

SMALL BRAIN RECORDS

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Kevin Perdue MS

Take home message:

multimedia recordings can be used for documenting clinical encounters, and capturing data for research.

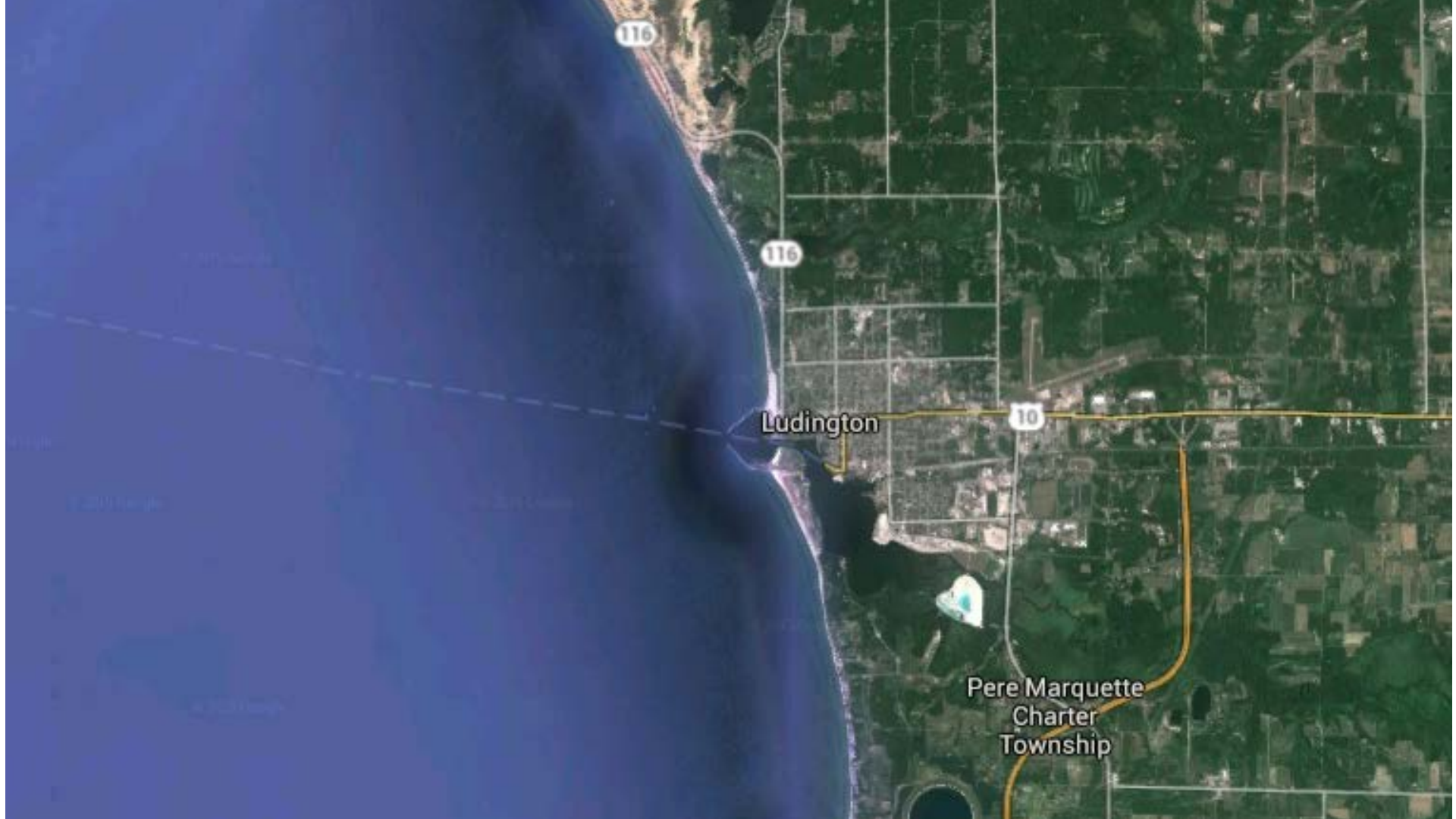
Advisors:

Charles Friedman

Mark Leavitt

Glyn Elwyn

and others.



