Appendix G
Abbreviations
and
Glossary

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ACTS
Advanced Communications and Technology Satellite

Administrative data
Data used in the administration of public programs or agencies or private businesses. In health, examples of administrative data are hospital discharge abstracts and health insurance claims and enrollment records.

Administrative simplification
Efforts to reduce the cost and complexity of health care through increased standardization and automation of health care providers' and insurers' administrative activities.

Admission/discharge record (or discharge abstract)
A synopsis of a patient record containing basic identifying and financial information about a patient, along with clinical information, including the admitting and final diagnosis and a summary of procedures performed.

Affordances
Behaviors and actions that are allowed or enabled by a specific technology.

AHCPR
Agency for Health Care Policy and Research

AITN
Arizona-International Telemedicine Network

AMA
American Medical Association

AMI
Acute myocardial infarction

ANSI
American National Standards Institute

Arden Syntax
A computer language for encoding and sharing medical knowledge in discrete modules.

ARPA
Advanced Research Projects Agency, DOD

Artificial neural network
A linked network of simple software-based processors, analogous to a biological neural network, that can be trained as an ensemble to respond consistently to a set of numerical input stimuli.

ASC (Accredited Standards Committee)
A committee chartered by ANSI to work on standards in a particular area of commerce. For example, ASC X12 is the committee working on standards for the insurance industry, including health.

ASTM
American Society for Testing and Materials

Asymmetric encryption
An encryption scheme in which information intended for an individual is encoded with his/her well-known, public encryption key, but may only be decoded with his/her private key (generated from a guarded password).

ATM (asynchronous transfer mode)
A fast networking protocol based on small, uniform packets. ATM communications are suitable for continuous transfer of large amounts of data, including video streams.

ATP (Advanced Technology Program)
A Commerce Department program that funds cooperative development and validation of enabling technologies, including computer and information technologies.

Authenticator
A device that provides an internally stored or calculated response to verify a user's identity when logging onto a computer. Only authorized users are likely to both know a unique piece of information (the password) and be in possession of a unique piece of equipment (the authenticator).

Automated data collection
Direct transfer of physiological data from monitoring instruments to a bedside display system or a computer-based patient record.

Backbone
A high-capacity communications channel that carries data accumulated from smaller branches of a computer or telecommunications network.

Bandwidth
The amount of information an electronic connection can carry per unit of time, usually expressed in bits per second.

Biometric identifier
A retinal pattern, fingerprint, or other anatomical feature that can be used by a computer program (along with appropriate interface equipment) to positively identify a user.

C-section
Caesarean section

CABG
Coronary artery bypass graft

Capitation
A method of paying for health care based on a set fee per member (of the health care plan) per unit of time.

CAT scan
Computerized axial tomography scan

CBA (cost-benefit analysis)
A comparison of the net costs of an intervention with the net savings.

CD-ROM
Compact disk, read-only memory

CDSS
Clinical decision support system

CEA (cost-effectiveness analysis)
A structured, comparative evaluation of two or more health care interventions.

CHESS (Comprehensive Health Enhancement Support System)
An interactive computer system developed at the University of Wisconsin that provides information, social support, and problem-solving tools for people living with AIDS and HIV infection.

CHF
Congestive heart failure

CHI (consumer health informatics)
The study, development, and implementation of computer and telecommunications applications and interfaces designed to be used by health consumers.

CHIN (community health information network)
Electronic systems that facilitate community-wide exchange of clinical and administrative information among providers, payers, banks, pharmacies, public health agencies, employers, and other participants in the health care system.

CHMIS (community health management information system)
An electronic system similar to a CHIN that has an explicit emphasis on building a data repository for use in assessing the performance of health care providers and insurance plans.

Clinical decision support
The use of information to help a clinician diagnose and/or treat a patient's health problem, including information about the patient and information about the kind of health problem afflicting the patient and alternative tests and treatments for it.

