

Re-engineering workflow : Improving communications from OpenNotes to “OurNotes”

Joe Boyce, MD
CIO/CMIO



November, 2014

Obligatory “Who are We” Slide

- 300 Bed Hospital, 60 clinics in St Joseph/KC
 - Mostly employed PCPs, No Residents
- **Successful ACOs w CMS, commercial, Self**
- Baldrige winner 2009
- Top 10-20% Pt, Provider, staff Satisfaction

- ~ 22,000 patients on portal
 - OpenNotes since July 2011
 - OurNotes started Oct 2013, now ~ 130/week
 - Cerner with homegrown security wrapper

How do you know what you know about a patient?

And which is the best source of truth?

- What they tell you in person
- What others tell you
 - Provider notes/interoperability
 - Spouse/other family
- What you know from monitoring/lab
 - Real time or point in time
- What they tell the computer(s) to tell you
 - Email, portals, social media, apps

What's the Problem?

- Current Fee for Service World
 - 6-15 min avg visits
 - 12-20 seconds before interruption by provider
 - Repeat questions, repeat visits, repeat testing
 - Lost stories, Wasted time
 - Frequent errors and gaps in history
 - Frustrated patients and providers
 - Copy forward notes that are too long, say nothing

What has changed?

- Risk contracts & Accountable Care Organizations
 - Incentives for quality, lower cost, higher satisfaction
- \$6000 deductibles
- Better information available to compare systems
- Direct employer contracting
- Patient activation and engagement
 - Improved health, adherence, and ownership
 - H/CG CAHPS ratings angst and response
- Same old time constraints
- Same old competition for patients based on differentiation.

OpenNotes Benefits

- Most patients love it
- 4.5 million patients now have access
- They feel more in control
- Improved communications
 - 60-78% increased med adherence
 - 70% of patients may switch for note access
 - 60% want to add to their doctors notes
- Did not add to providers time

What if we could improve:

- Communications both directions
- Clinic throughput and workflow
- Med & problem list reconciliation
- Documentation quality, cost, and speed
- Copy/paste abuses
- Home monitoring and care
- Decision support and patient directed care
- Compliance and adherence
- Patient satisfaction and activation

In both Fee for Service and ACO settings

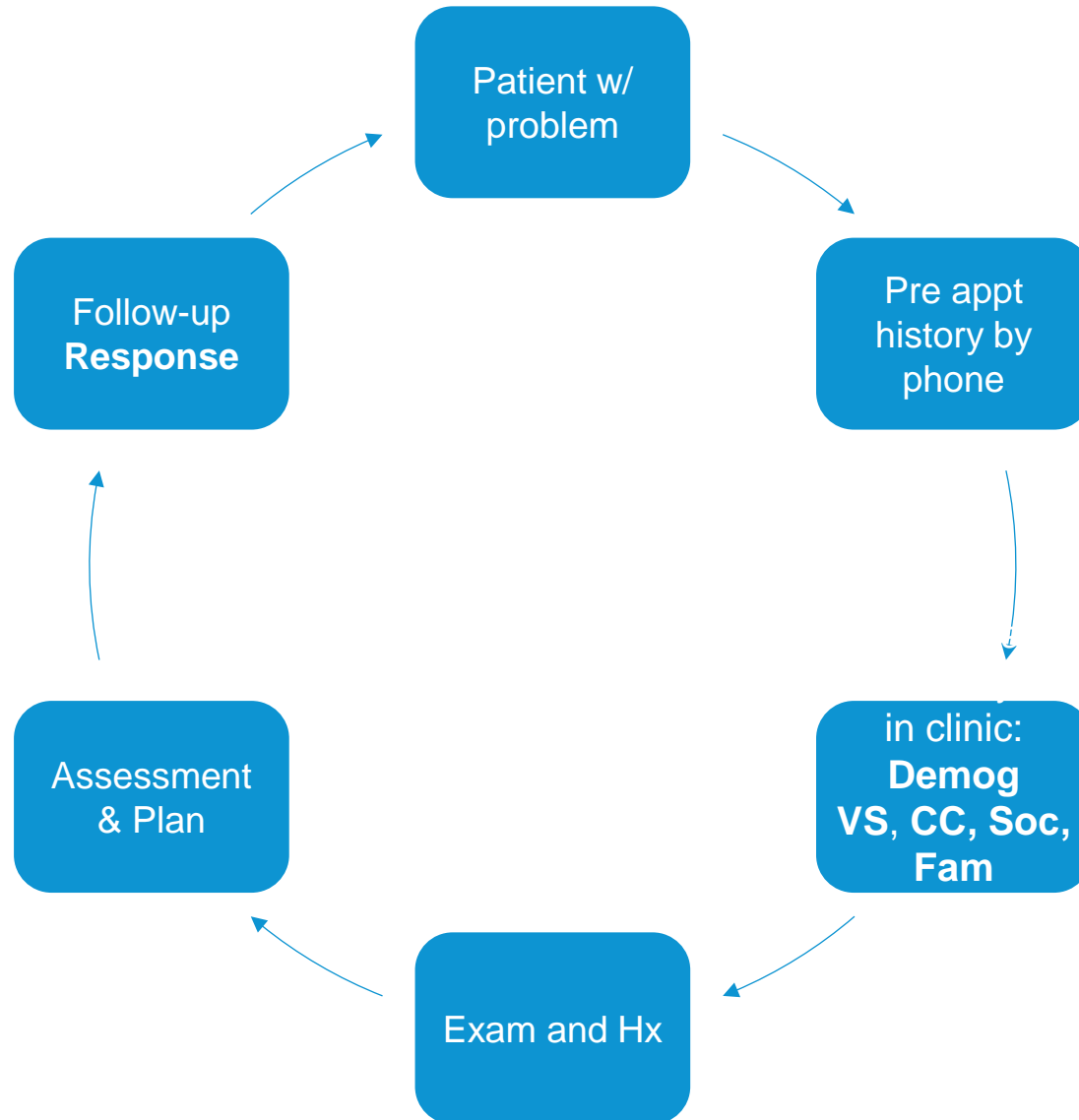
Geisinger article:

