

Harleysville Medical Associates, PC
EMR Functionality Comparison
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Vendor Comparison Spreadsheet

REQUIREMENTS								
General								
A	Supports both a total paperless function and hybrid function, where the contents of the electronic record can be printed for inclusion in the paper chart							
B	Links with a variety of digital and analog dictation systems							
C	Date and time stamps all entries							
D	Includes automatic translation of codes to data. For example:							
	-ICD-9/10							
	-CPT (4 and 5)							
	-SNOMED (II and III)							
	-NDC							
E	Includes support and updates for the above vocabularies							
Demographics								
A	Importing patient demographic data via HL7 interface from an existing Practice Management System, Patient Registration System, or any such system used for patient registration and/or scheduling							
B	Import/create, review, update, and delete patient demographic information as well as other non-clinical information from the patient record							
C	Captures permanent patient address							
D	Captures secondary patient addresses							
E	A photograph of the patient can be stored in the record							
Medical History								
A	For each patient, captures and stores risk factors. For example:							
	-Tobacco use and history including number of years and packs per day (PPD)							
	-Alcohol use, history							
	-Drug use, history							
	-Caffeine use							

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	-HIV risk factors							
REQUIREMENTS								
B	Risk factors can be updated on demand							
C	For each patient, captures and stores the following social history elements:							
	-Marital status							
	-Occupation							
	-Religious preference							
	-Native language							
	-Translator needed (Y/N)							
D	Documents hospitalization data including:							
	-Admission and discharge dates							
	-Chief complaint							
	-Admitting diagnosis/ other diagnoses							
	-Procedures performed							
	-Discharge summary							
E	Documents all existing allergies, and sensitivities such as:							
	-Drug							
	-Food							
	-Drug-drug							
	-Drug-food							
F	Captures history of immunizations							
	-Immunization data includes manufacturer and lot number							
G	Capable of linking or grouping records of other family members on file							
H	Ability to capture and store genograms							
I	Collects and stores family history, including, but not limited to:							
	-History of chronic diseases, including date of diagnosis							
	-Disease status							
	-Family member functional status							
	-If deceased: date and cause of death							
	Current Health Data, Encounters, Health Risk Appraisal							

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A	Ability to import/create, review, and amend information about the patient's condition obtained from laboratory, radiology/imaging, or other equipment or technology-related tests and/or procedures via standard interface								
REQUIREMENTS									
B	Ability to capture and monitor patient health risk factors in a standard format								
C	Displays encounter data using a problem-oriented format								
D	Supports online completion of the Health Survey (SF-36) or similar measure for measuring health status and outcomes								
E	Capable of reproducing and displaying a variety of end user patient and treatment forms								
F	Ability to update other portions of the record with captured vital signs data. At minimum, collects:								
	-Height								
	-Weight								
	-Pulse								
	-Respiratory rate								
	-Blood pressure (including multiples)								
	-Different position blood pressure								
	-Temperature								
	-Visual acuity								
	-Other								
G	Ability to import/create, review, and amend health data (objective and subjective) regarding the patient's current health status, including (as applicable):								
	-Chief complaint								
	-Onset of symptoms								
	-Injury mechanism								
	-Physical examination findings								
	-Psychological and social assessment findings								
H	Provides a flexible mechanism for retrieval of encounter information that can be organized in variety of "views". For example:								
	-By name (last, first; first, last; etc.)								
	-By date of birth								
	-Chronological by encounter date								
	-By diagnosis, problem, problem type								

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	-By chart number							
	-By family group / linkage							
	REQUIREMENTS							
I	Provides a flexible, user modifiable, search mechanism for retrieval of information captured during encounter documentation							
J	Provides a mechanism to capture, review, or amend history of current illness							
K	Captures the following referral information:							
	-Type of referral							
	-Date							
	-Reason							
L	Tracks consultations and referrals							
M	Capable of printing consultations/referral forms							
N	Transmits and receives electronic referrals							
O	Tracks the following specific patient information:							
	-Pharmacy demographics							
	-Medication intolerances							
	-Advance directives							
	-Patient consents							
	-Patient refusals							
	-Patient reminders							
P	Monitors patient compliance with appointments / referrals/tests, etc.							
	Encounter - Progress Notes							
A	Records progress notes utilizing a combination of system default, provider customizable, and provider-defined templates							
B	Ability to automatically update other sections of the record with data entered in the progress note							
C	The encounter - progress note template includes space for entering performed and planned procedures. It also includes:							
	-Performed/planned laboratory procedures							
	-Diagnosis							
	-Goals (provider's and patient's) and follow-up plans							
	-Medications prescribed							