Clinical information system
Hospital-based information system designed to collect and organize data related to the care given to a patient, rather than administrative data.

Clinical practice guideline
An outline of broad parameters for the diagnosis, treatment, prevention, or rehabilitation of a particular health problem.

Clinical protocol
A rigorous, detailed model of the process of care for a particular health problem.

CME
Continuing medical education

Cochrane Collaboration
An international network of researchers that distributes results of systematic reviews of randomized controlled trials—or the most reliable evidence form other sources—on selected health problems.

Codec
1) In telemedicine, an abbreviation for *coder/decoder*, an electronic device that converts an analog electrical signal into a digital form for transmission purposes and decodes it the receiving end. 2) In computer-based video technology, an abbreviation for *compressor/decompressor*, the software that reduces the size of digitized video frames.

Coding standard
A system for assigning alphanumeric codes to specific words, concepts, or actions for the purpose of standardizing messages between computers or organizations.

COMPASS
A local dial-up computer data network in Oregon that provides a variety of information services.

Computer-based patient record
A compilation in digital form of all the clinical and administrative information related to the care of a single individual.

Confounding variable
A factor other than the health service in question that may influence the outcome of that service.

Consensus standard
A non-proprietary technological standard developed through an open, participative process under the aegis of a standards development organization.

Coordination of benefits
The determination of primary payer, that is, the payer whose coverage is applied first. A secondary payer reimburses, subject to the terms of its contract, that portion of a claim unpaid by the primary payer.

CPR
Computer-based patient record

CPT-4 (Current Procedural Terminology, Fourth Edition)
A classification and coding system for health services maintained by the AMA that is used in billing by clinicians and other noninstitutional providers.

CQI (Continuous Quality Improvement)
A method of analyzing and improving processes for manufacturing products or delivering services to meet customer needs and expectations.

CSN (Community Services Network)
A project in Washington, DC, that uses communication and computer technologies to support and coordinate health and human services at the community level.

Data distillation
An informal label for the process of deriving meaning from raw data.

Data repository
The component of an information system that accepts, files, and stores data from a variety of sources.

DDE
Direct data entry

Decision support
See Clinical decision support.

Demand management
A method of controlling health care costs by controlling access to health care services.

DEMPAQ (Developing and Evaluating Methods to Promote Ambulatory Care Quality)
A set of performance indicators for ambulatory care providers that is being developed by HCFA for its Medicare program.

DHHS
Department of Health and Human Services

DICOM (Digital Imaging and Communications in Medicine)
A standard for communications among medical imaging devices.

Discharge abstract
See Admission/discharge record.

Disease management
A method of managing the care of a specific health problem (usually a chronic and costly disease) that employs the principles of continuous quality improvement, including the use of clinical practice guidelines, outcomes measurement, and feedback to providers and insurance plans.

DOD
Department of Defense

DRG (Diagnosis Related Group)
A class of health problems derived from sets of diagnosis and procedure codes and used by HCFA to determine reimbursement for treatments.

DS-0, DS-1, DS-3
Digital telecommunications channels capable of transmitting 64 kilobits, 1.544 megabits, and 45 megabits per second, respectively. The higher capacity connections are suitable for high-volume voice, data, or compressed video traffic.

DSP (digital signal processor)
A special-purpose computer processor customized to make rapid calculations associated with audio or video data streams.

ECU
East Carolina University

ED-NET
A statewide network created by the State of Oregon in 1989 that offers a full range of services for those who have a need to communicate.

EDI (electronic data interchange)
The application-to-application interchange of business data between organizations using a standard data format.

Electronic mailing lists
Free, subscription-based, electronic mail communications on the Internet or commercial online services focused on defined topics.

Encoder
Decision support systems used to facilitate accurate assignment of codes for clinical procedures.

Fault-tolerant computer systems
Reliable computer systems incorporating redundant processors, disk drives, and power supplies to ensure almost full-time operation of a critical information network.

