DIVISION OF INFORMATION RESOURCES
RESPONSES TO QUESTIONS FROM THE ALASKA AREA ON
INFORMATION TECHNOLOGY IN THE INDIAN HEALTH SERVICE

General Organizational and Infrastructure Questions:

1) **Does IHS have an IT strategic plan that goes beyond 2003? If so, how do we get access to it? The one on the web is for 1999-2003. What is their long term strategy for RPMS replacement?**

   The IHS updates its 5-year IT strategic plan annually. The latest version of the plan is dated 2003-2008 and will be made available on the IHS website at: http://www.ihs.gov/Cio/strategic_plan/index.asp. The IHS Division of Information Resources (DIR) has established a team to update the IHS 5-year IT plan in September, 2004. The plan is tied to the Government Performance Results Act, the Performance Assessment Review Tool, the IHS Budget, and other strategic and performance planning requirements of the Agency.

   The long-term strategy for RPMS is to 1) upgrade to and remain current with VistA releases (to the greatest extent possible), 2) encourage the VHA to incorporate IHS requirements in VistA design and development (to avoid rework) 3) adopt the technology platform for VistA reengineering (java and a relational database environment), 4) incorporate core VHA solutions (e.g., MPI, CDR), 5) integrate commercial solutions where appropriate and cost-effective (e.g., dental), 6) interface with HHS and eGov financial and administrative systems (e.g., UFMS), 7) monitor DoD (CHCSII, etc.) and private sector (e.g., Kaiser's Epic) COTS implementations, and 8) create a governance and program management structure that support ITU ownership, management and operation of "IHS" information technology (not limited to RPMS).

2) **What will be the impact of IHS restructuring and movement of IHS IT under the umbrella of DHHS IT?**

   The IHS is categorized as a large Operating Division (OPDIV) within HHS, and as such, the goal for each large OPDIV is to internally consolidate its core IT Services under a central IT organization led by the OPDIV Chief Information Officer (CIO) and Chief Technology Officer (CTO). The IHS Headquarters reorganization that will be published in the Federal Register in August 2004 establishes a Chief Technology Officer position that will work closely with the IHS CIO. In addition, the CIO supports the establishment of an Information Systems Coordinator (ISC) Committee that will report to the IHS CIO. The Committee will be comprised of IHS Area Office IT leaders including Area CIOs and ISCs. The IHS also has an established IT policy group called the Information Systems Advisory Committee which advises the Director of the Indian Health Service regarding IT direction.

   Who will be impacted? What will it mean for services?

   Each large OPDIV will leverage a performance-based contract, Service Level Agreements, standard operating procedures (SOPs) and solutions, and enterprise-wide plans to ensure that a consistent level of service is provided across its organization. The IHS is consolidating IT activities with HHS enterprise-wide initiatives including the VBNS network, e-mail, active directory migration, the UFMS, IFAS, etc.

   What will it mean for RPMS updates?

   These consolidation efforts will not have a direct impact on RPMS or its updates.

3) **What impact does the "One DHHS" initiative to standardize hardware and software throughout DHHS including IHS have on the future directions of IHS IT? Cache/Mumps is not the DHHS standard for databases. The VA system has projects migrating databases from Cache/Mumps to Oracle. Will IHS follow suit?**

   See answers to 1and 2 above. Per Dr. Clayton Curtis, VHA-IHS Interagency Liaison & Enterprise Architecture, the migration from Cache/Mumps to Oracle is shifting at the VHA. While they use Oracle for some corporate level databases, their current plan (based on cost considerations) is to continue to use Cache as the relational database (theoretically only as that, i.e., without M/Cache application development.)

4) **Has IHS investigated obtaining FDA approval for its EHR? No. Have plans been put in place to deal with the eventualities that may occur given potential changes in FDA regulations?**

   We expect that continued collaboration with the VHA will be especially beneficial if healthcare IT becomes increasingly regulated.

5) **Is the IHS development shop ISO 9000 or other national or international software development standard certified?**

   No. However, the development shop subscribes to, and attempts to follow, the quality management principles explained in the standard, within current resource limitations and mission demands. We are not aware of any regulations or requirements for certification.

6) **What is the budget for new IT development in IHS? How many FTEs are in R&D? How many in implementation and training? Do you anticipate the resources growing or shrinking? Will R&D be controlled by DHHS or IHS?**

   The IHS budget documents describe federal expenditures for development, modernization, and enhancement as distinguished from operations and maintenance (see Exhibit 300s). These documents are not precise and generally do not reflect development funded by tribally operated programs, however. There are no FTEs devoted to R&D, at least not in any conventional sense, in IHS. Again, we try to leverage the benefits of R&D done by others, including the VHA. Implementation and training, like development, are increasingly carried out by contractors. Overall, we anticipate an increasing proportion of resources going to IT. This seems to be the case at all levels of the organization. IT expenditures tend to be commingled with the health services budget due to the close coupling of technology and healthcare delivery and the lack of a separate IT line item in the IHS budget. See above comments regarding the HHS/IHS relationship.

