standard summary reports as well as include the capability to produce custom reporting (ad hoc). Standard reports should include (not limited to) year to date case log tracking reports by resident and total procedures by resident and program,

3.6 **Conferences**

Conference attendance and speaking opportunities for residents are an integral part of the core competency requirements. GME program administrators develop tracking tools to assist in monitoring conference attendance and speaking opportunities by residents.

- 3.6.1 Software accessibility must be managed by a designated system administrator located at UMDNJ. The administrator will determine user access to the system including, the ability to input conferences, individual conference attendance, and maintain attendance rosters by program.
- 3.6.2 Software must allow for conference attendance to be entered/viewed via a desktop computer or PDA.
- 3.6.3 Software must have the ability to classify conferences by categories and sub categories.
- 3.6.4 Software must identify the requirement/core competency a particular conference attendance as a speaker or participant satisfies.
- 3.6.5 Software must allow users to post file attachments linked to a particular conference which may be viewed by house staff expected to attend the conference.
- 3.6.6 Software must interface with the block schedule to identify trainees available to attend conference.
- 3.6.7 Software must have the ability to create recurring conferences to eliminate multiple conference entries.
- 3.6.8 Software must generate electronic notification reminders to conference speakers and attendees.
- 3.6.9 Software must provide the ability to produce standard summary reports as well as include the capability to produce custom reporting (ad hoc). Standard reports should include (not limited to) conference attendance reports by resident/program/conference,

3.7 Duty Hours Tracking

GME programs must have the ability to track a resident's worked total work hours to comply with ACGME requirements.

- 3.7.1 Software accessibility must be managed by a designated system administrator located at UMDNJ. The administrator will determine user access to the system including, the ability to input/modify/view duty hour reporting,
- 3.7.2 Software must allow the ability for departments to configure duty hour rule validations to match those of the ACGME.
- 3.7.3 Software must allow for duty hours to be entered via a desktop computer or PDA.
- 3.7.4 Software must generate electronic notification reminders to prompt entry of hours as well as notify program administrators (including the Designated Institution Official) of duty hour rule violations.
- 3.7.5 Software must allow for automatic hour posting based upon current rotation schedules.
- 3.7.6 Software must provide the ability to produce standard summary reports as well as include the capability to produce custom reporting (ad hoc). Standard reports should include (not limited to) summary of current and historical hour reporting by trainee by program, summary of hour reporting by trainee by rotation and hour rule violations by trainee and rotations. Reports should generate daily weekly and monthly total hour summaries.

3.8 Curriculum

This module allows the Curriculum for each program and/or rotations to be attached to a rotation schedule so that a resident may have access to view that curriculum through their PDA's or by login onto the GME software. This is an ACGME requirement.

- 3.8.1 Software accessibility must be managed by a designated system administrator located at UMDNJ. The administrator will determine user access to the system, including, the ability to input/modify/view curriculum-based information.
- 3.8.2 Software must allow for curriculum information to be viewed via a desktop computer or PDA.
- 3.8.3 Software must have the ability to assign the curriculum to a specific rotation.
- 3.8.4 Software must have the ability to assign the curriculum to a particular status type.

- 3.8.5 Software must allow for residents to receive an electronic reminder to review their curriculum prior to the rotation.
- 3.8.6 Software must allow residents to sign-off electronically to confirm review of the curriculum.
- 3.8.7 Software must provide the ability to produce standard summary reports as well as include the capability to produce custom reporting (ad hoc). Standard reports should include (not limited to) a summary of resident's compliance to review curriculum prior to their rotation by resident, program, and rotation.

3.9 GME Program Office and Accreditation Management

Software accessibility must be managed by a designated system administrator located at UMDNJ. The administrator will determine user access to the system, including, the ability to input/modify/view program and trainee information,

- 3.9.1 The software must have the capability to store, track and produce reports with the following information:
- 3.9.2 Software must have the ability to maintain and track the institution and individual program's accreditation history (accreditation date, scheduled review date, accreditation status, etc.), program directors, citations, etc. and be able to link the information to the individual program's data.
- 3.9.3 Software must have the ability to capture information relative to program citations issued by accrediting bodies, capture responses and produce individual program reports for internal distribution.
- 3.9.4 Software must have the capability to track license (or permit), certifications (PALS, BLS, ACLS, etc.), VISA, Education Commission for Foreign Medical Graduates certification, occupational medicine compliance (e.g. immunizations, TB testing etc.), core competencies (e.g. patient confidentiality) and allow for on demand issue of expiration notifications (preferably through electronic mail) for trainees as well as program designee.
- 3.9.5 Software must have query capability to display historical trainee information for external verification purposes. The system should have the ability to capture this information on a customized verification letter for external submission.
- 3.9.6 Software must have the capability for the user to progress resident program year as a group or by individual.

- 3.9.7 Software must have the ability to capture off-cycle trainees and identify their program year accordingly (e.g. identify as PGY-2 in September).
- 3.9.8 Software should have the ability to assist the office in managing file documents. The system should track documents received (e.g. registration application, personal identification, CVs etc.) as well as the ability to post these scanned documents for electronic retrieval.
- 3.9.9 Software must have the capability to submit group or individual trainee electronic notification with attachments.
- 3.9.10 Software must have the ability for departments to upload and view on-line department manuals.
- 3.9.11 Software must have the capability to manage a direct feed or file import of specific Electronic Residency Application Service (ERAS) data elements.
- 3.9.12 Software must have the ability to produce a data file containing the pertinent data elements to submit to ACGME for upload to their ADS (Accreditation Data System) to ensure compliance with accreditation standards.
- 3.9.13 Software should have the ability to generate a file that can be used for upload to the Association of American Medical College's GME Track system.
- 3.9.14 Software must provide an audit trail accessible to select users to track changes completed by users. This audit trail should identify the user, time/date and modifications made.
- 3.9.15 Software must provide the ability to produce standard summary reports as well as include the capability to produce custom reporting (ad hoc). Standard reports should include (not limited to) a occupational medicine compliance report (e.g. immunization and TB testing), core competencies compliance tracking report, summary trainee demographics by program and an outstanding file documents report.

3.10 Medicare Cost Reporting

- 3.10.1 Software must have the ability to estimate DME and IME full-time equivalents (weighted for Medicare Cost Report filing) on demand. This FTE estimate must utilize the rotation schedule, conference, consider off-cycle status, and duty hours reported for this calculation.
- 3.10.2 Software must have the ability to import both current and historical Intern and Resident Information System (IRIS) data for trend reporting.

3.11 Training, Customer Service and Data Archive

- 3.11.1 Software training must be coordinated onsite (UMDNJ Newark) for the program directors, program coordinators, chief residents, senior residents and key employees of the GME office.
- 3.11.2 Software Contractor must provide customer service support during regular business hours (eastern standard time).
- 3.11.3 All information entered and stored in the software is the sole property of UMDNJ and may not be used without prior consent and authorization.
- 3.11.4 Software must support a mechanism to store/back-up and archive information on a daily basis.