FDA
Food and Drug Administration

Firewall
Computer hardware and software that block unauthorized communications between an institution's computer network and external networks.

Firms trial
A form of randomized controlled trial in which patients are randomly assigned to similar ("parallel") providers who use different health services, rather than to different groups that receive different services from the same provider.

Frame relay
A fast networking protocol in which data are packaged in variable-length frames for shuttling between computer networks.

Functional imaging
Medical imaging modalities that portray the function (such as oxygen uptake) as well as the morphology of anatomical features.

Grouper
Software used to deduce DRGs from sets of diagnosis and procedure codes, or to analyze the grouping decisions of medical coders for consistency and thoroughness.

Handwriting recognition
Conversion of script or block lettering to computer-based text.

HCFA
Health Care Financing Administration

HEDIS (Health Plan and Employer Data Set)
A set of performance indicators for managed care plans, developed by NCQA.

HELP (Health Evaluation through Logical Processing)
A clinical information system at LDS Hospital in Salt Lake City, Utah.

HISPP (Healthcare Informatics Standards Planning Panel)
A body created by ANSI to coordinate standards development efforts among the various standards bodies in health care.

HL7 (Health Level 7)
An application-level interface specification for transmitting health-related data transactions, generally used within a single institution.

HMO
Health maintenance organization

HOST
Healthcare Open Systems and Trials consortium

HPCC (High Performance Computing and Communications)
An advanced technology program involving several agencies of the federal government, including NLM and NIST.

Human capital approach
A valuation technique used in cost-benefit analysis that assigns a monetary value to a human life based on an estimate of the individual's projected future earnings.

ICD-9-CM (International Classification of Diseases, Ninth Revision, Clinical Modification)
A classification and coding system for health problems and services, maintained by NCHS and HCFA, and used for billing by inpatient hospitals and other institutional providers.

IDS (integrated delivery system)
An organized system of health care providers spanning a range of health care services.

IEEE
Institute of Electrical and Electronics Engineers

IHC (Intermountain Health Care)
A provider organization based in Utah.

IITF
Information Infrastructure Task Force

IMSystem (Indicator Measurement System)
A set of performance indicators for inpatient hospitals and other institutional providers maintained by JCAHO.

Inference engine
A computer routine that coordinates the activities of a knowledge- or rule-based decision support system.

IPA (independent practice association)
An organization that contracts with a managed care plan to deliver health services at a single capitation rate.

ISDN (integrated services digital network)
A digital telephony protocol.

JCAHO
Joint Commission on Accreditation of Healthcare Organizations

JPEG (Joint Photographic Experts Group)
A standard for compression of static images.

Knowledge-based system
A decision support system based on automated, systematized application of sets of rules or heuristics for analysis of raw data.

KUMC
Kansas University Medical Center

LAN (local area network)
Communications lines linking a localized group of computers, printers, and servers.

Laser optical card
A plastic device the size of a credit card that can hold large amounts of digital data. Typically, the data cannot be altered once they are written to the card.

LATA (Local Access Transport Area)
A geographic region used to define telephone areas.

LOINC (Laboratory Observation Identifier Names and Codes)
A set of universal names and codes for identifying laboratory test results in order to facilitate the exchange and pooling of clinical laboratory results.

Magnetic stripe card
A plastic card with a magnetic strip on the back that can store about 250 characters, mainly for identification and verification of eligibility for insurance benefits.

Managed care (or managed health care)
A vaguely defined term referring to various systems of health care delivery that attempt to manage the cost, quality, and accessibility of health care.

Managed care organization
An organization, such as an HMO or PPO, that uses one or more techniques of managed care.

MCG
Medical College of Georgia

Messaging standard
A standard governing the structure of electronic messages between computers.

Meta-analysis
Quantitative synthesis of the statistical results of numerous studies on a given topic.

