

Indian Health Service

EHR Tips and Tricks: STIs, SUD, HCV, PrEP and HIV

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CLINICAL INFORMATICS

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Learning Objectives

- Define Clinical Decision Support (CDS)
- Understand different options to provide CDS
- Delineate roles in CDS process
- Outline available RPMS CDS options
- Define path to obtain assistance



Clinical Decision Support



Definition of CDS

Provides clinicians, staff, patients or other individuals with knowledge and person-specific information

Intelligently filtered or presented at appropriate times

Enhances health and health care

CDS Tools

- Encompasses a variety of tools to enhance decision-making
 - Computerized alerts
 - Reminders
 - Clinical guidelines
 - Condition-specific orders sets
 - Focused patient data reports or summaries
 - Templates
 - Diagnostic support
 - Contextually relevant references information

CDS Five Rights

Right Information

Right person

Right CDS intervention format

Right channel

Right point in workflow



Benefits of CDS

- Increased quality of care
- Enhanced health outcomes
- Avoidance of errors and adverse events
- Improved efficiency, cost-benefit, and provider and patient satisfaction
- Promotion of best practices
- Cost profile improvements
- Rapid response to public health emergencies

Optimization of CDS

Measurable value in addressing a recognized problem area or area for improvement

Leverage multiple data types

Produce actionable insights from multiple data sources

Deliver information to the user

Demonstrate good usability principles

Testable in small setting & expandable to larger settings

Support successful participation in quality initiatives

CDS Challenges

Need to independently develop, deploy, and manage CDS content

Lack of reliable, shareable CDS content and capabilities

Absence of systemic means to validate content

Technical difficulties of sharing CDS

Suboptimal user interfaces

Inappropriate and inapplicable CDS

Success with CDS

Attributes that Lead to Success

Leadership

Identified and assigned roles

Integration

Value to users

Training and support

Standardization

Centralization

CDS Roles

- Informaticists = Clinical Applications Coordinators (CACs)
- Clinicians
- Leadership support
- Health Information Management
- Privacy



RPMS EHR CDS

RPMS EHR “TIPS AND TRICKS”

