

# *IHS Electronic Health Record (EHR)*

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# *Items for Discussion*

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- Rationale for EHR (10)
- Description of IHS EHR (3)
- IHS EHR Demonstration (10min)
- EHR implementation issues (6)
- Facility preparation for EHR (5)
- Role of Areas in EHR implementation (1)
- Status of EHR Program (4)



# *Why Use an Electronic Record?*

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- Patient safety
- Improved documentation
- Quality of care
- Data quality
- Risk management
- Security
- Accessibility
- Collections



# *Patient Safety*

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- Electronic Provider Order Entry
  - Prescriptions are legible
  - Reduces likelihood of improper dosing
  - Renewals/refills are exactly duplicated
  - Alerts providers to sensitivities & drug-drug and food-drug interactions
  - Similar benefits for other types of orders
    - Lab, X-ray, nursing



# *Patient Safety (cont'd)*

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- Alerts & Notifications
  - All lab & radiology results
  - Unsigned notes & orders
  - On-line references and decision support
  - Other communications that can decrease paging, phone calls



# *Improved Documentation*

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- Text Integration Utility (TIU)
- Encounter-specific templates
- Fully customizable
- Bring RPMS data into encounter note
- Encourage more complete documentation
- Legible & accessible



# *Quality of Care*

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- Clinical reminders
  - Patient-specific
  - Disease-specific
  - Locally customizable
- Decision support tools
  - Local guidelines
  - Web-based resources



# *Data Quality*

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- Data entry at point of care
  - Vitals & measurements
  - Notes
  - Diagnoses and codes
  - Charges
- Access to data is immediate
- Users “own” data and take better care of it



# *Risk Management*

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- Better patient safety
- Improved quality of care
- Better documentation
- Legible records are less likely to go to trial
- Private insurers offer discounts to EMR users



# *Security*

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- Access depends on role of user
- Tamper-resistant, with audit trail
- Sensitive patient tracking
- Can't misplace an electronic record
- Backups
  - Daily or twice daily, stored off site
  - Maximal lost data – 1 day
    - vs entire lifetime for 1 lost chart



# *Accessibility*

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- All authorized users can access record simultaneously
- Data is immediate
- Accessible from field clinics – no copying



# *Collections*

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- Customizable superbills
- CPT data directly into PCC
- Immediately available to billing package
- Notes are legible & more thorough
- Private sector – EMR encounters average 1-code increase over handwritten