<http://repository.academyhealth.org/egems/vol2/iss3/10>

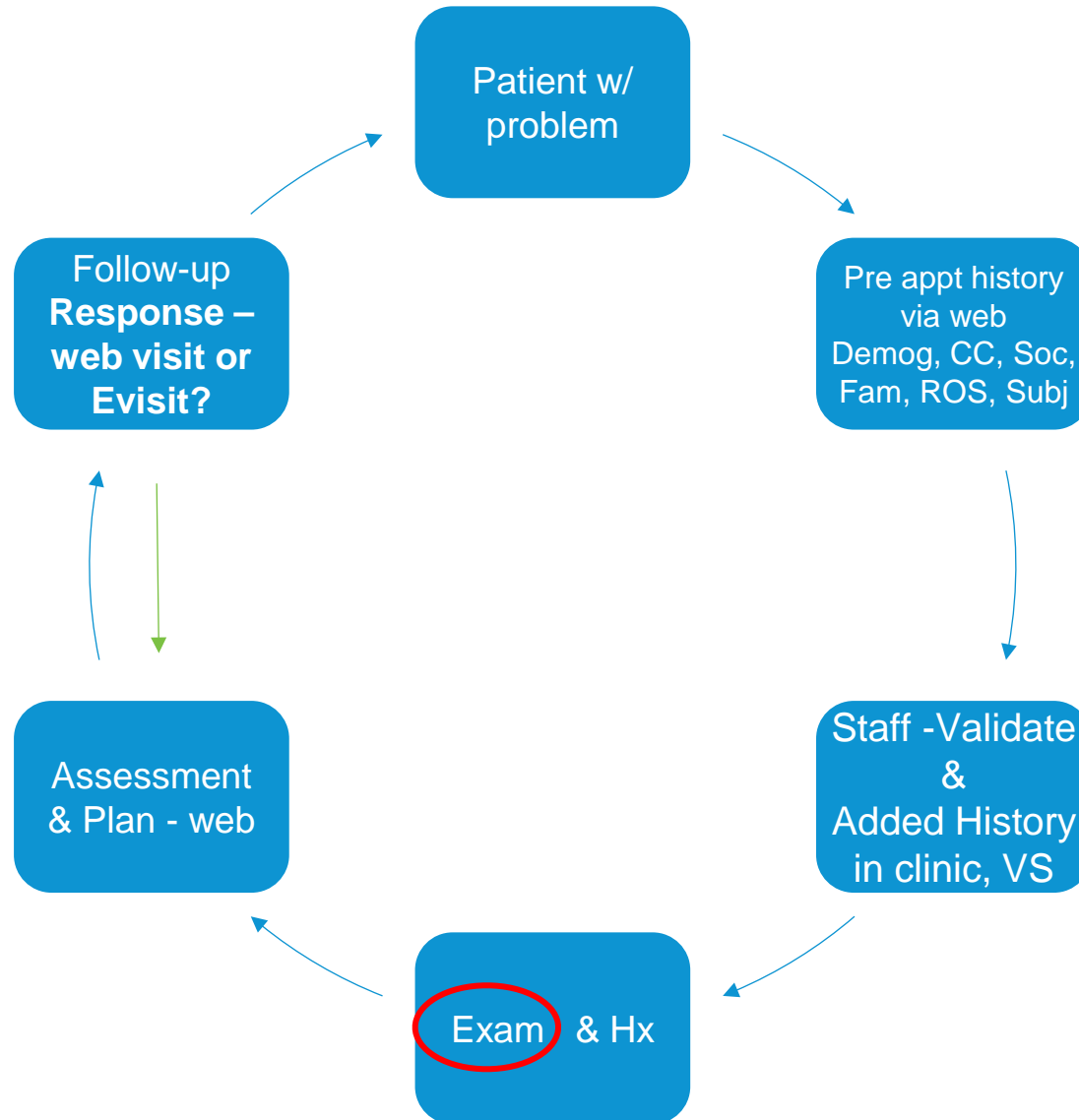
Key points – Patient Entered History

- Patient gets reminder to enter web hx via text/email 2 weeks prior up to 3 times
- Can enter/update care prefs, visit goals, meds, problems, allergies, immunizations, fam hx, procedures, see due tx needs (labs, shots, etc)
- Images sent via message center prn
- If not done, can be done on laptop at visit or entered as usual by staff
- Staff validates history, updates in powerforms as usual
 - *What/When/Who you trust is critical*
- **Provider workflow unchanged**

