

THE CHOICE OF OUTPATIENT CPR'S: QUESTIONS TO ASK

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1 Functionality: Data Capture

Does the system support:

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|------|--|------|
| 1.1 | Free text capture by: keyboard? | CPRI |
| 1.2 | Free text capture by: dictation? | CPRI |
| 1.3 | Free text capture by: voice recognition? | CPRI |
| 1.4 | Free text capture by: handwriting recognition? | CPRI |
| 1.5 | Free text capture by: customized "boiler-plate" entries (user-defined pre-typed text)? | |
| 1.6 | Navigation / data entry by: mouse? | CPRI |
| 1.7 | Navigation / data entry by: light pen? | CPRI |
| 1.8 | Navigation / data entry by: touch screens? | CPRI |
| 1.9 | Navigation / data entry by: keyboard shortcuts? | CPRI |
| 1.10 | Navigation / data entry by: voice cues? | CPRI |
| 1.11 | Structured data entry? | CPRI |
| 1.12 | Transcription entered into templates? | |
| 1.13 | Natural language processing of the free text? | CPRI |
| 1.14 | Wireless technology? | |
| 1.15 | Capture and display of: digital images, such as a photograph? | CPRI |
| 1.16 | Capture and display of: X-ray images? | CPRI |
| 1.17 | Capture and display of: video? | CPRI |
| 1.18 | Capture and playback of sounds / voice? | CPRI |
| 1.19 | Capture of information from monitoring devices, such as Holter monitors? | CPRI |
| 1.20 | Document scanning, including indexing, storage and retrieval? | CPRI |
| 1.21 | Graphics, such as a sketch? | CPRI |
| 1.22 | Patient-entered data: health surveys? | CPRI |
| 1.23 | Patient-entered data: consents? | CPRI |
| 1.24 | An integrated word processor? | |
| 1.25 | An integrated medical spell-checker? | |
| 1.26 | Data checking for entries outside of normal ranges or acceptable formats? | IOM |
| 1.27 | Integration of outside paper reports, such as letters and x-ray reports? | |
| 1.28 | Customization of screens for data entry? | IOM |

2 Functionality: Storage

Does the system support:

- 2.1 Providing a permanent storage media for active and inactive records? CPRI
- 2.2 Retention of records according to clinical value? CPRI
ASTM 6.8
- 2.3 Backup and recovery mechanisms? CPRI
- 2.4 A paperless system, completely replacing the paper chart?

3 Functionality: Information Processing

Does the system support:

- 3.1 Access to knowledge-based information? CPRI
JCAHO IM.9.1
- 3.2 Collection of aggregate data for outcomes studies? CPRI
JCAHO IM.8
- 3.3 Consensus or evidence-driven prevention, diagnosis and treatment guidelines and protocols, with incorporation of these into a specific patient record? CPRI
- 3.4 Connection to the Internet? CPRI
- 3.5 Guidelines customizable by site / clinician?
- 3.6 Reminders for appointments, care / treatment plan actions, medication administration? CPRI
ASTM 7.17,
7.14.2
- 3.7 Sending notes and reminders to patients automatically?
- 3.8 Alerts and alarms for drug-drug interactions, allergies, abnormal results? CPRI
- 3.9 Tracking immunization protocols?
- 3.10 Reports: generated using multiple parameters? (Example: find all female patients between the ages of 40 - 50 who have seen an internist in the last 3 months for a diagnosis of diabetes.)
- 3.11 Reports: using saved sets of parameters?
- 3.12 Reports: generated at regular intervals?
- 3.13 Reports: with a friendly user-interface, so that providers can design specialized reports / letters for their own use? IOM

4 Functionality: Information Communication

Does the system support:

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|------|--|--|
| 4.1 | Personal / unique patient identifiers? (May also be referred to as the Master Patient Index – MPI) | CPRI
NCVHS 1 |
| 4.2 | A future National Patient Health Identifier? | ASTM 6.4.1 |
| 4.3 | Standard identifiers for facilities and practitioners (assigned by HCFA)? | CPRI
NCVHS 17-23 |
| 4.4 | Capture of minimum data sets? (NCVHS and others have proposed minimum data sets, and standards for the elements of these data sets, such as date of birth, gender, race and how they are represented.) | CPRI
ASTM 6.7
JCAHO IM.3.1,
IM.6.7.2
NCVHS 2-7 |
| 4.5 | Coding of diagnosis / procedures to ICD-9-CM and CPT-4? | CPRI
IOM
JCAHO IM.3.1
NCVHS 24-26,
29-31, 36 |
| 4.6 | SNOMED nomenclature? | CPRI
JCAHO IM.3.1 |
| 4.7 | Nursing nomenclature for nursing diagnosis? | CPRI
JCAHO IM.3.1 |
| 4.8 | Provide for standard data communication such as HL7? | CPRI
JCAHO IM.6 |
| 4.9 | Interfaces for: billing systems? | JCAHO IM.1 |
| 4.10 | Interfaces for: appointment scheduling systems? | JCAHO IM.1 |
| 4.11 | Interfaces for: Laboratory Information Systems (LIS)? | JCAHO IM.1 |
| 4.12 | Interfaces for: radiology systems? | JCAHO IM.1 |
| 4.13 | Availability of the record 24 hours a day? | IOM
JCAHO IM.5 |
| 4.14 | A rapid response time, with screen changes in two seconds or less? | IOM |