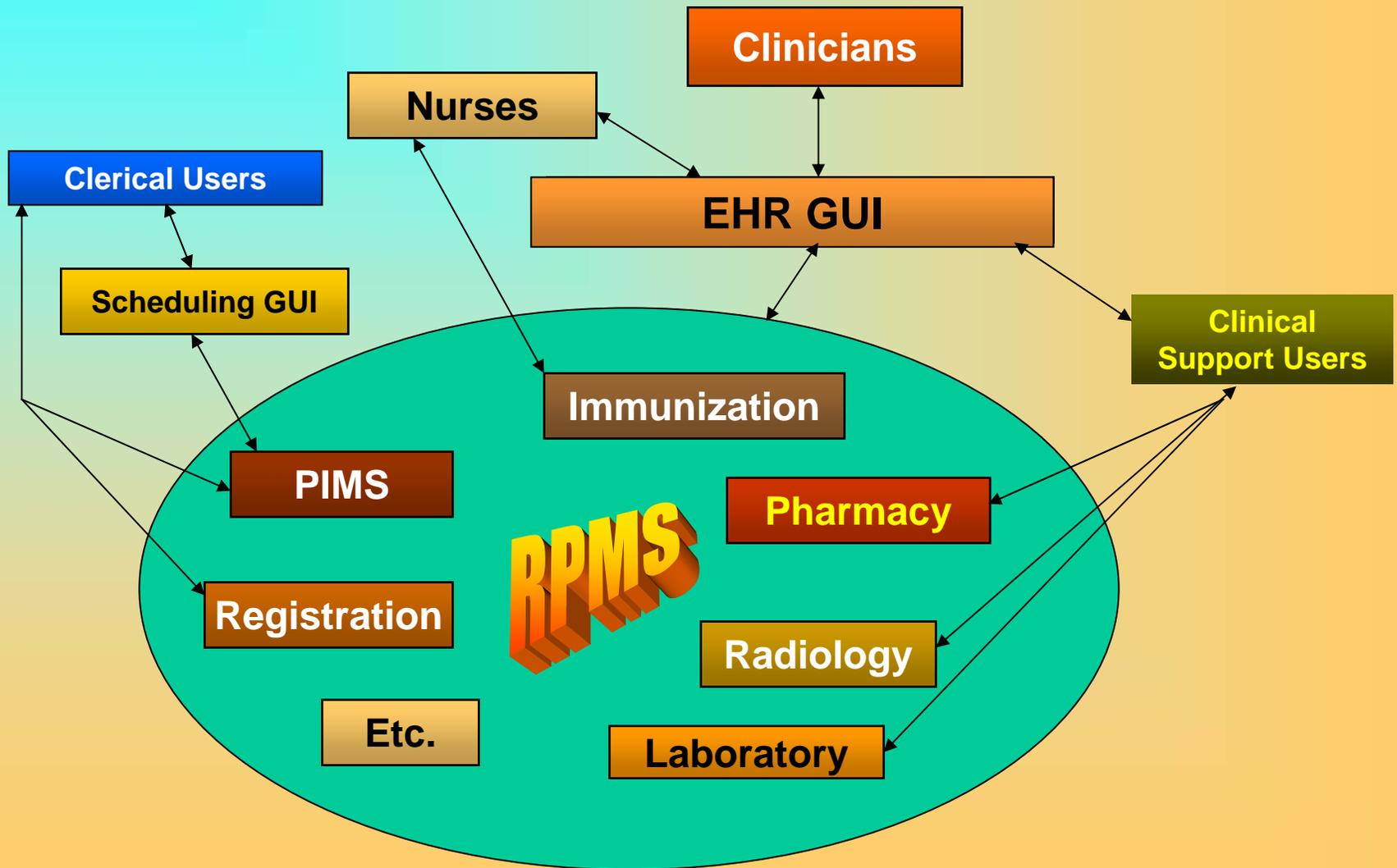
# *What is IHS EHR?*

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- Cache database
- RPMS server-side applications
- GUI framework (VueCentric)
  - Based on CPRS (VHA)
  - Componentized



# Architecture of IHS EHR





# *Advantages of IHS EHR*

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- Retains existing database – no data gap
- Same data from EHR and non-EHR sites
- Extensive customizability
- Integration of server-side applications
- Minimal interface development and maintenance
- Very low cost

# *IHS EHR Version 1 alpha*

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# *EHR Implementation Issues*

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- Provider & staff acceptance
- Provider productivity
- Costs
- Business process impacts



# *Provider/Staff Acceptance*

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- Some staff (especially older) are uncomfortable with computers
- Some cannot type
- Some will fear job loss
- Some resist change of any sort



# *Provider Productivity*

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- Steep learning curve
- Note authoring and order entry take longer
- Expect substantial drop in patients per hour initially
- Balanced by improved safety, quality, etc.
- Should recover in weeks → months
- Productivity eventually returns to baseline



# Costs

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- Hardware (1-time + maintenance)
  - Upgraded/redundant RPMS server
  - Network server & cabling
  - Wireless infrastructure (optional)
  - User access (PCs or wireless tablets)
- Personnel (recurring)
  - Clinical Application Coordinator (CAC)
  - IT staff (possible)



# *Business Process Impacts*

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- Patient dynamics
- Chart flow
- Clinical support departments
- Data entry
- Coding
- Billing
- CHS
- Medical Records



# *Control of Medical Records*

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- Historically paper records under control of Medical Records department
- Maintenance of electronic records necessarily requires involvement of IT staff
- IT staff are well versed in security issues
- Cooperation and collaboration among departments is necessary



# *Facility Preparation for EHR*

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- Leadership commitment
  - Clinically driven
  - IT as partner
  - Multidisciplinary team
- Evaluate and procure user hardware
  - PCs at all points of service, or
  - Wireless-enabled tablet computers



# *Facility Preparation (cont'd)*

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- Business Process Consultation
  - Implement recommendations
- Consider staffing needs
  - Clinical Application Coordinator (CAC)
  - IT support
- CAC training
- PIMS installation, training, go-live
- Pharmacy file preparation (extensive)
  - Similar for radiology, laboratory
- Pharmacy installation, training, go-live



# *Facility Preparation (cont'd)*

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- EHR setup (extensive – CAC)
- Baseline metrics for evaluation
- GUI training (end users)
- Go Live
  - Some components affect entire facility at once
  - Phased implementation for clinical end users
- Evaluation – follow up metrics



# *Clinical Application Coordinator*

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- Highly recommended for all facilities
  - Smaller sites may need to share CAC
  - Area-level CAC support
- CAC skills –
  - Clinical background
  - Computer skills
  - Good “people” person
  - Good trainer
- 50% of VA CACs are nurses, but . . .