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	-Patient education materials							
	-Consultations/referrals							
	-Patient condition or status							

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REQUIREMENTS								
D	Includes a progress note template that is problem oriented and can, at the user's option, be linked to either a diagnosis or problem							
E	Enables standard phrases to be defined/contained in tables and used as pull down menus to reduce key entry							
F	Automatically captures the electronic signature and title of the person entering data and date/time stamps each transaction							
G	Applies security controls to progress notes to ensure that data cannot be deleted or altered except within the current session and by an authorized user							
H	Includes a medical terminology dictionary and a spell checker within the progress notes data entry module							
I	Capture and record results from various testing equipment including:							
	-EKG							
	-Holter Monitor							
	-PFT							
	Charge Capture & Coding							
A	Automatically sends charge data to billing/practice management system to be processed at the time of service							
B	Checks and confirms patient's insurance and co-pay information							
C	Prints receipts (including clinician's instructions and return visit information)							
D	Prompts the clinician for missing information required to meet specific level of service							
E	Suggests additional data that needs to be captured in order to meet the requirements for the next level of service							
F	Meets RBRVS/E&M documentation and coding guidelines							
G	Includes extensive error checking of all user input data, including, but not limited to:							
	-ICD-9 (Check diagnosis against gender, age, other as necessary)							
	-CPT (Check procedure against gender, age, other as necessary)							
	-Performs analysis of code documentation							
	-Suggests further documentation requirements for alternative coding							

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REQUIREMENTS								
H	Ability to hold certain visits from passing to the billing system until a provider finalizes the charges, (e.g., a clinician may wait for a MRI report before entering the DX or procedure codes)							
	Laboratory Data							
A	Allows a clinician to receive lab results wirelessly							
B	Allows a clinician to select a single lab test and flow the results for comparisons							
C	Allows the clinician to place lab orders							
D	Allows the clinician to receive alerts for high and low laboratory values							
	Problem Lists							
A	Provides a problem status for each problem							
B	Organizes applicable patient data into comprehensive problem summary lists							
C	Provides problem description based on standard controlled vocabularies							
D	Separates active from inactive problems							
E	Allows clinicians to identify and record new patient problems as well as the current status of existing problems							
F	Expands the problem summary list on demand							
G	Updates the active problem list from relevant data in the progress note							
H	When capturing problem information, captures:							
	-Diagnosis / problem date(s)							
	-Severity of illness							
I	For each problem, has the capability to create, review, or amend information regarding a change on the status of a problem to include, but not limited to, the date the change was first noticed or diagnosed							
J	Continually updates the diagnosis/problem lists with the capture of each new piece of patient data in any module							
K	Capable of allowing the display of past interventions, hospitalizations, diagnostic procedures, and therapies for review at the option of the provider							

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REQUIREMENTS								
Clinical Practice Guidelines (CPG)								
A	Includes standard Clinical Practice Guidelines (CPG) from the National Guideline Clearinghouse							
B	Capable of allowing initial authoring and revising of clinical practice guidelines							
C	The format utilized by the guideline for documenting is intuitive, easy to use, and user customizable							
D	The CPG module utilizes pull down menus and check boxes to speed up data entry							
E	Allows the provider or other authorized user to override any or all parts of the guideline							
Care Plan								
A	Ability to import/create, review, and amend information about the desired single or multi-disciplinary long / short term goals and objectives that will be accompanied by the care plan							
B	Ability to import/create, review, and amend information about the proposed set of single or multi-disciplinary care plan options that are based upon expected outcomes							
Prevention								
B	Allows prevention status documentation. At minimum:							
	-Date addressed							
	-Result							
	-Reason not performed							
C	Includes user-modifiable health maintenance templates							
D	Includes a patient tracking and reminder capability (patient follow-up)							
E	Allows the graphing of pertinent data into flow sheets for presentation/display							
F	Includes the incorporation of immunization protocols:							
	-Universal child							
	-Universal adult							
	-Specific foreign travel							