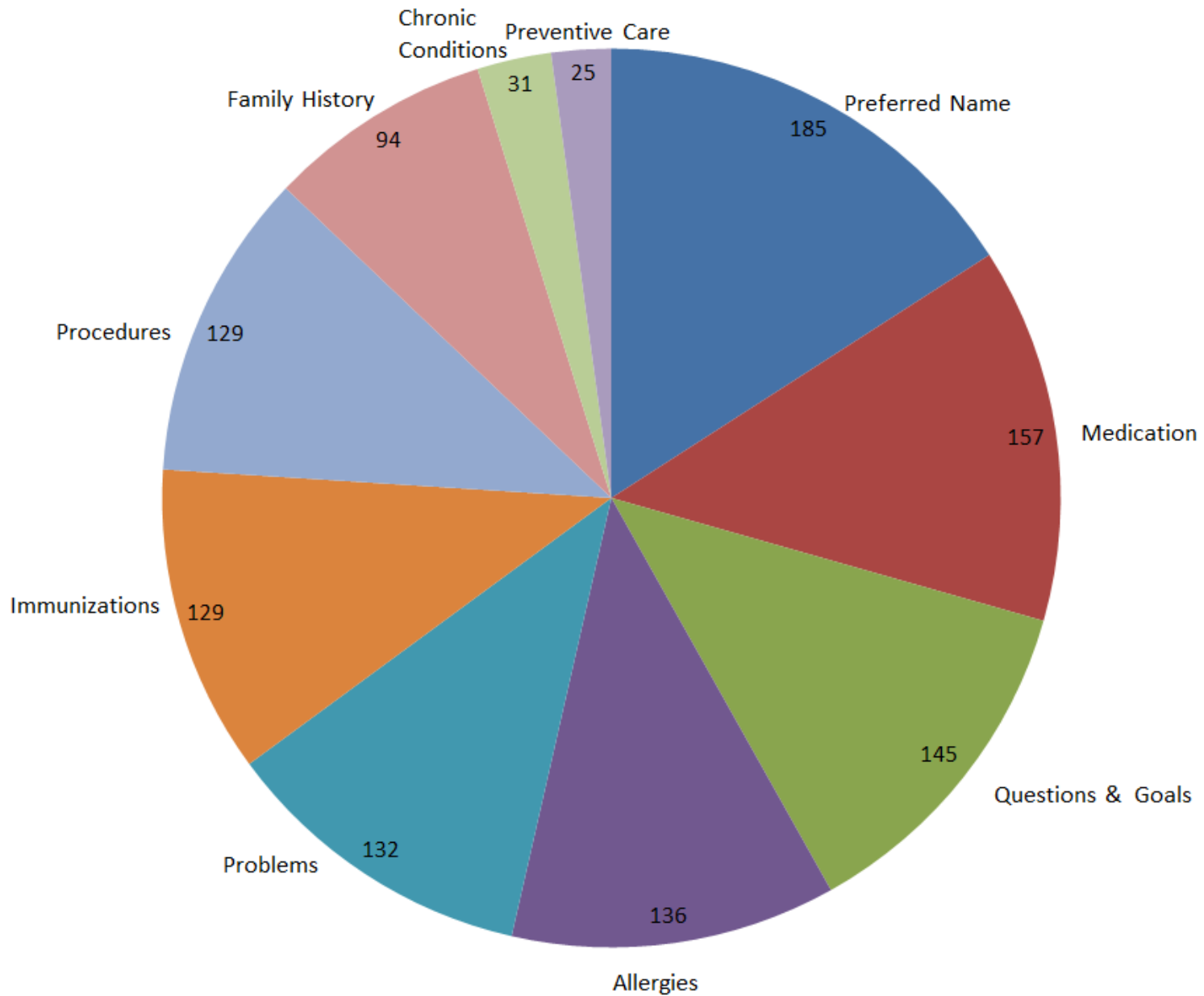
Clinic workflow - typical



Web based – Clinic workflow



Of the 357 Pre Visit Assessments Completed in the Last 30 Days





Demo



My Mosaic Home



Medical Record



Appointments



Secure Messaging



Bill Pay



Search



Welcome back! The last time you logged in was: 06/10/2014 - 01:07 PM

My Mosaic Home

Suggested Links

Health Library

Symptom Checker

My Account

Contact Methods / Reminders

Content Preferences

My Medical Record



Track your personal health history, check prescriptions, message providers and more.

[View Full Medical Record](#)

Notices

It's time for you to update your yearly consent to treat

Appointments

[View All](#)

06/20 4:15pm - Brown

06/27 4:15pm - Brown

[Schedule an appointment](#) | [Setup text or email appointment reminders](#)

[Confirm your medical information](#)

Messages

[View All](#)

You have 0 unread messages.



My Mosaic Home



Medical Record



Appointments



Secure Messaging



Bill Pay



Search

Confirm Your Medical Information

Please help us get you through your appointment more quickly and provide better care by updating your information. Updates may take several business days to change in our records, and someone may contact you at your appointment or before to discuss further. Thank you for your assistance.

Brown, Michael R, DO

6/20/2014 4:15:00 PM

MOSAIC LIFE CARE AT KEARNEY

▼ Preferred Name

Preferred Name

Continue/Save

▶ Questions/Goals

▶ Medications

▶ Allergies

▶ Immunizations

▶ Problems

▶ Procedures

▶ Preventive Care

▶ Family History

Save

▶ Preferred Name

▶ Questions/Goals

Appointment
Questions and
Goals

weight loss

Free Text Data entry by patient