MIB (Medical Information Bus)
A hardware and software standard (IEEE P1073) that enables standardized connections between medical monitoring devices and clinical information systems.

MLM (Medical Logic Module)
A component of the Arden Syntax.

MPEG (Motion Picture Experts Group)
A video compression standard.

MRI
Magnetic resonance imaging

Multiplexing
Combination of many low-capacity communications channels into one high-capacity communications channel by interleaving the various channels in discrete time or frequency slices.

NASA
National Aeronautics and Space Administration

NCHS
National Center for Health Statistics

NCHSR
National Center for Health Services Research

NCI
National Cancer Institute

NCQA
National Committee for Quality Assurance

NCVHS
National Committee on Vital and Health Statistics

NII
National Information Infrastructure

NIST
National Institute for Standards and Technology

NLM
National Library of Medicine

NTIA
National Telecommunications and Information Administration

NUBC
National Uniform Billing Committee

OCR (optical character recognition)
Automated scanning and conversion of printed characters to computer-based text.

OLAP (on-line analytical processing)
A database architecture that supports querying of complex, multidimensional databases.

ORHP
Office of Rural Health Policy

PACS (Picture Archiving and Communications System)
A computer-based system of storing and retrieving radiographic and other images in digital form.

Patient record
The repository of information about an individual patient, usually stored on paper, but more recently in electronic form in a computer system.

Payer
Insurance company, self-insured employer, administrator, or other entity responsible for paying for an individual's health care.

PBM (pharmacy benefit management)
A method of managing pharmaceutical benefits for insurers and employers that uses disease management, pharmacy networks, negotiated discounts and rebates, lists of preferred drugs, and online utilization review. Also, an organization (pharmacy benefit manager) that performs PBM services.

PBX (private branch exchange)
A institution's internal phone system, which may include voice messaging capabilities.

PC
Personal computer

PC card or PCMCIA card
A credit card-sized computer peripheral or peripheral interface used with portable and desktop computers.

PDA (personal digital assistant)
A handheld computer, usually with no keyboard, that is used for communications or data collection and analysis.

PDQ (Physician Data Query)

A system of online (Internet) information regarding various cancers, ongoing clinical trials, and individuals and organizations involved in cancer care, maintained by NCI.

Pixel

The smallest displayable area on a computer screen.

PPO

Preferred provider organization

Primary data

Data collected directly from individuals (e.g., survey, observation) or documents (e.g., medical record review).

Privacy Act

The Federal Privacy Act of 1974 (5 U.S.C. Section 552a, 1988), which protects individuals from nonconsensual disclosure of confidential information by government agencies.

Proprietary standard

A technological standard developed by a single vendor or vendor group. The standard's specifications may be publicized or held confidential.

Prospective research

Research in which patients are observed as they receive health services.

Provider (or health care provider)

Any person (physician, nurse, etc.) or institution (hospital, nursing home, etc.) that provides health services to patients.

PTCA

Percutaneous transluminal coronary angioplasty

Purchaser

An organization (usually a large employer) that purchases health insurance (usually for its own employees).

Quality assessment

Measurement and evaluation of the quality of health services delivered to patients, usually focusing on the processes and outcomes of those services.

RAID (redundant array of independent disks)

Multiple computer disks configured as a single disk to provide either data redundancy or enhanced access speed.

Randomized controlled trial

A form of prospective research in which patients are randomly assigned to groups that receive different health services and are then observed for differences in outcome.

RBOC (Regional Bell Operating Company)

A regional telephone company resulting from the divestiture of the Bell System in the 1980s.

Relational database

A collection of computer-based information that is organized or accessed according to relationships between data items.

Reliability

The reproducibility of a measure, or the extent to which the measure yields similar results each time it is used on similar samples, or the extent to which its components yield similar results for the same or similar samples.

Report card

A summary set of indicators of the performance of health care providers or insurance plans in delivering health services to patients.