5 Functionality: Presentation

Does the system support:

- | | | |
|-----|---|---|
| 5.1 | A longitudinal record which may be condensed and brief, with an expanded presentation of selected data? | ASTM 8.5.3 |
| 5.2 | Multiple views of the patient care record which can be customized for each setting, including a chronological list of all diagnostic tests ordered and conducted? | CPRI
ASTM 6.2.3, 8.1,
7.15, 8.5.3 |
| 5.3 | User-designed flowcharts? | |
| 5.4 | A single screen summary of the patient's problems? | IOM |

5.5	The display of health alerts, such as allergies and contagious conditions, prior to implementing any health services?	ASTM 7.9.3
5.6	Simultaneous viewing of more than one section of a record?	
5.7	Simultaneous viewing of more than one record?	
5.8	Simultaneous viewing of the record by more than one person?	
5.9	The ability to easily find the name of the PCP from any section of the record?	CPRI
5.10	The ability to easily find the name of the insurance type from any section of the record?	CPRI
5.11	The ability to easily find demographic information from any section of the record?	CPRI
5.12	On-line help documentation / manual?	IOM

6 Functionality: Security

Does the system support:

6.1	Access limited to authorized users (often done with passwords with or without tokens)?	CPRI , JCAHO IM.2, IM.7.11
6.2	An automated system for monitoring user access?	ASTM 6.6
6.3	Passwords which are customizable and user-chosen?	
6.4	Customizable levels of security and information access, depending on the need and reason for access?	CPRI JCAHO IM.2
6.5	An automated system for necessary checks on release of records?	CPRI ASTM 6.6.2
6.6	Automatically recording dates and time of data entry?	
6.7	An audit trail of modified and deleted data?	JCAHO IM.7.8
6.8	The ability to reproduce the chart for any day and hour in the past?	
6.9	Allowing for patients to amend their records to correct incomplete or inaccurate data?	ASTM 6.6.1.4
6.10	Automatic log-out?	
6.11	Electronic signatures, with procedures to restrict use to the author of the entry?	CPRI JCAHO IM.7.8
6.12	Ability to sign documents in bulk?	
6.13	Encryption of data for interfacility communication?	CPRI
6.14	Ability to add new data fields and identify obsolete data fields?	IOM

7 Content: Problem List

Does the system support:

- | | | |
|------|---|------------|
| 7.1 | A problem list? | CPRI |
| 7.2 | Dating of the problems on the problem list? | |
| 7.3 | Division of the problem list into active / inactive problem lists? | |
| 7.4 | Division of the problem list into the following categories: surgeries and procedures, hospitalizations, family history of disease, risk factors, and significant past problems? | |
| 7.5 | Capturing problems as unstructured free text? (Example: "lives next door to nuclear plant".) | |
| 7.6 | Encoding the problem list to controlled vocabulary? | ASTM 7.9.1 |
| 7.7 | Documentation of the status of a problem (improving, stable, resolved, etc.)? | E/M |
| 7.8 | Easy access to the problem list at the beginning of each encounter / episode? | ASTM 7.9.2 |
| 7.9 | The ability to change the order of the problems in the list? | |
| 7.10 | A summary field for each problem? | |
| 7.11 | Updating the problem list from the assessment / diagnosis field in the progress note ("write once")? | IOM |
| 7.12 | Linking the problem list to: progress notes? | |
| 7.13 | Linking the problem list to: test results? | |
| 7.14 | Linking the problem list to: medication list? | |
| 7.15 | Linking the problem list to: other problems? | |

8 Content: Medication List

Does the system support:

- | | | |
|-----|--|-----------|
| 8.1 | A medication list? | ASTM 7.16 |
| 8.2 | Documenting the date, dosage, and instructions for each medication on the medication list? | |
| 8.3 | A medication list with active and inactive medications? | |
| 8.4 | Ability to automatically change the medication to the inactive list when the Rx ends? | |
| 8.5 | Entry in the medication list as unstructured free text? (Example: "unknown herbal medication".) | |
| 8.6 | Encoding of medications to the National Drug Code? | NCVHS 37 |
| 8.7 | The ability to change the order of the medications in the list? | |
| 8.8 | Updating the medication list based on prescriptions written ("write once")? | IOM |
| 8.9 | Ability to print prescriptions? | |

- 8.10 Ability to fax prescriptions to pharmacies?
- 8.11 Ability to perform / track prescription refills?
- 8.12 Multiple formularies which can be linked to a specific patient record?
- 8.13 A way to designate the patient's preferred pharmacy?
- 8.14 Alerts and reminders for allergies?
- 8.15 Alerts and reminders for drug interactions?

9 Content: Allergy List

Does the system support:

- 9.1 An allergy list?
- 9.2 Entry in the allergy list of free text?
- 9.3 Encoding of the allergy list?

10 Content: Physician/Clinician Encounter Note

Does the system support:

- | | | |
|-------|--|-----------------|
| 10.1 | Recording the visit type? | NCVHS 13 |
| 10.2 | A chief complaint in as close as possible to the patient's own words? | NCVHS 28 |
| 10.3 | User-designed templates? | |
| 10.4 | Viewing and updating the Past History, Family History, Social History, and all problem lists and problem summaries (the longitudinal patient record) at any time during the patient encounter? | |
| 10.5 | Templates which prompt for HCFA E/M elements? | E/M |
| 10.6 | An automated system for tracking HCFA E/M level of care? | E/M |
| 10.7 | A Problem Oriented Medical Record (POMR) and SOAP notes? | IOM |
| 10.8 | Allowing / prompting for elements in the History of Present Illness? | E/M |
| 10.9 | Allowing / prompting for elements in the Review of Systems? | E/M |
| 10.10 | Allowing / prompting for elements in the Multi-system Exam? | E/M |
| 10.11 | Recording of Medical Decision Making / Risk Assessment? | CPRI
E/M |
| 10.12 | Recording of Diagnosis / Assessment? | E/M |
| 10.13 | Recording of Treatment / Procedures? | E/M |
| 10.14 | Recording of Patient Instructions? | E/M |
| 10.15 | Recording of Nursing Instructions? | |
| 10.16 | A functional status evaluation? | CPRI
NCVHS 9 |
| 10.17 | A self-reported health status (good, fair, etc.)? | CPRI, NCVHS 8 |

- | | | |
|-------|--|----------|
| 10.18 | Recording that additional history / findings were obtained from old records or from family, caretaker, or other sources? | E/M |
| 10.19 | Recording the review of results of diagnostic tests and procedures? | E/M |
| 10.20 | Recording the review of images, specimens, or tracings? | E/M |
| 10.21 | Recording the disposition of the patient? (At a minimum, suggest: 1) No follow up planned, 2) F/U planned or scheduled, 3) Referred elsewhere, 4) Expired) | NCVHS 39 |
| 10.22 | Linking progress notes to test results? | |

11 Content: Past Medical History

Does the system support:

- | | | |
|-------|---|-------------------|
| 11.1 | A past history, encoded to SNOMED or other nomenclature, which is extractable for QA or outcomes studies? | E/M |
| 11.2 | An immunization list? | CPRI
ASTM 7.10 |
| 11.3 | An obstetrical history? | |
| 11.4 | Establishing a record for newborns based on the obstetrical record of the mother? | ASTM 6.5.3 |
| 11.5 | Recording the birth weight in grams? | NCVHS 32 |
| 11.6 | A record of past illnesses? | CPRI |
| 11.7 | A record of past injuries? | CPRI |
| 11.8 | A record of past operations? | |
| 11.9 | A record of past hospitalizations? | |
| 11.10 | A recording of genetic background? | CPRI |
| 11.11 | A record of occupational exposures? | CPRI |
| 11.12 | A record of exposure to hazardous substances? | CPRI
ASTM 7.11 |
| 11.13 | Updating the past history from the encounter note? | |

12 Content: Family History

Does the system support:

- | | | |
|------|---|-----|
| 12.1 | A family history, encoded to SNOMED or other nomenclature, which is extractable for QA or outcomes studies? | E/M |
| 12.2 | Encoding of the family history? | |
| 12.3 | Linking patient records to records of other family members? | IOM |
| 12.4 | Updating the family history from the encounter note? | |

13 Content: Social History

Does the system support:

- 13.1 A social history, encoded to SNOMED or other nomenclature, which is extractable for QA or outcomes studies? E/M
- 13.2 Documentation of tobacco use?
- 13.3 Documentation of alcohol use?
- 13.4 Documentation of illicit drug use?
- 13.5 Documentation of occupation? NCVHS 12
- 13.6 Documentation of years of schooling? NCVHS 10
- 13.7 Documentation of marital status?
- 13.8 Documentation of living arrangement?
- 13.9 Updating the social history from the encounter note?
- 13.10 Encoding of the social history?