goes to Powerform for staff
validation/entry

Continue/Save

Back

▶ Medications

▶ Allergies

▶ Immunizations

▶ Problems

▶ Procedures

▶ Preventive Care

▶ Family History

Save

Confirm Your Medical Information

Please help us get you through your appointment more quickly and provide better care by updating your information. Updates may take several business days to change in our records, and someone may contact you at your appointment or before to discuss further. Thank you for your assistance.

Brown, Michael R, DO

6/20/2014 4:15:00 PM

MOSAIC LIFE CARE AT KEARNEY

▶ Preferred Name

▶ Questions/Goals

▼ Medications

Medication	Dose/Route How Often/Duration	Still Taking?	Comment
Advil 200 mg oral tablet	2 Tab/Oral Every 4 hours	Still taking, as prescribed ▼	Add Comment
fluticasone topical 0.05% cream	1 Apply/Topical 2 times a day	Not taking ▼	for rash Edit Comment

Additional Medication

Dose/Route

How Often/Duration

[Add Another](#)

[Continue/Save](#)

[Back](#)

▶ Allergies

▶ Immunizations

▶ Problems

▶ Procedures

▶ Preventive Care

▶ Family History

▸ Problems

▸ Procedures

▸ Preventive Care

▾ Family History

Relation	Condition	Last Name	First Name	Deceased	Comment
Father	Diabetes mellitus type 2			No	Add Comment
Father	Heart disease...			No	Add Comment
Mother	Thyroid disease			No	Add Comment

Additional Family History

Continue/Save

Back

Save

Review of Systems

General (Constitutional)

	Yes	No	<input type="radio"/> - Check All No
Fevers	<input type="radio"/>	<input type="radio"/>	
Chills	<input type="radio"/>	<input type="radio"/>	
Fatigue	<input type="radio"/>	<input type="radio"/>	
Weakness	<input type="radio"/>	<input type="radio"/>	