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REQUIREMENTS								
Patient Education								
A	Ability to create, review, update, or delete patient education materials							
B	Capable of providing printed patient education materials in culturally appropriate languages on demand or automatically at the end of the encounter							
C	Includes the capability to develop patient instructions for a broad range of treatments and services delivered by providers. Examples:							
	-Care of wound							
	-Exercise regimen							
	-Diet guidelines							
	-Administration and care of medications							
D	Allows patient instructions to be selected from a pull down list							
E	Allows user modifications to instructions to suit individual patient needs without altering the original content							
F	Allows patient instructions to be printed on demand independent of care plans/care maps/guidelines/orders							
G	Ability to create a directory of information for patient support groups and to include any applicable support group information in the instructions							
Alerts								
A	User customizable alert screens / messages, enabling capture of alert details, including, but not being limited to:							
	- Test describing the alert							
	-Date and time of the alert							
B	Print alert on demand							
C	Capability of forwarding the alert to a specific provider(s) or other authorized users							
Orders								
A	Includes an electronic order entry module that has the capability to be interfaced with a number of key systems depending on the health center's existing and future systems as well as external linkages, through a standard, real time, HL7 two-way interface							

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REQUIREMENTS								
B	Ability to print orders for manual transmission							
C	Ability to fax orders							
D	Ability to require that all orders be digitally signed at the completion of each order							
E	Accepts orders from multiple locations							
F	Allows the user to accept, override, or cancel an order							
G	Requires the user to enter a justification for overriding, changing, or canceling an order prior to being allowed to continue							
H	Includes the capability to:							
	-Define order sets for each provider							
	-Contain all information specific to one order in one display screen							
	-Include a user-configurable / customizable pull-down list of tests and services from which to place one or more orders							
	-Allow for more than one user to concurrently update a patient record							
	-Allow for more than one user to concurrently enter orders on the same patient							
	-Alerts simultaneous users of each other's presence on the same record							
I	Capable of displaying the most commonly used orders to assist in order placement							
J	Can display all order sets including components, by any of the following:							
	-By procedure							
	-By provider							
	-By diagnosis							
	-By date							
K	Ability to enable selected orders to be recurring orders							
L	Includes an order inquiry mechanism to allow providers to inquire on the details of an order							
M	An order, at the user's option, displays all the detail data associated with the order, including demographics, order parameters, electronic signatures, and order status							

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REQUIREMENTS								
N	Displays order summaries on demand to allow the clinician to review/correct all orders prior to transmitting/printing the orders for processing by receiving entity							
Results								
A	Accepts results via two way HL7 interface from all HL7 compliant / capable entities or through direct data entry. Specifically - laboratory, radiology, and pharmacy information systems							
B	Includes a user customizable results entry screen linked to orders							
C	Allows authorized users to copy selected results into a note							
D	When displaying results, at a minimum, displays the patient name, date and time of order, date and time results were last updated, as well as any alerts identifying changes/amendments to the test or procedure, and test name							
E	Uses visual cues to highlight abnormal results							
Medications								
A	The medication module includes access to the National Drug Classification (NDC) database							
B	Stores common prescriptions for quick entry							
C	Supports multiple drug formularies and prescribing guidelines including:							
	-Downloading of formulary information							
	-Multiple formularies concurrently							
	-Dynamic, real time use of formulary at point of care, based on patient's insurance plan							
	-Updating of formularies							
	-Alerts/reminders and document explanation when departing from patient specific formulary							
D	Ability to update the progress note with prescription information							
E	Allows the provider the ability to document the effectiveness or ineffectiveness of medication							
F	Stores refill and repeat prescription information							
G	Allows storage of prescription data for retrieval by any of the following:							