14 Content: Nursing Encounter Note

Does the system support:

- 14.1 Nurse-entered vital signs?
- 14.2 Nursing history notes?
- 14.3 A nursing history, encoded to SNOMED or other nomenclature, extractable for QA or outcomes studies?
- 14.4 Documentation of medications, procedures or treatments given by the nurse, along with response?
- 14.5 Customizable templates for telephone triage?

15 Referrals

Does the system support:

- 15.1 Ordering referrals?
- 15.2 Receiving referrals?
- 15.3 Guiding referrals to providers based on the insurance coverage?
- 15.4 Sending information from the chart with the referral to the consultant?
- 15.5 The ability to route referral authorizations sequentially to various persons in the clinic and track the status of a referral at any time?
(Example: The referral may be sent from a physician to a referral coordinator and then to a physician reviewer, and so on, before the referral is authorized.)
- 15.6 Documenting the referral status, number of visits, type of visits and procedures, etc. for all referrals for each patient?

16 Order Entry and Reporting

Does the system support:

- 16.1 Ordering laboratory, Xray, and other ancillary services?
- 16.2 Ordering nursing treatments, procedures, or medications?
- 16.3 Tracking of incomplete orders?
- 16.4 Tracking the orders for services provided outside of the enterprise system?
- 16.5 Viewing the costs of tests?
- 16.6 Viewing the location of tests?
- 16.7 Decision support tools to suggest appropriate / alternate tests?
- 16.8 Insurance information specific to the patient concerning payments for tests?
- 16.9 Linking progress notes to test results?
- 16.10 An automated system for notifying patients of test results?
- 16.11 Encoding all laboratory?
- 16.12 Data elements that meet ASTM standards? (Data elements for orders, including patient identity, action or ancillary service, orderer, timing or delivery of services control, description of requested service and conditions of delivery of results) ASTM 7.14.5
- 16.13 Quick and easy access to lab results?
- 16.14 Display of normal ranges for laboratory values?
- 16.15 Graphic display of lab results?
- 16.16 Integration of lab values from more than one lab?
- 16.17 Ability to note and correct incorrect laboratory results?
- 16.18 Documentation of the review of results and reports by the clinician?
- 16.19 Capture of reports from other ancillary services (PT, OT, home health)?

17 Printing/Fax

Does the system support:

- 17.1 Faxing?
- 17.2 Ability to print the entire patient record?
- 17.3 Ability to print varied, customized views of the record, based on data type and date?
- 17.4 Ability to print a summary of the record?
- 17.5 Ability to print templates for manual data capture and later entry into the electronic record?
- 17.6 Ability to print images and graphics?

- 17.7 Exclusion of confidential information from reports unless specifically consented to?
- 17.8 Ability to print letters to patients and providers?
- 17.9 Patient instructions / handouts customizable by the physician / site?
- 17.10 Patient instructions / handouts customizable specific to the visit?

18 Billing/Management

Does the system support:

- 18.1 Capturing to the record the total billed charge? NCVHS 41
- 18.2 Capturing to the record the sources of payment? NCVHS 40
- 18.3 Automatic coding of diagnoses and procedures, which are then passed to the billing system?
- 18.4 An automated system to ensure that a bill is generated for each encounter?
- 18.5 Identification of insurance type, including Workers Comp and MVA?
- 18.6 Generation of forms and templated encounter notes specific to each of these insurance types?
- 18.7 Electronic mail communications with staff / providers? CPRI
- 18.8 An address book?
- 18.9 Ordering the paper chart from storage?
- 18.10 Complete / incomplete status of encounter records with prompting for completion of records?
- 18.11 A patient photograph as part of demographics?
- 18.12 Windows NT operating system?
- 18.13 Windows 95 operating system?
- 18.14 Macintosh operating system?

19 Scheduling

Does the system support:

- 19.1 Scheduling or interfaces with existing scheduling systems?
- 19.2 Ability to view the provider schedule from any portion of the record?