Head and Neck (HEENT)

	Yes	No	<input type="radio"/> - Check All No
Headaches	<input type="radio"/>	<input type="radio"/>	
Sore Throat	<input type="radio"/>	<input type="radio"/>	
Nasal Drainage/Congestion	<input type="radio"/>	<input type="radio"/>	
Difficulty Swallowing	<input type="radio"/>	<input type="radio"/>	
Ear Pain (earache)	<input type="radio"/>	<input type="radio"/>	
Neck Stiffness	<input type="radio"/>	<input type="radio"/>	
Sinus Pain or Pressure	<input type="radio"/>	<input type="radio"/>	
Visual Changes	<input type="radio"/>	<input type="radio"/>	

Lungs/Breathing (Respiratory)

	Yes	No	<input type="radio"/> - Check All No
Shortness of Breath	<input type="radio"/>	<input type="radio"/>	
Cough	<input type="radio"/>	<input type="radio"/>	
Wheezing	<input type="radio"/>	<input type="radio"/>	
Coughing up Blood	<input type="radio"/>	<input type="radio"/>	

Heart (Cardiovascular)

	Yes	No	<input type="radio"/> - Check All No
Palpitations/Racing Heart	<input type="radio"/>	<input type="radio"/>	
Chest Pain / Discomfort	<input type="radio"/>	<input type="radio"/>	
Shortness of Breath on Exertion (working)	<input type="radio"/>	<input type="radio"/>	

Stomach/Gastrointestinal (GI)

	Yes	No	<input type="radio"/> - Check All No
Nausea	<input type="radio"/>	<input type="radio"/>	
Vomiting	<input type="radio"/>	<input type="radio"/>	
Diarrhea	<input type="radio"/>	<input type="radio"/>	
Constipation	<input type="radio"/>	<input type="radio"/>	
Rectal Bleeding	<input type="radio"/>	<input type="radio"/>	

Skin (Integumentary)

	Yes	No	<input type="radio"/> - Check All No
Rash	<input type="radio"/>	<input type="radio"/>	
Itching	<input type="radio"/>	<input type="radio"/>	

Female/Gyn (GYN) – if female

	Yes	No	<input type="radio"/> - Check All No
Change in periods	<input type="radio"/>	<input type="radio"/>	
Pelvic Pain	<input type="radio"/>	<input type="radio"/>	
Vaginal Discharge	<input type="radio"/>	<input type="radio"/>	
Vaginal Itching	<input type="radio"/>	<input type="radio"/>	
Vaginal Odor	<input type="radio"/>	<input type="radio"/>	
Breast Pain	<input type="radio"/>	<input type="radio"/>	
Nipple Discharge	<input type="radio"/>	<input type="radio"/>	
Breast Lump	<input type="radio"/>	<input type="radio"/>	

Urinary (GU)

	Yes	No	<input type="radio"/> - Check All No
Blood in Urine	<input type="radio"/>	<input type="radio"/>	
Urinating Frequently	<input type="radio"/>	<input type="radio"/>	
Urgently needing to urinate (urgency)	<input type="radio"/>	<input type="radio"/>	
Erectile Dysfunction	<input type="radio"/>	<input type="radio"/>	

Muscle (Musculoskeletal)

	Yes	No	<input type="radio"/> - Check All No
Back Pain	<input type="radio"/>	<input type="radio"/>	
Joint Pain	<input type="radio"/>	<input type="radio"/>	
Redness of joints	<input type="radio"/>	<input type="radio"/>	
Swollen joints	<input type="radio"/>	<input type="radio"/>	

Neurological

	Yes	No	<input type="radio"/> - Check All No
Numbness	<input type="radio"/>	<input type="radio"/>	
Tingling	<input type="radio"/>	<input type="radio"/>	
Dizziness	<input type="radio"/>	<input type="radio"/>	
Seizures	<input type="radio"/>	<input type="radio"/>	
Fainting	<input type="radio"/>	<input type="radio"/>	

Endocrine

	Yes	No	<input type="radio"/> - Check All No
Unusual Weight Changes	<input type="radio"/>	<input type="radio"/>	
Excessive Thirst	<input type="radio"/>	<input type="radio"/>	
Heat or cold intolerance	<input type="radio"/>	<input type="radio"/>	