110

116

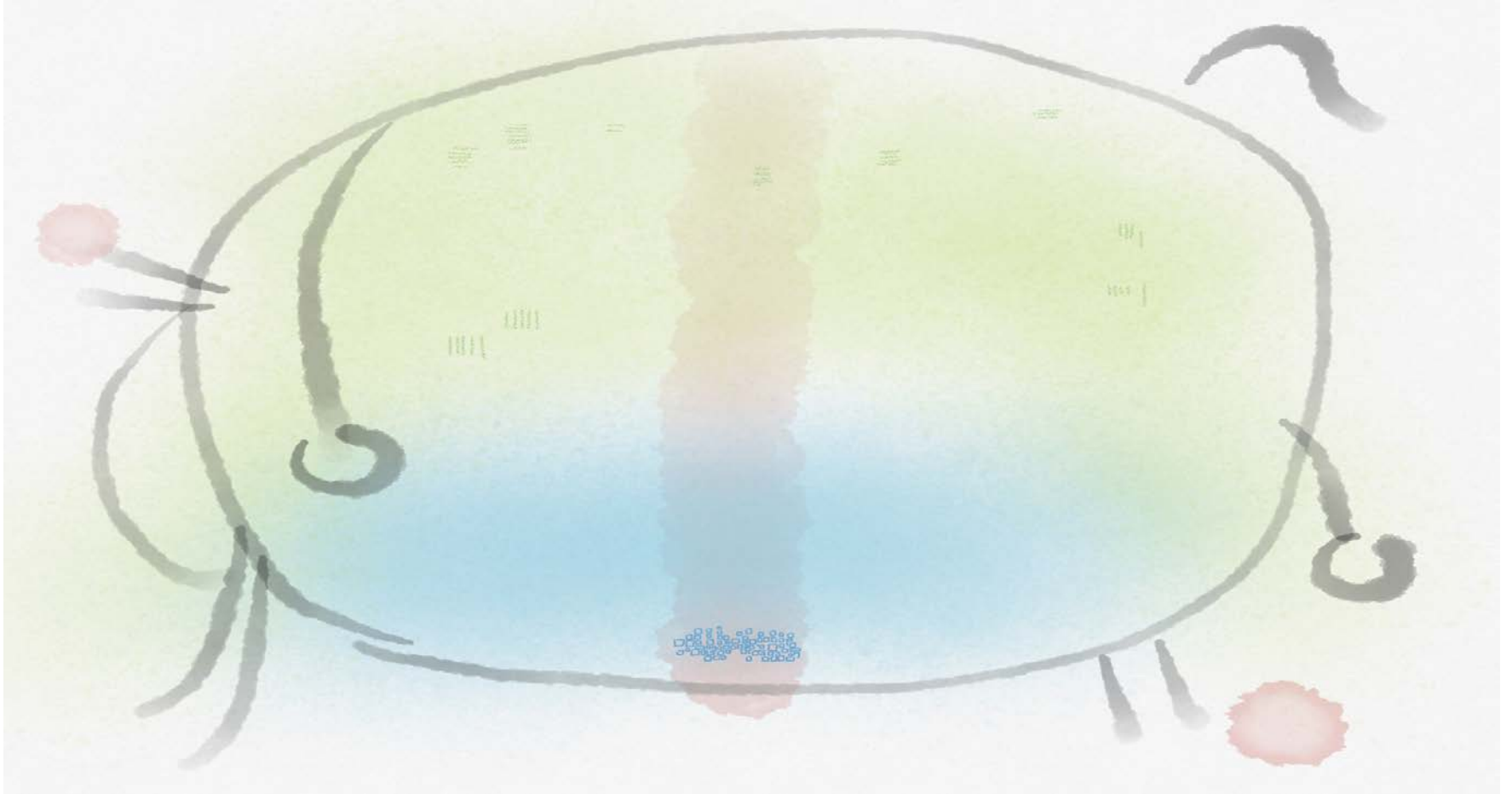
10

Ludington

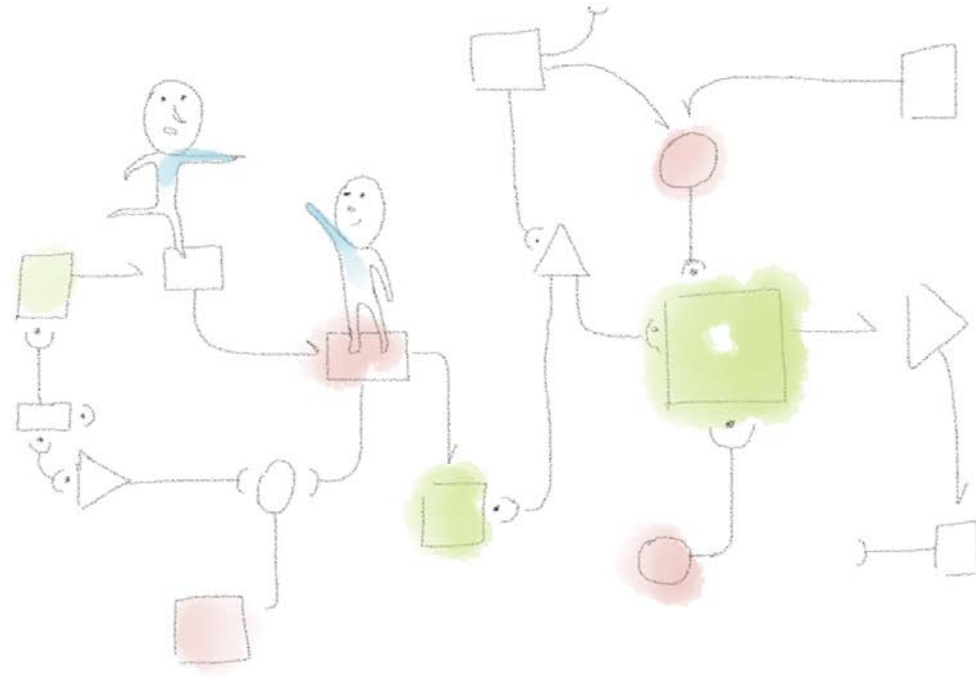
Pere Marquette
Charter
Township

Built and tested in
the real world.





macro thought piece: build a system that serves the goals of healing and science.



micro: if we think of the actions of clinicians and patients as a series of discrete steps in a workflow model, then the value of each step can be measured by how well it supports healing and science.

Problems

Add problem:

- Herpes zoster (disorder)
- Asthma (disorder)
- decreased chi
- Hypertensive disorder, systemic arterial (disorder)
- Blood magnesium abnormal (finding)
- Child relationship problem (finding)
- Urinary incontinence (finding)
- Raised thyroid stimulating hormone level (finding)
- Diabetes mellitus type 2 (disorder)
- Microalbuminuria (finding)
- Osteopenia (disorder)
- Gastroesophageal reflux disease (disorder)
- Palpitations (finding)
- Backache (finding)
- Acute stress disorder (disorder)
- Anxiety disorder (disorder) [Not authenticated]

Goals

Add Goal:

- Forgive children and yourself. (for problem Child relationship problem (finding))
- get a therapist (for problem Anxiety disorder (disorder))
- meditate for 10 mins a day (for problem Hypertensive disorder, systemic arterial (disorder))
- to practice yoga every evening (for problem Backache (finding))
- to run a 5 k (for problem Asthma (disorder))

To-dos

Add Todo:

- ask doctor about colonoscopy
- CMP by end of dec (for problem Hypertensive disorder, systemic arterial (disorder))
- CMP, CBC, lipids, TSH, Mg (for problem Palpitations (finding))
- EKG today (for problem Palpitations (finding))
- EMG scheduled for mid Sept (for problem Weakness of toe (finding))
- flu Dr Chow in Oct (for problem decreased chi)
- Holter monitor ordered (for problem Palpitations (finding))
- microalbumin due in Feb (for problem Microalbuminuria (finding))
- repeat Mg in Nov 15 (for problem Blood magnesium abnormal (finding))
- screening labs (for problem Fit and well (finding))
- ua by end of dec 2015 (for problem Urinary incontinence (finding))

problem oriented:

snomed (bio-psycho-social phenomena).
not restricted to snomed, and can
handle non-western problems,
and also gives patients the
capacity to name their concerns.