7) **What middleware will IHS utilize in the future? Corbamed as DOD utilizes? Or ?**

   IHS has no plans to incorporate CORBAMed. The IHS architecture allows for the use of CORBAMed, and other solutions, for middleware that provide vocabulary services. The IHS continues to partner with VHA in the evolution of solutions to clinical needs, e.g., the Lexicon application. The IHS continues to participate in the Consolidated Health Informatics (CHI) initiative, whose products will form a standardized basis for a generally applicable solution to vocabulary services.

Questions about Security and Authentication:

1) **When will RPMS be HIPAA security reg compliant? What are the plans for making it compliant?**

   The RPMS is scheduled for a risk assessment to be completed by December 2004. Weaknesses discovered affecting HIPAA compliance will be addressed to make RPMS compliant by April 2005. The scheduled risk assessment will address E-authentication requirements as well. Results will be used to ensure RPMS is compliant with E-authentication requirements.

2) **What support is there for strong authentication of users (fingerprint, iris scan, face recognition, smart cards, etc)?**

   At least one Area (Tucson) has implemented fingerprint authentication, for both LAN and particular system access. ITSC is processing purchase of fingerprint devices to research specific applicability and general use.
   The HHS is coordinating the Department-wide role-out of a PKI capability. This effort should provide the basis for a Department-wide smart card effort. The possibility of using proximity cards is being investigated for use in some environments.

3) **When will audit tools be available in RPMS that are a record of all activity by all users (reviewing, adding, updating or deleting information from the system)?**

   File adding, editing, and deleting are available now, through Audit options in VA FileManager. Menu option auditing is available thru the Kernel's auditing options. While the Kernel's file access tools have not been deployed nationally, they are available for local implementation, but are resource intensive, and require a high level of technical expertise for implementation and management. Some tools in the IHS Patient Chart can track all the user's activities, but are also resource intensive.

4) **Does the RPMS system and its mumps/cache database meet "Orange Book" DOD trusted computer system evaluation criteria DoD 5200.28-STD? If not, when or will it ever be compliant?**

   RPMS meets some levels specified in the orange book, but is not required to meet the highest levels. The Orange Book is superseded by Common Criteria. CC EAL level 3 or 4, most likely 4 would be the target. A CC rating is a lengthy and expensive process. All other things being relatively equal in an evaluation between two products a rating such as this may make a difference. Going with a product that has been CC rated gives the consumer some level of assurance of integrated security.

Questions about Specific Functionality:

1) **Has IHS announced release dates for upgrades to Lab and Blood Banking? What are they? What kind of updates can we expect?**

   The reference lab interface should be released within 2 months; it is in alpha testing at 4 sites and working well for Lab and Quest. It will be going to beta testing within the next 3 weeks.

   The VHA has a new Blood Bank system under active development (contractor-developed but Government-owned). Re-engineering of the Lab package is beginning now as part of the general re-engineering of core VistA packages.

2) **Does IHS have a solution for barcoding and point of service positive patient ID?**

At the VHA, this is actually part of Bar-Coded Medication Administration (BCMA), operational on an inpatient basis now, and likely to be expanded to selected outpatient settings (e.g., invasive procedures). We will need to determine when this will be incorporated in the EHR

3) Does IHS have a plan to implement a package for ICU including all relevant interfaces? What is the plan? When will it be completed?

No; we have not evaluated or been asked to develop this, and the need is small. The VHA presently utilizes an outside vendor for an ICU-specific charting. To date, interfaces have not been finalized between this vendor and CPRS. The IHS will be following this development closely. Certainly, the IHS EHR does not preclude sites from utilizing commercial packages for ICU recordkeeping. A long-term integration needs to be developed. Such an integration plan should include developing clinical care possibilities such as the eICU. Pilot eICU projects may be in place within the next 1-2 years.

4) Does IHS have a plan to implement automated Anesthesia Record keeping with device interfaces? What is the plan? When will it be completed?

The same reply regarding an outside vendor for ICU applies for Anesthesia.

5) Does IHS have a plan to implement Respiratory Care charting with device interfaces? What is the plan? When will it be completed?