Find Provider

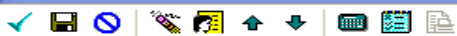
- Healthcare Provider Search

Find a Location

- Locations by Name

Need Assistance

- Contact Us
- My Mosaic Emergency Asked Questions



*Performed on: 06/09/2014 0829

- Intake
- B/P Detailed Ass
- Review of System
- Subjective
- Orthostatics
- Pain Assessment
- Additional Pain C
- FLACC
- Allergies
- Medication List
- Procedure History
- Dependent Habit
- Tobacco Usage
- Patient Health His
- General Info
- Learning Needs I
- Educ Needs Hx
- Family History
- Health History III
- Outside Hospitaliz
- Pregnancy Histor
- Menstrual Histor
- Cardiac Procedur
- Anesth/Transfusi
- Environmental-Cli
- Nutrition
- Functional
- Activity/Exercise
- Sexuality
- Psychosocial
- Advance Directiv
- Abuse/Neglect

Visit Information

Patient Reported Questions/Goals

weight loss

Pt entered data shown here, validated and reentered or cut/paste to below

A concise statement describing the symptom, problem, condition, diagnosis physician recommended return or other factor that is the reason for this encounter, usually stated in the patient work.

Chief Complaint

Onset of Symptoms

LMP

- Visit Type**
- New consult
 - Established follow up
 - Pre-op surgical clearance
 - New symptom established follow up
 - Other:

Primary Care Physician
Holda, Thomas R, MD

Additional Information

Preferred Name joe

Vital Signs

Oral DegC

Tympanic DegC

Rectal DegC

Axillary DegC

Intravascular DegC

Some types go directly to record w/o validation

Peripheral Pulse Rate bpm

Apical Heart Rate bpm

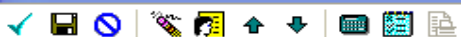
Respiratory Rate br/min

- Heart Rhythm**
- Regular
 - Irregular
 - Irregularly irregular
 - Regularly irregular

Systolic Blood Pressure mmHg

Diastolic Blood Pressure mmHg

Mean Arterial Pressure



*Performed on: 06/10/2014 1359

- * Intake
- B/P Detailed Ass
- Review of System
- Subjective
- Orthostatics
- Pain Assessment
- Additional Pain C
- FLACC
- * Allergies
- * Medication List**
- * Procedure History
- * Dependent Habit
- Tobacco Usage
- * Patient Health His
- * General Info
- * Learning Needs I
- Educ Needs Hx
- * Family History
- * Health History III
- Outside Hospitaliz
- Pregnancy History
- Menstrual History
- Cardiac Procedur
- Anesth/Transfusi
- Environmental-Cli
- Nutrition
- * Functional
- * Activity/Exercise
- Sexuality
- Psychosocial
- * Advance Directiv
- * Abuse/Neglect

Medication List

Patient Reported Medication Updates

fluticasone topical 0.05% cream, 1 Apply, Topical, 2 times a day
 Status: Not taking
 Comment: for rash

Record Current and Past Medications

Print 0 minutes ago

+ Add |
 Document Medication by Hx |
 Reconciliation ▾ |
 Check Interactions

 ** Status
 Meds History
 Adm. Meds Rec
 Outpt. Meds Rec

Displayed: All Active Orders | All Inactive Orders | All Active Medications, All Inactive Medications 24 Hrs Back
Show More Orders...

- View**
- Orders for Signature
 - Medication List
 - Admit/Transfer/Disc
 - Procedure/Surgery
 - Condition
 - Vital Signs
 - Activity
 - Patient Care
 - Dietary
 - IV Solutions
 - Medications**
 - Laboratory
 - Diagnostic Tests
 - Respiratory Care
 - Rehab Services
 - Consults
 - Other
 - Specials
 - Support Services
 - Medical Supplies
 - Medication History

	\$	▽	Order Name	Status	Details
Medications					
Prescription					
<input checked="" type="checkbox"/>			fluticasone topical (fluticasone topical 0.05% cream)	Prescribed	1 Apply, TOP, BID, 60 gm
Documented Medications by Hx					
			ibuprofen (Advil 200 mg oral tablet)	Documented	400 mg, 2 Tab, PO, Q4H, PRN: as needed for p

Next Steps

- Expand to check in for all visits, asynchronous E-visits
- Add Social HX, ROS, home monitoring of BP, Wt, BS, PO2, pain, flowmeters,
- Video, wellness tracking, other elements
- *Dream*: A Wiki hybrid “near real time” chart with Providers, Patient, caregivers, devices and the computer system as authors.

What percent of office visits are necessary?

We've only just begun....





Questions?