Retrospective research

Research in which patients are observed after they have received health services

Risk adjustment

Statistical control of patient risk factors in the analysis of the utilization and outcomes of health services; also, control of financial risk factors faced by insurance companies.

Risk factors

Key health problems and background characteristics that can affect the patient's outcome, independent of the specific kinds of services received.

RMRS (Regenstrief Medical Record System)
A clinical information system at the Regenstrief Institute, Indiana University, Indianapolis, Indiana.

RODEO NET
Rural Options for Development and Educational Opportunities Network

Rule-based expert system
A decision support system based on large numbers of heuristics, or rules of thumb, derived from analysis of action patterns of experts or from published literature.

Run-length encoding
A data compression scheme in which extended series of repetitive data are replaced by the first item in the series and a token indicating the length of the data run.

RUS
Rural Utilities Service (formerly the Rural Electrification Administration)

Secondary data
Data originally collected for one purpose (e.g., program administration) and then analyzed for a different purpose (usually research or evaluation).

Shared decision support systems
Designed to inform patient/provider decisions regarding prevention, diagnosis, management, and treatment.

Smart card
A plastic device the size of a credit card with an embedded computer processor and memory.

SMS (Shared Medical Systems)
A vendor of hospital information services and products.

SNOMED (Systematized Nomenclature of Medicine)
A system for classifying and coding health problems, symptoms, and services.

Social interface
A human-computer interface design approach in which users interact with representations of physical objects or, in some cases, anthropomorphic agents displayed by their computer.

Speech recognition
Automated conversion of spoken words into computer-based text. Some speech recognition systems recognize only one person's voice; others are speaker-independent but recognize a more limited vocabulary. They may recognize continuous speech or, more commonly, require that slight pauses be inserted between words.

SSN
Social Security number

STARPAHC
Space Technology Applied to Rural Papago Advanced Health Care, a 1970s cooperative telemedicine project supported by NASA, the Indian Health Service, and the Papago people.

Statistical control
Control of confounding variables in retrospective research, either by classifying patients into groups that are homogeneous with respect to those variables, or by adjusting for the variation in the outcome variable that is accounted for by those confounding variables.

Structured data entry
A data collection technique that constrains the language and format of clinical descriptions for the purpose of ensuring uniform, unambiguous, interchangeable messages.

Symmetric encryption
Encryption of a message with a key derived from a password that must be known by both the sending and receiving parties.

Systematic review
Extraction of specific items of information from numerous research works on a given topic and comparison of those items across those works using structured methods.

T1, T3
See DS-1, DS-3.

Tablet computer
A computer with an integrated display and digitizer, rather than a keyboard. Also known as a clipboard or pentop computer.

TCP/IP (Transmission Control Protocol/Internet Protocol)
A communications protocol governing data exchanged on the Internet.

Telemedicine
The use of information technology to deliver medical services and information from one location to another.

UMLS (Unified Medical Language System)
A computer-based system for translating among disparate clinical nomenclatures, maintained by the National Library of Medicine (NLM).

UNLS (Unified Nursing Language System)
A system similar to the Unified Medical Language System (UMLS) that focuses on nursing services.

Validity
The extent to which an observed situation reflects the true situation. Internal validity is the extent to which the results of a study reflect the true relationship between an intervention and an outcome. External validity is the extent to which the results of a study may be generalized to other settings, etc.

VAN (value added network)
A data communication network that provides services beyond normal transmission, such as error correction or message storage and forwarding.

WEDI
Workgroup for Electronic Data Interchange

WHIN
Wisconsin Health Information Network

WHO
World Health Organization

WIC (Women, Infants and Children)
A special supplemental food program administered by the U.S. Department of Agriculture.

Willingness-to-pay approach
A valuation approach used in cost-benefit analysis that assigns monetary value to human life by considering how much individuals are willing to pay for a reduction in the risk of death or illness.