Herpes zoster (disorder)

Hide problem

Is controlled Is authenticated Is active

Notes

Physician note:

Pain persists.T4 Right. gradually drying out. will increase norco, and gabapentin.

Submit

Patient note:

rash drying up, pain worse at night.

Goals

• Add: Submit

ToDo

• Add: Submit

Images

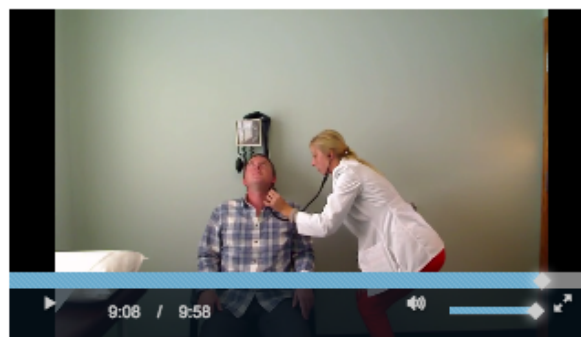
File: No file chosen



patient and provider manage together.
goal, todos, media files are problem associated.
changes made by patient change the “authentication state” of the problem.

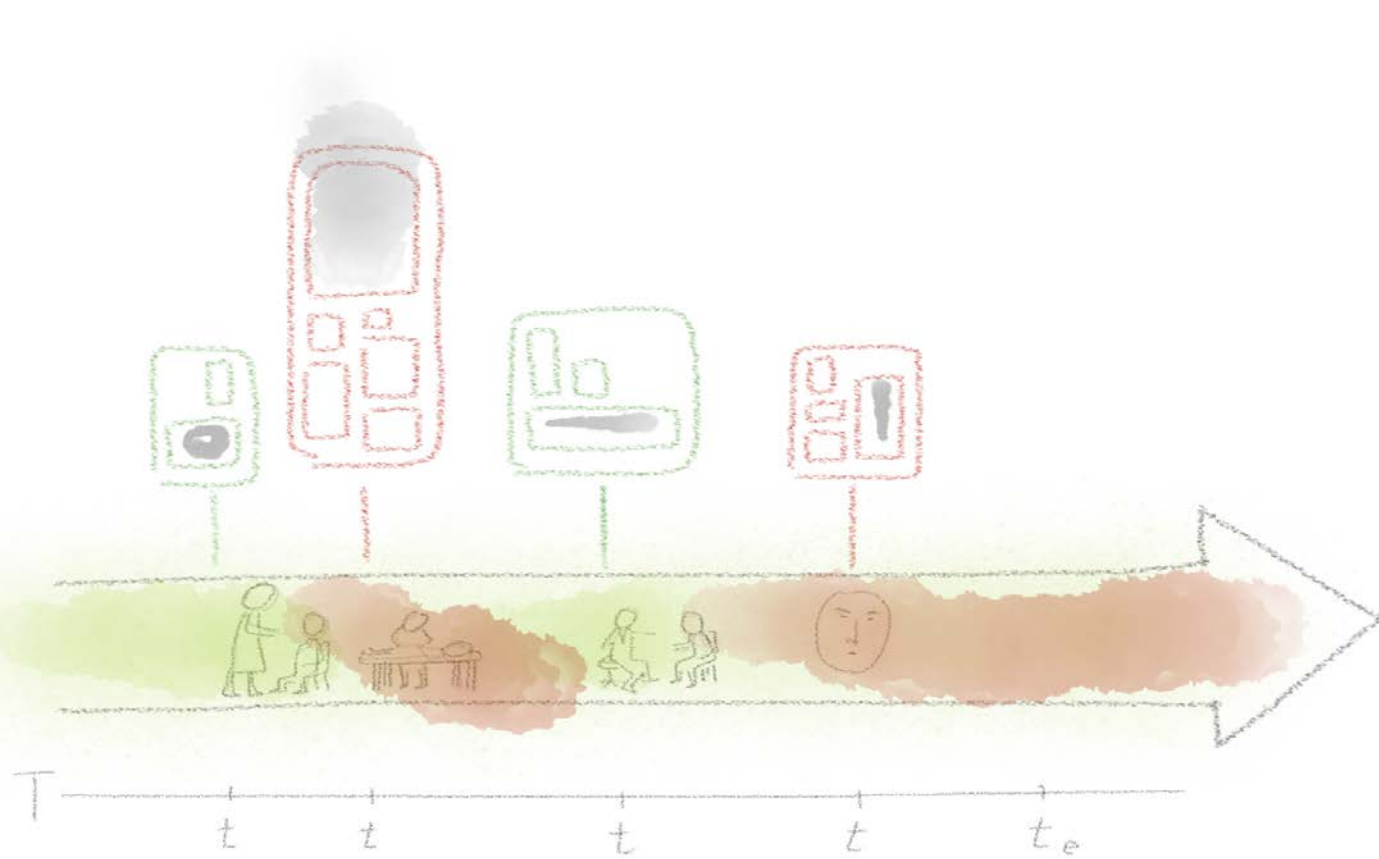
Encounter

patients (and their family members) can create and access encounters. events from the encounter are bookmarked for quick access. the media types are variable {audio, video, or kinect feed}