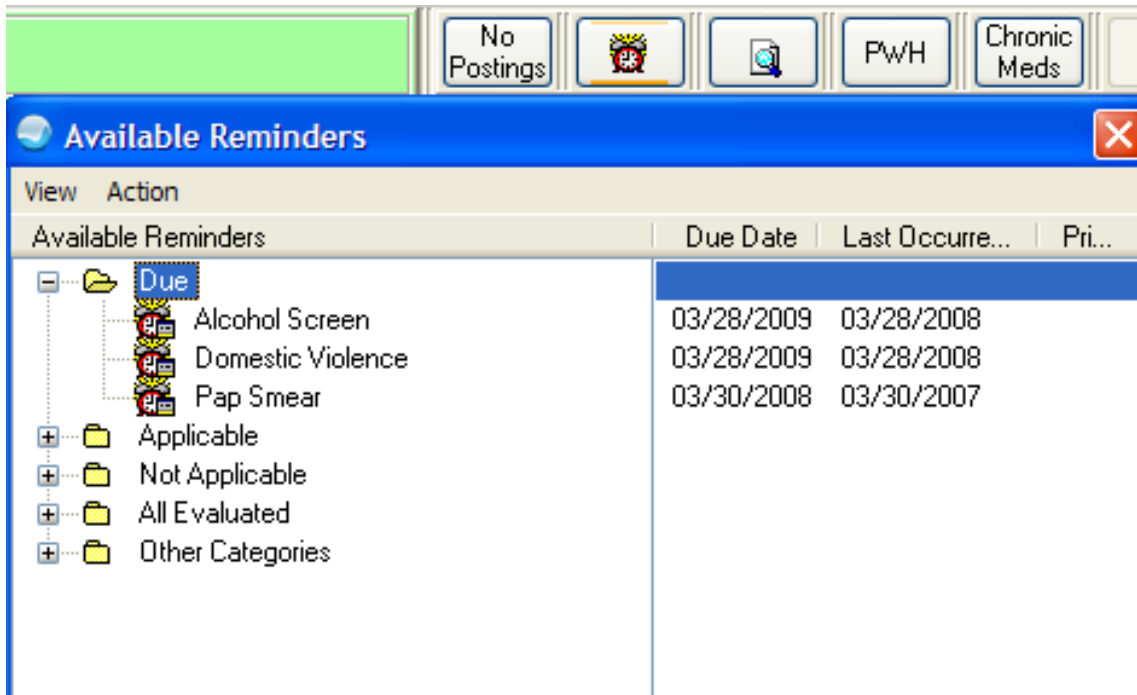


CDS Examples in RPMS EHR

- Clinical Reminders
- Order Menus
- Order Sets
- Order Checks
- Clinical Warnings
- Patient Record Flags
- Health Summaries
- Note templates
- iCare



Clinical Reminders in RPMS EHR



Available Reminders	Due Date	Last Occurrence	Pri...
Due			
Alcohol Screen	03/28/2009	03/28/2008	
Domestic Violence	03/28/2009	03/28/2008	
Pap Smear	03/30/2008	03/30/2007	
Applicable			
Not Applicable			
All Evaluated			
Other Categories			

Available Clinical Reminders

- Chlamydia screening
- HIV screening
- Hepatitis C screening & treatment follow up
- Syphilis
- Chronic Opioid Therapy (HOPE)



Reminder Resolution: Syphilis Screen Needed

Patient is between 13-64 years of age with no syphilis screen on file in the last year.

Syphilis screening lab test ordered by provider.

Syphilis screening lab test ordered per policy:
 The implemented orders are authenticated by the authorizing provider's signature at the bottom of this note.
 Policy Name: <edit w/i OI-NCI-SYPHILIS BY POLICY-221114>
 Policy Number: <edit w/i OI-NCI-SYPHILIS BY POLICY-221114>
 Last Approval Date: <edit w/i OI-NCI-SYPHILIS BY POLICY-221114>

Syphilis screening lab test previously performed elsewhere:

STI-Tests education provided at this encounter.

Good

2

RECEPTIVE

Patient declined syphilis screening at this time.

 Refusals should also be documented via the "Personal Health" EHR component

* Indicates a Required Field

Patient Educations: **STI-TESTS**
 Orders: **SYP AB**

Syphilis Screening Reminder Documentation





Hepatitis C Screening and Treatment

Group of Reminders that can follow a patient from needing screening all the way to treatment and SVR

Red = Due

Blue = Taken care of

White – Not applicable

-  HCV AB+, needs viral test interp
-  HCV AB+, needs viral testing
-  HCV DX w/no documented testing
-  HCV Screen 18-99

Can use template to document status

Ex: HCV infection, no treatment history

Based on laboratory results and clinical history, document current Hep C status

- HCV Infection - no treatment history
- HCV Infection - initial treatment in progress
- HCV Infection - full or partial treatment complete
- HCV Infection - re-treatment in progress
- HCV Clearance - preliminary
- HCV Clearance - final
- HCV - re-infection

Hepatitis C care

- Ordered Hep C Clinic consult
- Follow up at Hep C clinic



STDs...
<u>Pelvic Inflammatory Disease</u>
cefTRIAXone 500mg IM Doxy Hyclate 100mg BID with or without metroNIDAZOLE 500mg bid
<u>Bacterial Vaginosis</u>
metroNIDAZOLE 500mg bid Tinidazole 2gm daily x 2 days
<u>Gonorrhea & Chlamydia (Dual Therapy)</u>
cefTRIAXone 500mg IM Doxycycline Hyclate 100mg bid
if >150kg cefTRIAXone 1gm IM Doxycycline Hyclate 100mg bid
<u>Gonorrhea only (Single Therapy)</u>
cefTRIAXone 500mg IM
if >150kg cefTRIAXone 1gm IM
Cefixime 800mg po now
<u>Trichomoniasis</u>
metroNIDAZOLE 2gm x 1 Tinidazole 2gm x 1
<u>Genital Herpes</u>
Acyclovir 400mg tid x 7 valACYclovir 1gm bid x 7
<u>Syphilis</u>
Penicillin G 2.4 million units IM Doxycycline Hyclate 100mg bid Azithromycin 2gm PO x 1

Order Menus

Order Sets

Antiviral...