# *Role of CAC*

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- Setup of EHR
  - Documentation templates
  - Quick order sets
  - Locally developed reminders
  - ICD and CPT pick lists (with coders)
- Training of new users
- Refreshers and training on updates
- Troubleshooting and hand-holding



# *Role of Area Offices and ISCs*

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- Network consultation/support
- Startup costs (carryover \$\$)
- Regional installations and training
  - PIMS
  - Pharmacy
  - GUI
- Regional CAC functions



# *Current Status*

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- IHS EHR Version 1 development essentially complete
- PIMS, Pharmacy, Radiology, TIU applications in testing
- EHR is in alpha test at facilities
  - Wind River WY
  - Crow MT
  - Tuba City AZ
  - Warm Springs OR



# *Plans for 2004 and Beyond*

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- Beta testing scheduled for June-September
- Additional test sites summer 2004
  - Cherokee NC
  - Fort Defiance AZ
  - WW Hastings, Talequah OK
  - PIMC, Phoenix AZ



# *Current Deployment Goals*

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- By end of FY 2004:
  - Certified and released IHS EHR v1
  - Eight facilities using EHR
- Four additional sites by end of CY 2004
- Deploy to 30 facilities in 2005
- Ongoing development & enhancement
- Dependent on funding

# *IHS EHR Website*

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[www.ihs.gov/cio/ehr](http://www.ihs.gov/cio/ehr)

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# *Discussion*

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# *Patient Dynamics*

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- Slower/longer encounters during initial EHR use
- Patients/community need to be aware and prepared for potential delays
- Patients should be engaged with, not excluded from, provider/computer interaction
- Patients in general appreciate and are interested in use of technology for patient care



# *Chart & Paper Flow*

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- EHR is accessible at many places at the same time, including coders, billers – even at remote locations
- However, much non-electronic paper will continue to be generated, so charts will need to be pulled for a while
- Ultimate goal should be to eliminate printing, copying, & routing paper



# *Clinical Support Departments*

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- Pharmacy workload increases substantially during preparation phase
- Direct receipt of electronic orders changes flow especially in pharmacy
- CAC and IT support need to be available at all times of patient care



# *Data Entry and EHR*

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- Most data entered into EHR at point of care by clinicians, nurses
- Data entry needs overall will decrease with EHR
- BUT . . . .



# *Role of Data Entry*

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- Resolve data entry backlog
- Error report resolution (ongoing)
- Contingency planning for system down time
- Data entry for system down time
- Select data not initially covered by EHR



# *Coding and EHR*

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- EHR allows providers to enter ICD and CPT codes for diagnoses and procedures
- Providers are ultimately responsible for their own codes
- BUT . . . .



# *Role of Coders*

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- Few providers are adequately trained to code
- Many will not want to take the time
- Coding errors are inevitable
- Ongoing coding training and surveillance required
- Records need to be reviewed for accuracy – billed or not
- Coders work with CAC to set up ICD and CPT pick lists



# *Billing and EHR*

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- Billing information is available before patient leaves the building
  - Diagnoses
  - E&M Codes
  - Lab & other service codes
  - Clinical documentation
- Rapid billing means rapid collection
- Billers have more time for researching rejections and aged claims



# *Contract Health and EHR*

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- EHR will contain RCIS component
- Providers can enter and track referrals without paper
- Role of CHS does not change
  - Scheduling
  - Communicating
  - Monitoring priorities
  - Budget management



# *Medical Records and EHR*

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- Most clinical transactions take place on line
- Far less filing of paper
  - No progress notes, lab or x-ray reports
- Clinicians will refer less and less to paper record over time
- Less pulling of charts over time
- BUT . . . .



# *Role of HIM Staff*

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- Filing of non-electronic documents
  - External – consults, discharge summaries
  - Internal – EKGs, consents, advance directives
- Scanning of documents into imaging application
  - VistA Imaging (future enhancement)
- Respond to ROI requests
- Surveillance for medical record compliance
- Contingency planning for system down time
- Preparing of records for archiving



# *Other EHR Issues for HIM*

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- What is the “legal” medical record?
- Who is responsible for control of the medical record?



# *“Legal” Medical Record*

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- AHIMA definition of the Legal Medical Record
  - “The legal health record is individually identifiable data, *in any medium*, collected and directly used in and/or documenting health care or health status.”
- Existing policies/IHS Manual assume a paper record
  - IHS HIM consultants reviewing policies on records and retention
  - VA policy still requires paper archiving