The IHS will be following the VHA's lead on the development and implementation of respiratory care charting with device interfaces. The IHS RPMS staff will share the IHS plan with its constituents when developed.

6) What support does IHS have for interfaces to bedside medical devices (infusion pumps, urimeters, monitors, etc?) Will they support the IEEE MIB standards?

The IHS will be following the VHA's lead on the development and implementation of interfaces to bedside medical devices. The IHS RPMS staff will share the IHS plan with its constituents when developed.

7) What rule engines are planed for the future? Will they comply with Arden Syntax or GLIF standards?

See comments below related to enhancement of decision support.

8) What plans are in place to integrate and expand the use of SNOMED, LOINC and other industry standard taxonomies into IHS products?

As mentioned above, IHS participates in the e-Gov initiative known as Consolidated Health Informatics (CHI) and the complementary Federal Health Architecture project. CHI is a "Government to Business" initiative, with the description: "Adopts a portfolio of existing health information interoperability standards (health vocabulary and messaging) enabling all agencies in the federal health enterprise to "speak the same language" based on common enterprise-wide business and information technology architectures." On March 21, 2003, the Departments of Health and Human Services (HHS), Defense (DoD) and Veterans Affairs (VA) announced the first set of uniform standards for the electronic exchange of clinical health information to be adopted across the federal government. Those standards were reviewed and endorsed by CHI, and were: HL7, NCPDP, IEEE1073, DICOM and LOINC. In addition, the IHS has participated with the National Library of Medicine/National Institutes of Health in an enterprise initiative to

obtain the perpetual license to incorporate the Systematized Nomenclature of Medicine (SNOMED) into the Unified Medical Language System (UMLS) Metathesaurus.

IHS already has a LOINC conversion process in place and that over 30 sites have converted

At VHA, LOINC, ICD, and CPT (including HCPCS) are currently included in VistA, and discussion of how to best utilize SNOMED is taking place. VHA is moving to an Enterprise Reference Terminology for VistA that will be the basis for internal encoding, with mapping to external terminologies. We would expect that IHS would take advantage of VistA evolution.

9) What are the plans for structured radiology reporting? Templates? Voice recognition? Bar coded entry tools?

The radiology package as it currently exists supports voice recognition (either direct entry or via connection to HL7-based transcription systems). Radiology v 5.0 comes with interfaces for three vendor specific voice recognition reporting systems: IBM MedSpeak©, Dictaphone Powerscribe©, and MedQuist (AGFA) TalkStation©. All three use HL7 standard messaging.

Version 5.0 also supports the printing of a variety of fields in barcode format: Case number, long case number (includes date), procedure name (30 & 60 characters), and Social Security Number. These fields may be set up to print on flash cards, jacket labels, and exam labels, as well as in report headers and footers. There is also an option to print a bar coded procedure list that includes bar coded CPTs and/or procedures for a specific imaging type.

The VHA has no specific plans at this time, though this is likely to emerge during radiology re-engineering (e.g., the possible transition of radiology report storage to TIU).

10) What are the plans for an integrated alerting package (reminders and alerts distributed in a variety of manners including tracking and acknowledgement)

This fits within case management, as well as the new reminder package in EHR. At the VHA work on re-engineering alerts, in a restricted sense, is under way. Several forms of “alerts” and “reminders” fall under “decision support”, which (as noted below) is a major part of CPRS re-engineering.

11) When will IHS support HL7 version 3? Is it currently in development?

IHS has no plans to support HL7 version 3. HL7 v 2.x remains the industry standard, and is implicitly recognized by HL7, as evidenced by the continued development of the 2.x standard. The NCVHS recommended HL7 Version 2 Messaging Standard as the core current standard based on its satisfaction of four main criteria: 1) its degree of market acceptance 2) the extent to which it enables interoperability between information systems, 3) its ability to facilitate the comparability of data, and 4) the aspects that support data quality. However, NCVHS also recommended that version 3 be recognized as an emerging standard. IHS knows of no trading partner requirements to exchange messages in v 3 format, and knows of no plans of any trading partner to do so.

12) When will IHS support ICD10? Is there development work in progress?

Already supports ICD 10 for death data—which is all the NCVHS requires at the current time. The transition to ICD 10 is based upon the limitations of mapping into ICD10 from 9; this is really a statistical office call, since we already record death data with ICD 10. While some statistics (death) are being converted to ICD10 for national statistical reporting, last year the NCVHS estimated it might be 2006 before they recommend adoption of ICD10 to the HHS Secretary. The IHS cannot implement ICD10 until

the Secretary makes that recommendation. We must also consider the growing use and emphasis on SNOMED.

13) What are the plans for an expert system based antibiotic assistant?