HIV Post Exposure Prophylaxis
HIV PEP (Truvada + Isentress)

PEPLine 888.448.4911

LAB ORDER SET MENUS

- 24 Hour Urine
- 28 WK Prenatal Labs (Rh NEG)
- 36 WK Prenatal Labs

- Anemia Screening
- C Section PreOp WorkUp
- CHF Follow Up
- Diabetic Order Set Menu
- Employee Health
- First Prenatal Labs
- GPPA Panel
- HIV Screening
- Hypercoag Panel
- Liver Follow Up
- MALIGNANT HYPERTHERMIA
- PCOS Lab Panel
- PIH
- Pre Operative WorkUp
- Psych New Pt Lab
- Sexually Transmitted
- Tick Panel
- Thyroid Screening
- TORCH Panel
- Well Woman

- All Lab Tests
- Misc. lab test (not available in All Lab Tests)

Sexually Transmitted Illness

- 3C Chlamydia (Urea)
- Hepatitis Profile
- HIV SCREEN
- SYP AB



Medication Order

PENICILLIN INJ,SUSP Change

Pt Wt on 01/12/2023 150 lb (68.04 kg)
Pt Ht on 01/12/2023 60 in (152.4 cm)

Dosage Complex

Dosage	Route	Schedule
2.4 MILLION UNITS/4ML 1200000UNIT/ML	INTRAMUSCULAR	ONCE <input type="checkbox"/> PRN
1.2 MILLION UNITS/2ML 1200000UNIT/ML	INTRAMUSCULAR	MO-WE-FR
2.4 MILLION UNITS/4ML 1200000UNIT/ML	INTRA-ARTICULAR	MO-WE-FR-SA-SU
600000UNITS/1ML 600000UNIT/ML		MO-WE-FR-SU

Order Checking - Source: Veterans Health Administration

■ Previous adverse reaction to: PENICILLIN (LOCAL) Reac: NAUSEA AND VOMITING (5/17/18@11:37);RASH (9/17/20@12:02:19)

Patient Instructions:

Days Supply: 1

Pick Up: Clinic Home NE

Notes to Pharmacist:

Accept Order Cancel Order

PENICILLIN INJ,SUSP 1200000UNIT/ML
INJECT 2.4 MILLION UNITS/4ML INTRAMUSCULARLY (IM) ONCE
-----> GIVEN IN CLINIC <----- GIC
Quantity: 4 Days: 1 Refills: 0 *Chronic Med: NO Dispense as Written: NO Indication: Chronic atrial fibrillation |

ADR's Accept Order Quit

Order Checks

ds Pharm Ed C C D A

Postings CWA

Patient Postings

Allergies	Severity	Signs / Symptoms
Topical Steroids		Anxiety
Aspirin		Severe Rash
Lactose	Moderate	Gi Reaction;Diarrhea
Motrin		Alopecia
Bactrim		Rash
Hydrocortisone	Moderate	Other Reaction
Penicillin		Rash
Azithromycin		Headache

Crisis Notes, Warning Notes, Directives, Record Flags

C	CRISIS NOTE	20-Mar-2006 07:20
W	CONTROLLED SUBSTANCE AGREEMENT WARNING	14-Jan-2009 10:22
W	CONTROLLED SUBSTANCE AGREEMENT WARNING	19-Apr-2007 12:08

Clinical Warnings



Patient Record Flags

“Pops” – more visible form of tagging a patient

Special considerations:

- Privacy
- Implementation & management

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Health Summary Syphilis Health Summary
***** CONFIDENTIAL Syphilis Health Summary SUMMARY pg. 1 *****
DEMO.GINA DOB 07/37/1987
----- SCL1 - Pregnancy HCG (max 1 year) -----
Collection DT Spec UR PREG
06/01/2022 11:53 URINE NEG
----- SCLU - Syphilis labs -----
Collection DT Spec TP-PA RPR RPRtite
06/01/2022 18:26 SERUM Reactive
06/01/2022 18:26 SERUM REACTIVE 4
01/03/2022 12:52 SERUM 128
12/29/2021 13:00 SERUM Reactive
12/29/2021 08:50 SERUM Reactive |
12/28/2021 20:18 SERUM REACTIVE 64
----- FLO - Flowsheet -----
BICILLIN ADMINISTRATION
Bicillin LA Usage
1/3/2022 :PENICILLIN G BENZATHINE 6
:00,000UNT/ML INJ 4ML=#4 I
:INJECT 4ML (2.4 MILLION UN
:ITS) INTRAMUSCULAR (IM) (
:DMC) FOR INFECTION DMC
----- SPN - Last Syphilis Note (max 1 occurrence or 1 year) -----
09/15/2022 12:20 Local Title: STI-S SUMMARY
Standard Title: INFECTIOUS DISEASE OUTPATIENT PROGRESS NOTE
35 yo F first diagnosed with syphilis 12/28/2021 (RPR 1:64, TPFA Reactive), all
prior RPRs on record non-reactive, last in 6/2019 (> 1 year prior), tested in the
setting of GU complaints, primarily vaginal lesions and then by the time of re-
evaluation and treatment had secondary rash.
Staged as secondary syphilis, treated with PCN 1/3
at the same time and noted to be 1:128 - 2 fold ri
change.
6/1/22 RPR 1:4 - >> 4-fold decline
Continue to monitor RPRs. High risk for re-infection given state of community
spread and that patient was already reported / treated as contact to another STI.
Signed by: /es/ RYAN CLOSE, M.D.
MEDICAL-OFFICER
09/15/2022 12:20
*** END **** CONFIDENTIAL Syphilis Health Summary SUMMARY pg. 1 *****

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Pregnancy test

Syphilis Labs

Medications given

Treatment Summary Note

Health Summary

PLAN

Patient to follow up with pharmacy for HIV PrEP services.
Will further evaluate at initial visit.

Labs to be ordered by clinic today:

- HIV Ag/Ab
- Chem 12
- Hepatitis Panel
- Urine Drug Screen
- HCG
- Syphilis
- C. trach/N. gon urine
- GC/Chlamydia swab (pharyngeal)
- GC/Chlamydia swab (rectal)

- HIV testing should be performed before initiation of PrEP, as needed and every 3 months at minimum.

- Pregnancy tests at minimum should be offered to female patients who are sexually active at every visit.

- STI testing (besides HIV) should be signed off by provider.

- STIs of concern (MSM population): Syphilis, Gonorrhea, Chlamydia

- UDS is only indicated one time

- Repeat of Hepatitis panel as needed and annually (if at risk)

Will notify patient once labs results available and schedule initial appointment.

Education needed:

- HIV transmission information HIV testing timeline
- HIV risk mitigation strategies STI education and prevention
- PrEP side effects and precautions PrEP administration and compliance
- HPV vaccine-series benefit and risks

ADDITIONAL NOTES/INFORMATION:

ASSESSMENT

This person is at high-risk based upon (select all that apply):

- Sexual partner with HIV
- Recent bacterial STD
- High number of sex partners
- Hx of inconsistent or no condom use
- Commercial sex work
- MSM risk index
- PWID risk index

Will evaluate further at initial visit.

- Urine Drug Screening: [REDACTED]

- Hepatitis A/B Immunity: [REDACTED]

- Last HIV test and date: [REDACTED]

- Immunizations needed: [REDACTED]

- Guidelines recommend for MSM who have multiple partners: Baseline and every 6 months testing for STIs (other than HIV)

GC/Chlamydia Urine catch
GC/Chlamydia swab (throat AND rectal)

- "Tests to screen for gonorrhea are recommended for all sexually active adults prescribed PrEP, both at screening and at semi-annual visits. Tests to screen for chlamydia are recommended for all sexually active MSM prescribed PrEP, both at screening prior to initiation and at semi-annual visits."