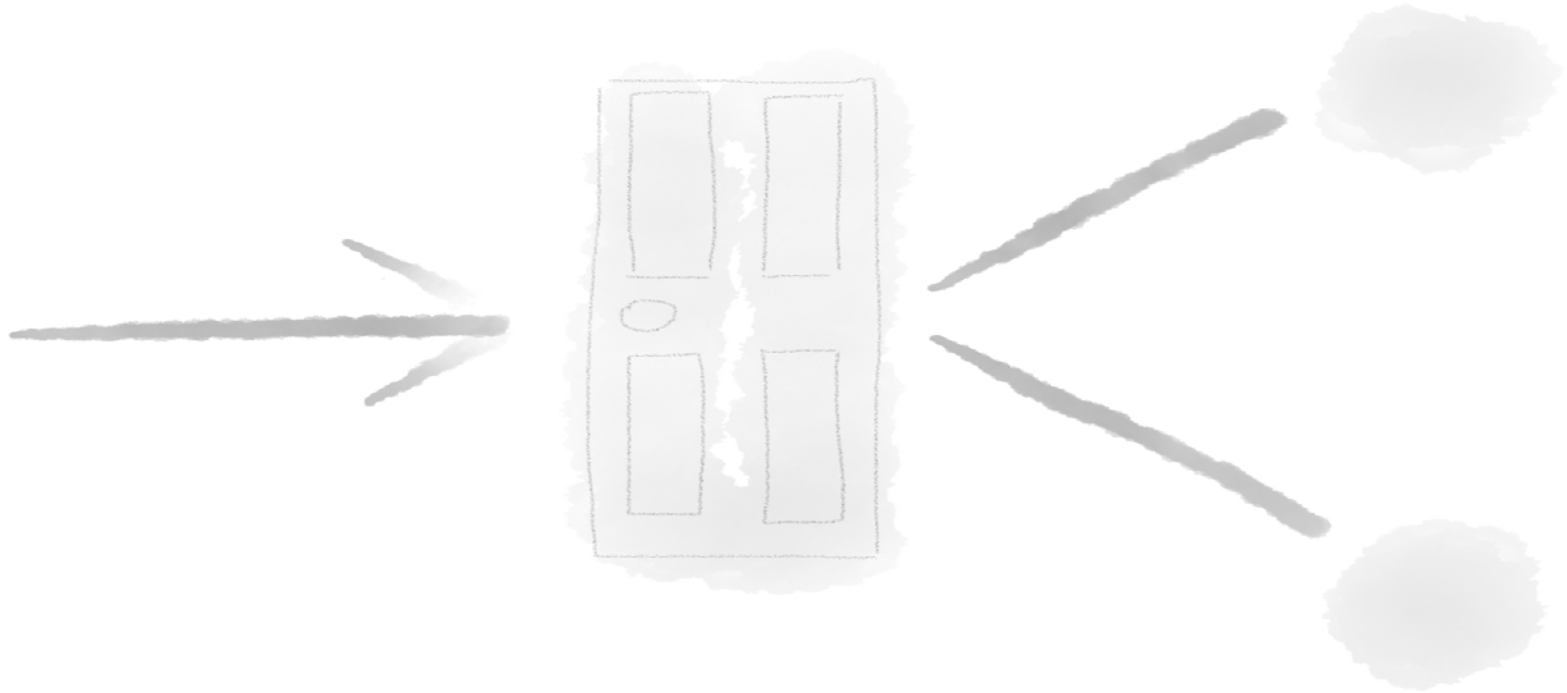


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Time (24 hour)	Video timestamp	Summary
07:52:25	0:00	Encounter started
07:53:25	1:00	Added problem "Backache (finding)"
07:53:28	1:03	Clicked on problem: "Backache (finding) "
07:54:47	2:22	Added note to problem "Backache (finding)": lumbar region. pain 3-4 months. no trauma.
07:54:52	2:27	Added note to problem "Backache (finding)": lumbar region. pain 3-4 months. no trauma.
07:55:19	2:54	Added todo to problem "Backache (finding)": Xray of lower back
07:56:21	3:55	Added todo to problem "Backache (finding)": 20-30 minutes walking per day
07:58:00	5:35	Added problem "Palpitations (finding)"
07:58:03	5:38	Clicked on problem: "Palpitations (finding) "
07:58:56	6:31	Added note to problem "Palpitations (finding)": started last week. no pattern. sometimes feels
07:59:20	6:55	Added todo to problem "Palpitations (finding)": ekg
07:59:55	7:30	Added todo to problem "Palpitations (finding)": CMP, CBC, lipids, TSH, Mg
08:00:12	7:47	Clicked on problem: "Herpes zoster (disorder) "
08:00:15	7:50	Marked problem "Herpes zoster (disorder) " as controlled
08:00:24	7:59	Clicked on problem: "Fit and well (finding) "
08:00:52	8:27	Added todo "follow up 2 weeks"
08:02:23	seconds	Encounter stopped



physical events are captured by sensors. metaphysical events are captured by our information management system.



when i'm finished seeing a patient i have 2 things: an encounter document, and an updated chart. wasting less energy charting and managing complexity.

legal reviewers: BCBS Michigan, Meridian, American Health Information Management Association, and others.

next steps:

- Improve and expand current build.
- Integrating discrete problem-oriented reportable data (PCMH, PQRS).
- SMART FHIR integration.
- Publish papers.

why i presented this today: it's an open source project, and we want collaborators.