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REQUIREMENTS								
	-Drug name							
	-Drug code number (NDC)							
H	Provides the following drug/prescription order information:							
	-Drug contraindication							
	-Active problem interactions							
	-Check that appropriate studies are obtained							
I	Provides extensive drug interaction information:							
	-Drug-drug							
	-Drug-allergy							
	-Drug-symptom							
J	Allows the provider the ability to prioritize / rank the importance of the interactions and/or warnings							
K	Clinician can customize the drug list and create a favorites list of most commonly prescribed drugs							
L	Provides preauthorization alerts before prescribing							
M	Manages medication recalls							
N	Maintenance of patient's preferred pharmacies and contact information including fax and phone							
O	There is an automatic reminder of pending prescription renewals							
	Confidentiality and Security							
A	Supports industry standard electronic signatures							
B	Controls access within multiple levels (e.g., per user, per user role, per area, per section of the chart) through a consistent mechanism of identification and authentication of all users in accordance with the "Role Based Access Control" (RBAC) standard							
C	Allows access to its modules regardless of location based on confidentiality and security procedures							
D	Incorporates an audit trail for all system transactions including look-ups of patient data							
E	Provides automatic analysis of audit trails and unauthorized access attempts							
F	Supports view only access to parts of the chart							
G	Provides sufficient backup and recovery features to assure minimal data loss due to a system failure, power outage, etc							

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REQUIREMENTS								
H	Compliant with all state and national regulations pertaining to patient data privacy, including HIPAA Security and Privacy Standards							
I	Can suppress selected clinical information from print, display or transmission including:							
	-Mental Health							
	-Pregnancy							
	-Birth Control							
	-Venereal Disease							
	-HIV							
	-Drug abuse							
	Integration and Interfacing							
A	Does your company also make scheduling program that can be integrated with the EMR?							
B	Does your company also make a billing program that can be integrated with the EMR?							
C	Can the EMR interface with laboratories so that lab results are brought directly into?							
D	Can the EMR be seamlessly integrated with other systems?							
E	Does the EMR support the transfer of data between 3rd party systems							
	-Demographic/registration							
	-Eligibility/insurance information							
	-Scheduling information							
	-Billing information							
F	The EMR has successfully been integrated with (Insert PM name if applicable)							
G	Do uploaded transcribed notes update the chart?							
H	Need for patient accommodation such as a translator or wheel chair is passed to scheduling at the time an appointment is made							
	Decision Support							
A	Access to medical research and literature databases such as MEDLINE, JAMAL, GRATEFUL MED and others							

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REQUIREMENTS								
B	Utilizes health data from all sections of the chart to provide decision support to providers							
C	Triggers alerts to providers when individual documented data indicates that critical interventions may be required							
D	Triggers an alert upon documentation of a diagnosis or event required to be reportable to outside agencies including the Centers for Disease Control and Prevention (CDC) and state mental health and hygiene departments							
E	Triggers an alert upon documentation of patient health data for a member of an existing medical registry or disease management program							
F	Incorporates preventative medicine questionnaires to be completed by clinicians and, if applicable, patients, during the encounter							
Cost Measuring / Quality Assurance								
A	Generates an evaluation survey (scheduled and on-demand) that will record patient satisfaction							
B	Supports real-time or retrospective trending, analysis, and reporting of clinical, operational, demographic, or other user-specified data							
C	Ability to perform automatic cost analysis for courses of drug treatments							
D	Users can develop utilization statistical and productivity reports on user-determined data fields							
Disease Management / Clinical Registries								
A	Supports disease management registries by:							
	-Allowing patient tracking and follow-up based on user defined diagnoses							
	-Integrating all patient information within							
	-Providing a longitudinal view of the patient medical history							
B	Automatically identifies all high-risk patients and notifies clinical staff for preventative care							
C	Tracks / provides reminders and validates care process							
D	Generates follow-up letters to clinicians, consultants, external sources, and patients based on a variety of parameters such as date, time since last event, etc.							