- "For gonorrhea and chlamydia testing in MSM, NAAT tests are preferred because of their sensitivity. Pharyngeal, rectal, and urine specimens should be collected (3-site testing) to maximize the identification of infection, which may occur at any of these sites of exposure during sex. Self-collected samples have equivalent performance as clinician-obtained samples 95-97 and can help streamline patient visit flow."

Quotation marks in document are directly from the CDC PrEP guidelines.

Syphilis Blood

- "Tests to screen for syphilis are recommended for all adults prescribed PrEP, both at screening and at semi-annual visits."

- Still need the following labs/information: [REDACTED]

Note or Reminder Dialog Templates

iCare Population Management

Community Alerts

Care Management
Group

Care Management
Event Tracking
(CMET)



Community Alerts

Community Alerts from Mar 14, 2023 to Apr 13, 2023

COMMUNITY ALERTS

Community Alerts provide deidentified visit data related to high-profile diagnoses that occurred within the past 30 days and may affect other patients in your community. The Alert categories are:

1. CDC Nationally Notifiable Infectious Diseases (CDC NND)
2. Suicidal Behavior Related Incidents
3. Public Health Alerts

Community	Type	Diagnosis	Cases Past 30 Days	Cases Yesterday	Most Recent Occurrence	Lab Confirmed
	Public Health	Haemophilus Influenzae ...	3	2	Apr 13, 2023	0
	CDC NND	Syphilis, Primary	4	1	Apr 13, 2023	4
	CDC NND	Syphilis, Primary	1	1	Apr 13, 2023	1
	Public Health	Influenza	75	3	Apr 13, 2023	71
	CDC NND	Syphilis, Primary	4	1	Apr 13, 2023	4
	Public Health	COVID-19	12	1	Apr 13, 2023	12
	CDC NND	Syphilis, Primary	1	1	Apr 13, 2023	1
	CDC NND	Syphilis, Primary	3	1	Apr 13, 2023	3
	CDC NND	Syphilis, Primary	191	11	Apr 13, 2023	194
	Public Health	COVID-19	173	5	Apr 13, 2023	165
	CDC NND	Syphilis, Primary	94	2	Apr 13, 2023	94
	CDC NND	Syphilis, Primary	10	1	Apr 13, 2023	11
	Public Health	Influenza A H5N1	71	2	Apr 13, 2023	71
	Public Health	COVID-19	119	8	Apr 13, 2023	112
	CDC NND	Syphilis, Primary	2	1	Apr 13, 2023	2
	CDC NND	Syphilis, Primary	23	3	Apr 13, 2023	24
	CDC NND	Rubella	12	1	Apr 13, 2023	12
	CDC NND	Syphilis, Primary	7	2	Apr 13, 2023	7