Marcus Aurelius

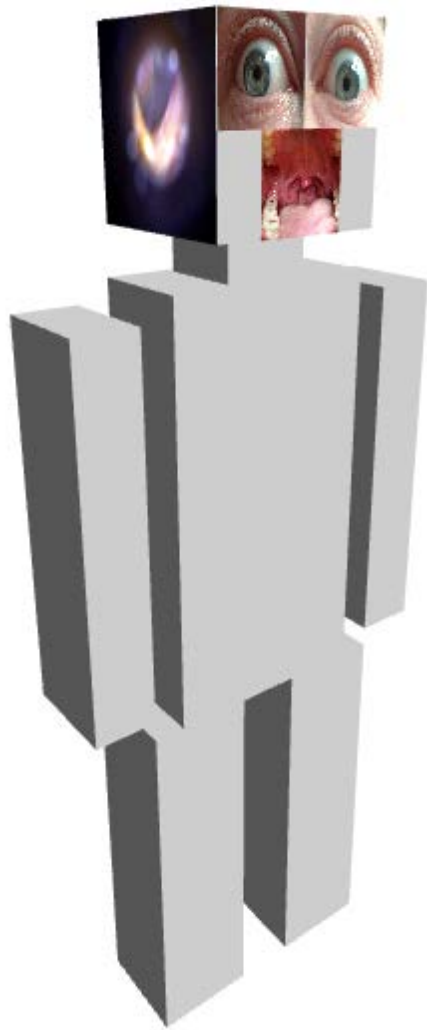


Who I am:

Nothing has such power to broaden the mind as the ability to investigate systematically and truly all that comes under thy observation in life.

Save

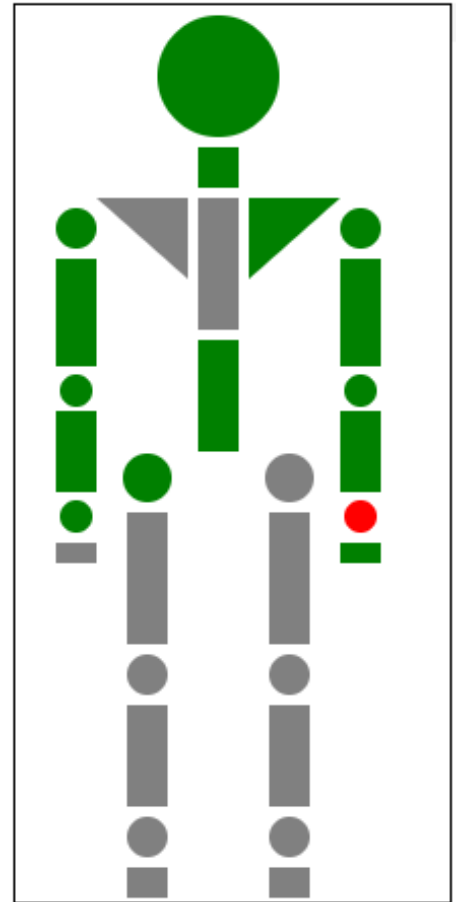
person oriented: images and free text, this allows us to start exploring personhood in a non structured way. patient and provider can edit.



other bits

[interact](#)

Pain History



Start date

09/09/2014

Submit new date

Relationships

- Herpes zoster (disorder)
- Asthma (disorder)
- decreased chi
- Blood magnesium abnormal (finding)
- Child relationship problem (finding)
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Hypertensive disorder, systemic arterial (disorder)

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Guidelines

- Normal blood pressure: systolic 120 mmHg and diastolic 80 mmHg Prehypertension: systolic 120 to 139 mmHg or diastolic 80 to 89 mmHg Stage 1 h of hypertension in adults [?source=machineLearning&search=hypertension&selectedTitle=1~150&ionRank=2&anchor=H4502595#H4502595](#)
- White coat hypertension is present if a patient has persistently elevated blood pressure when measured in the office, but repeatedly normal blood pressure [?source=machineLearning&search=hypertension&selectedTitle=1~150&ionRank=2&anchor=H4502595#H4502595](#)
- evaluation includes a history, physical examination, urinalysis, and measurement of the hematocrit, routine blood chemistries, serum creatinine, lipids [?source=machineLearning&search=hypertension&selectedTitle=1~150&ionRank=2&anchor=H4502595#H4502595](#)
- The goal of antihypertensive therapy in patients with uncomplicated combined systolic and diastolic hypertension is a blood pressure of below 140/90 [?source=machineLearning&search=hypertension&selectedTitle=1~150&ionRank=2&anchor=H4502595#H4502595](#)

problem relationships

problem guidelines

Take home message:

multimedia recordings can be used for clinical encounter documentation, and capturing data for research.

learn more:

<http://digitaltransformationofhealth.blogspot.com/>