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REQUIREMENTS								
	Document Management							
A	Tracks unsuccessfully sent faxes for later handling or resending							
B	Document scanning is supported							
C	Are scanned documents populated into the EMR?							
D	Can documents be attached to outgoing email to communicate with other providers or patients?							
	Reporting							
A	EMR can create chart summary reports based on the following:							
	-By individual patient							
	-For scheduled patients							
	-Patients seen on a particular day							
	-All patients belonging to a specific provider							
	-Patients on a list generated by patient inquiry							
	-All patients within							
B	Has built in reports to find the following:							
	-Unsigned progress notes							
	-Unsaved progress notes							
	-Missing progress notes							
	-Unassigned primary diagnostic code							
C	Has a search feature that can search for a combination of criteria?							
D	Can data retrieved by the search feature be exported?							
E	Can all data be exported?							
F	Users can easily modify existing reports, and develop new reports							
G	Provides a way to display comparative and sequenced views of data over time							
H	Ability to generate automatic reminder mailings (cards/letters to patients sorted by user defined criteria)							
	Technical							
A	Supports a full range of input technologies							

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REQUIREMENTS								
B	Accessible and available to all authorized users 99.5% of the time							
C	Response time is 2 seconds or less 90% of the time							
D	Supports a sub second response time 80% of the time							
E	Incorporates extensive, secure telecommunications capabilities that link staff and clinicians from remote locations to the central site							
F	Supports an industry standard locking mechanism to prevent unauthorized updates							
G	Supports and implements system redundancy / fault tolerance for 100% availability							
H	Supports partial multimedia; not full motion video							
I	Supports full multimedia, full motion video							
	Specialty Functionality							
A	Includes software for form design							
B	Web page or other repository that clients can use to exchange templates and forms designed for specialties							
C	Provide patient record reports designed for specialty care							
D	Provide established templates for							
	-Family Practice							
	-Internal Med							
E	Can the practice customize the program (e.g., templates) without modifying or affecting the source code?							
F	Can users modify existing templates and create new templates without programming skills?							
	Patient Personal Health Record							
A	Provides for patient access to their health records							
	-Allows patient to enter Clinical history							
	-Allows patient to enter Family History							
	-Allows patient to maintain Allergies							
	-Allows patient to maintain Blood Pressure							
	-Allows patient to maintain Immunization records							

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REQUIREMENTS								
	-Allows patient to maintain important contact information such as Doctors and emergency contact							
	-Allows patient to maintain Insurance information							
	-Allows patient to maintain medicines, doses and why taken							
	Ergonomic Presentation							
A	Places emphasis on user friendliness							
B	Incorporates a consistent presentation of information across the entire system							
C	Incorporates visual cues							
D	Provides consistent formatting to aid users in finding information							
	Implementation and Support							
A	Implementation effort begins with the development of a comprehensive implementation plan developed jointly with the end user							
B	Implementation plan includes an end-user skills assessment phase to be performed by the vendor							
C	Implementation includes a staff-training phase							
D	Amount and type of training is derived from the results of the skills assessment phase							
E	Includes support and maintenance of application software and application system upgrades							
F	Includes support of networked applications							
G	Implementation can include an extensive train the trainer approach							
	Additional							
A	Can providers electronically review and sign progress notes with forwarding capability for electronic review and co-signature by supervising clinician?							
B	Can the chart be viewed and can the clinician order exams and make changes to the patient's chart from a remote location (i.e., the provider's home or the hospital?)							

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REQUIREMENTS								
C	Provides a built-in notepad that enables clinicians to capture handwritten comments							
D	Supports the uploading of transcribed notes directly into the chart?							
E	Does it automatically generate telephone reminders if certain scheduled milestones are not met (e.g., labs not received)?							
F	Does the EMR contain a clinic wide email/messaging system?							
G	Can charts be attached to the messages?							
H	Can messages be recorded in the chart for documentation?							

This material was prepared by Quality Insights of Pennsylvania, the Medicare Quality Improvement Organization for Pennsylvania, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily reflect CMS policy. Publication number 8SOW-PA-PHYS06.340.