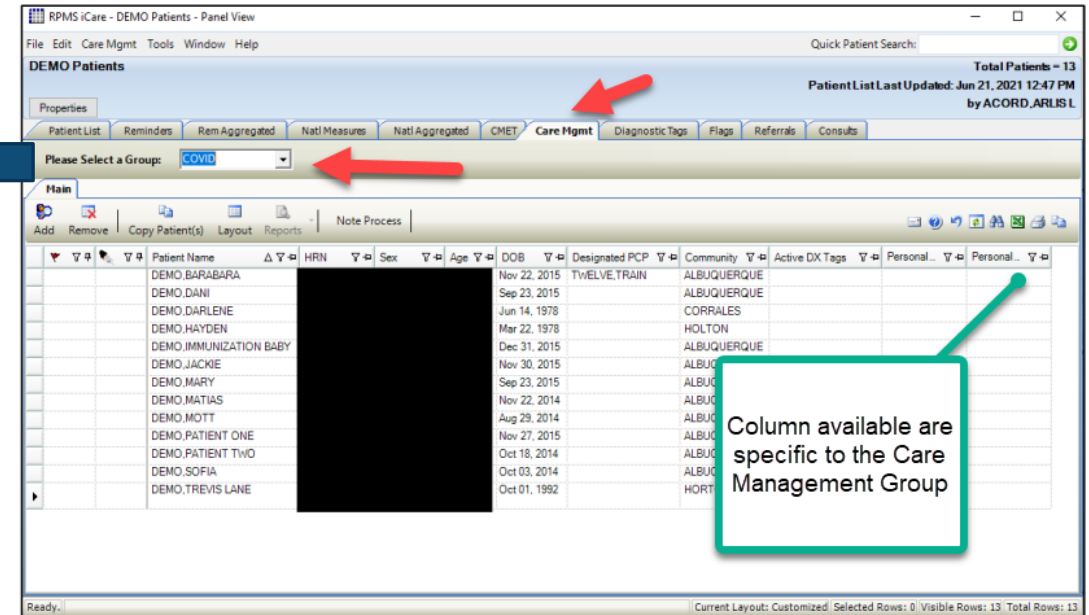
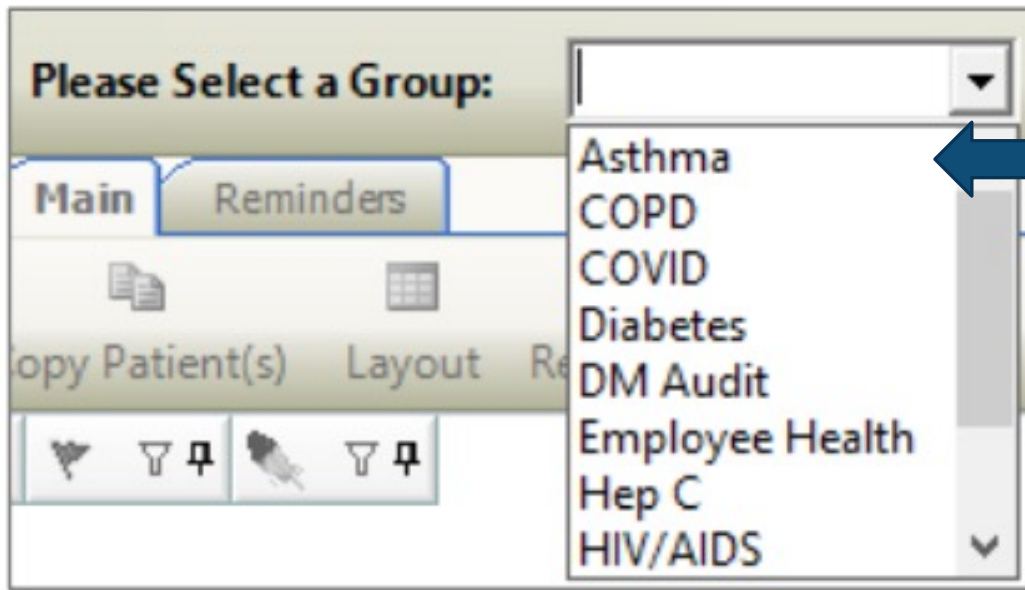
Close

iCare: Community Alerts

iCare: Care Management Group

Build a panel based on any criteria

Utilize Care Management Group to display pertinent columns of information related to that defined group (HIV, HCV, STI, etc)



iCare: Care Management Group

iCare: Care Management Event Tracking (CMET)

- Build a panel based on any criteria
- Utilize CMET Tab to find “events” that have been documented and are waiting for an iCare user to determine if the patient’s event needs to be tracked.
- Once tracked, there are visual cues and other tools to help make sure the event is followed up and closed out.



iCare: CMET

Panel List | Flag List | Community Alerts | Nat'l Measures | **CMET** | IPC

Events | Tracked Events | Follow-up Events

Tips

Occurrences of pre-defined events are identified routinely and placed in a "Pending" CMET status on the Events tab. Events from your entire site are listed on this tab in the Main View. You can decide whether to track, not track, or leave the event in pending status. Batch processing for normal Pap Smears and Mammogram Screenings, and creating a panel of selected pat