At VHA, point of care decision support is one of the four major "chunks" of CPRS re-engineering. Existing order checks are a small example of the capabilities needed, and the requirement for dosing assistance is well recognized.

14) What are the plans for an expert system based medication ordering system?

Again, at the VHA, point of care decision support is one of the four major "chunks" of CPRS re-engineering. Existing order checks are a small example of the capabilities needed, and the requirement for dosing assistance is well recognized.

15) When can we expect updates to the ad hoc query and reporting tools? Report management and distribution tools… including publish directly to the web?

We need more information to address this question adequately. If you mean Q man, there are ongoing updates to these, based on input from the field. If you are requesting the ability to query more fields, we would just need to know what fields you want to add in. GPRA+ (Clinical Indicator Reporting System 2005) will be Web enabled within the next 6 weeks. The Albuquerque— Service Unit is conducting a data dump test within the next 3 weeks. The IHS Health Performance and Evaluation System does some of this already. Again, more information on actual requirements is needed to respond to this question.

16) What support does IHS have or plan to have for handheld wireless, point and click, easy to use point of service clinical systems?

This capability is being tested in the EHR alpha and beta test sites. It already exists at Cherokee with PCC and HP products; point-of-service on tablets with feed directly into RPMS once device is synched.

The VHA is beginning the development of a strategy for handheld / wireless clinical applications. Issues of security requirements, capital investment, risk management (e.g., loss of equipment), and lack of a "killer application" in VHA's environment of generally ubiquitous access have meant that a compelling business case has been slow to emerge. IHS may well have compelling requirements, and VHA may hit the same needs as time goes on -- IHS has an opportunity to participate in defining functional requirements.

17) What tools are in place or planned for integration of multimedia material into the clinical workstation?

Vista Imaging will be offered as the integration multi-media module for the EHR. Vista Imaging can be interfaced to existing PACS systems and other telehealth multi-media tools. Work is underway to include IHS and Tribal multimedia needs into future versioning of Vista Imaging.

18) When will RPMS be CCOW (clinical context object working group standards) enabled?

The IHS EHR is CCOW capable – but not currently "activated". At VHA, CPRS is CCOW enabled now, Care Management (the leading edge of HealtheVet Desktop) is CCOW enabled, and other portions of

VistA will be CCOW enabled as re-engineering takes place and requirements for CCOW enabling are identified.

19) What tools are planned for linking the current clinical context to on line reference material? Reference material at your fingertips?

Connectivity to UpToDate and other clinical reference tools can be set within the EHR communications tab. The IHS is also participating in Clinical Guideline Committee work with the VA and DoD to assess future options for active clinical decision support via the EHR. Licensing of content resources is clearly an agency or site-specific matter. However, CPRS re-engineering will be considering a generalized, site-configurable, approach to links to clinical knowledge resources within CPRS. The WebTop application provides a proof of concept implementation today.

20) What are the plans for consumer informatics? (Patients and families directly interacting with their provider and their own medical record)

The IHS is committed to the future development of a portal for a personal EHR. No such personal EHR presently exists for the IHS EHR. Pilot testing is planned for a diabetes care portal for patients and families (CDMP). The VHA is pursuing this aggressively with the MyHealtheVet project, the technology for which will be available to IHS, with an obvious connection to CPRS and HDR. The IHS will be determining its own course in terms of how it rolls out internet access, etc. to its patients.

21) What support is planned for telemedicine (store and forward or real-time video)?

A national telehealth care initiative for the IHS will work to collaboratively build on activities already underway across the country. This initiative will include representation from all interested Areas and telehealth projects and will emphasize the need for integration of telehealth images and records into the EHR. A model for support will be developed via the initiative. An on-line eTelehealth university is planned. Active planning is underway as well with other federal agencies.

At the VHA, telemedicine, in the context of imaging, is being done with both VistA Imaging (e.g., in asynchronous consultative applications) and commercial videoconferencing (e.g., for real-time encounters in behavioral health applications). TM (and “telehealth”) is a rapidly emerging clinical domain and will be supported through VistA (including VistA Imaging), but non-government products (e.g., videoteleconferencing, home telehealth devices) are an intrinsic requirement.

22) What are the plans for providing integrated care planning functionality?

The requirements are done; the IHS hopes to program and release in FY 05

23) What about multidisciplinary charting?

At VHA, this is supported in part through CPRS TIU interdisciplinary notes. This is a topic to be further explored during TIU re-engineering, and the IHS has an opportunity to participate in defining functional requirements. At IHS, multidisciplinary charting already occurs in the IHS Behavioral Health module; we would need more information from you to adequately address this issue.