Filters

Optional filters can be used to focus your view of events

Track | Don't Track | Pend | Add Manual Event | Batch Process | Create A Panel

Events list current as of: Apr 14, 2023 01:51 PM

Category	Category	Designated PCP	Community	Active DX Tags	Event Name	Status	Event Date	Expanded Event	Finding	Finding Comment	Result	Expanded Result
STI	STI	2005		COPD (P)	CHLAMYDIA SCREEN	PENDING	Sep 07, 2022	Event obtained from: V CPT - 3511F CHLMYD/GONRH TSTS DOCD DONE				
		2005		COPD (P)	GONORRHEA SCREEN	PENDING	Sep 07, 2022	Event obtained from: V CPT - 3511F CHLMYD/GONRH TSTS DOCD DONE				
		1997	AFTON		CHLAMYDIA SCREEN	PENDING	Mar 23, 2020	Event obtained from: V LAB - CT.GC URINE R6910129			Mar 23, 2020	Current Status: RESULTED Result: NOTE: This is a reportable disease. Positive results will be reported to the State Health Department. RML utilizes FDA-approved Aptima? kits from Hologic for C. trachomatis, N. gonorrhoeae and Trichomonas organisms. These nucleic acid amplification tests (NAATs) evaluate for the presence of organism nucleic acids and are very sensitive and specific for these organisms. However, false positives can occur at a very low rate. If the clinical scenario does not correlate with the results of these tests, re-testing with the same sample type is recommended, prior to initiation of therapy. Occasionally, an INDETERMINATE result occurs. When this occurs, re-testing is recommended if the clinical presentation is suspicious for disease, prior to initiation of therapy. This is a reportable disease. Positive results will be reported to the State Health Department. RML utilizes FDA-approved Aptima? kits from Hologic for C. trachomatis, N. gonorrhoeae and Trichomonas organisms. These nucleic acid amplification tests (NAATs) evaluate for the presence of organism nucleic acids and are very sensitive and specific for these organisms. However, false positives can occur at a very low rate. If the clinical scenario does not correlate with the results of these tests, re-testing with the same sample type is recommended, prior to initiation of therapy. Occasionally, an INDETERMINATE result occurs. When this occurs, re-testing is recommended if the clinical presentation is suspicious for disease, prior to initiation of therapy.

Get Events

Save current settings to User Preferences?

Save

Restore to User Pref

Informatics Assistance





Local and Area Informaticists

- Informaticist = Clinical Applications Coordinators (CACs)
- Engage to build or optimize tools to support efforts
- Follow appropriate tier structure to request support
- Barriers: limited capacity, skillset

National
Assistance

National Council of Informatics
(NCI) Clinical Decision Support
Subcommittee

Office of Information
Technology

NCI CDS New Reminder Request Form

National Council of Informatics Clinical Decision Support Committee New Reminder Request Form

Contact Name: [Redacted]
Contact Number: [Redacted]
Department: [Redacted]
Location (Site/Area): [Redacted]

Request

What problem are you trying to solve?

[Redacted]

What national clinical guideline or best practice are you referencing?

[Redacted]

National Council of Informatics Clinical Decision Support Committee New Reminder Request Form

Contact Name:
Contact Number:
Department:
Location (Site/Area):

Request

What problem are you trying to solve?

What national clinical guideline or best practice are you referencing?

- What group of patients are you targeting?
- Age?
- Gender?
- Other structured data that can identify the patients? Ex: Diagnosis, CPT code, note title, etc.

What is the Current Process (if any) to address the issue?

How will you know that the issue has been addressed? What structured data could "turn off" the reminder? Ex: An education code, a CPT code, a lab, medication, order, etc.

In your mind describe what the end result looks like:

Other Resources

- [Listserv](#)
- [Office Hours](#)
 - EHR
 - iCare
 - Laboratory
 - Immunization
- [Recording Repository](#)





QUESTIONS

Special Thanks

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