

SHARPC: Past, Present, and Future

Dr. Jiajie Zhang



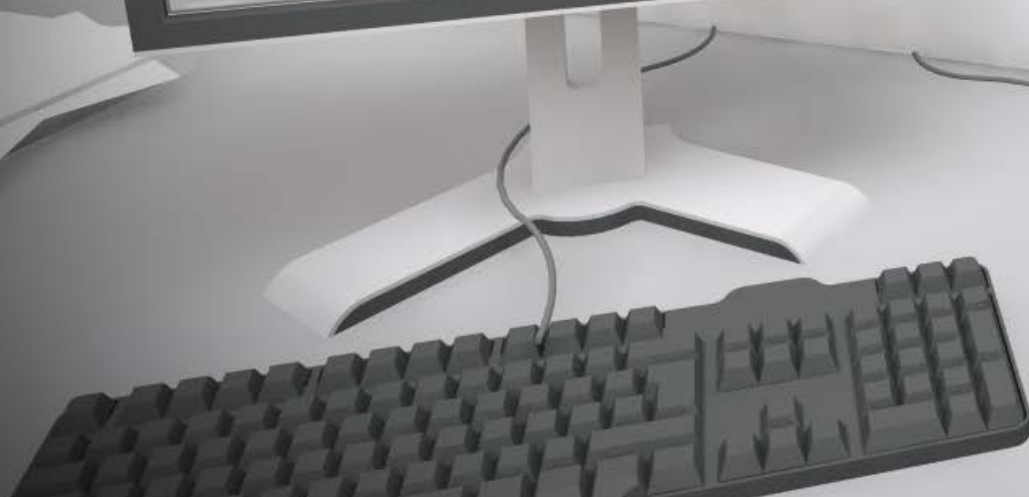
How did SHARPC get started?



**Excelsior
Physicians
Group**









Exam 1

Exam 2



Illuminating Retinal Diseases

Multi-Modality Imaging

IRIS, OCT, OCT-A, OCT-3D, OCT-4, OCT-5, OCT-6, OCT-7, OCT-8, OCT-9, OCT-10, OCT-11, OCT-12, OCT-13, OCT-14, OCT-15, OCT-16, OCT-17, OCT-18, OCT-19, OCT-20, OCT-21, OCT-22, OCT-23, OCT-24, OCT-25, OCT-26, OCT-27, OCT-28, OCT-29, OCT-30, OCT-31, OCT-32, OCT-33, OCT-34, OCT-35, OCT-36, OCT-37, OCT-38, OCT-39, OCT-40, OCT-41, OCT-42, OCT-43, OCT-44, OCT-45, OCT-46, OCT-47, OCT-48, OCT-49, OCT-50, OCT-51, OCT-52, OCT-53, OCT-54, OCT-55, OCT-56, OCT-57, OCT-58, OCT-59, OCT-60, OCT-61, OCT-62, OCT-63, OCT-64, OCT-65, OCT-66, OCT-67, OCT-68, OCT-69, OCT-70, OCT-71, OCT-72, OCT-73, OCT-74, OCT-75, OCT-76, OCT-77, OCT-78, OCT-79, OCT-80, OCT-81, OCT-82, OCT-83, OCT-84, OCT-85, OCT-86, OCT-87, OCT-88, OCT-89, OCT-90, OCT-91, OCT-92, OCT-93, OCT-94, OCT-95, OCT-96, OCT-97, OCT-98, OCT-99, OCT-100

Subtle Detail

Precision in Monitoring Change

Enhanced Depth Imaging

Subfundus Pathology













3D rendered scene of a doctor in a white coat and black turban sitting at a desk with a computer monitor. The monitor displays a medical software interface with a patient profile and a 'Drug Interactions' table.

Drug	Interaction	Severity
Aspirin	Increased risk of bleeding	High
Warfarin	Increased risk of bleeding	High
Insulin	Increased risk of hypoglycemia	Medium
Metformin	Increased risk of lactic acidosis	Medium
Statins	Increased risk of muscle pain	Low

3D rendered scene of a man in a dark suit and blue tie sitting in a white chair, holding a blue folder. He is looking towards the doctor.



Challenges in EHR Adoption & Meaningful Use

Financial

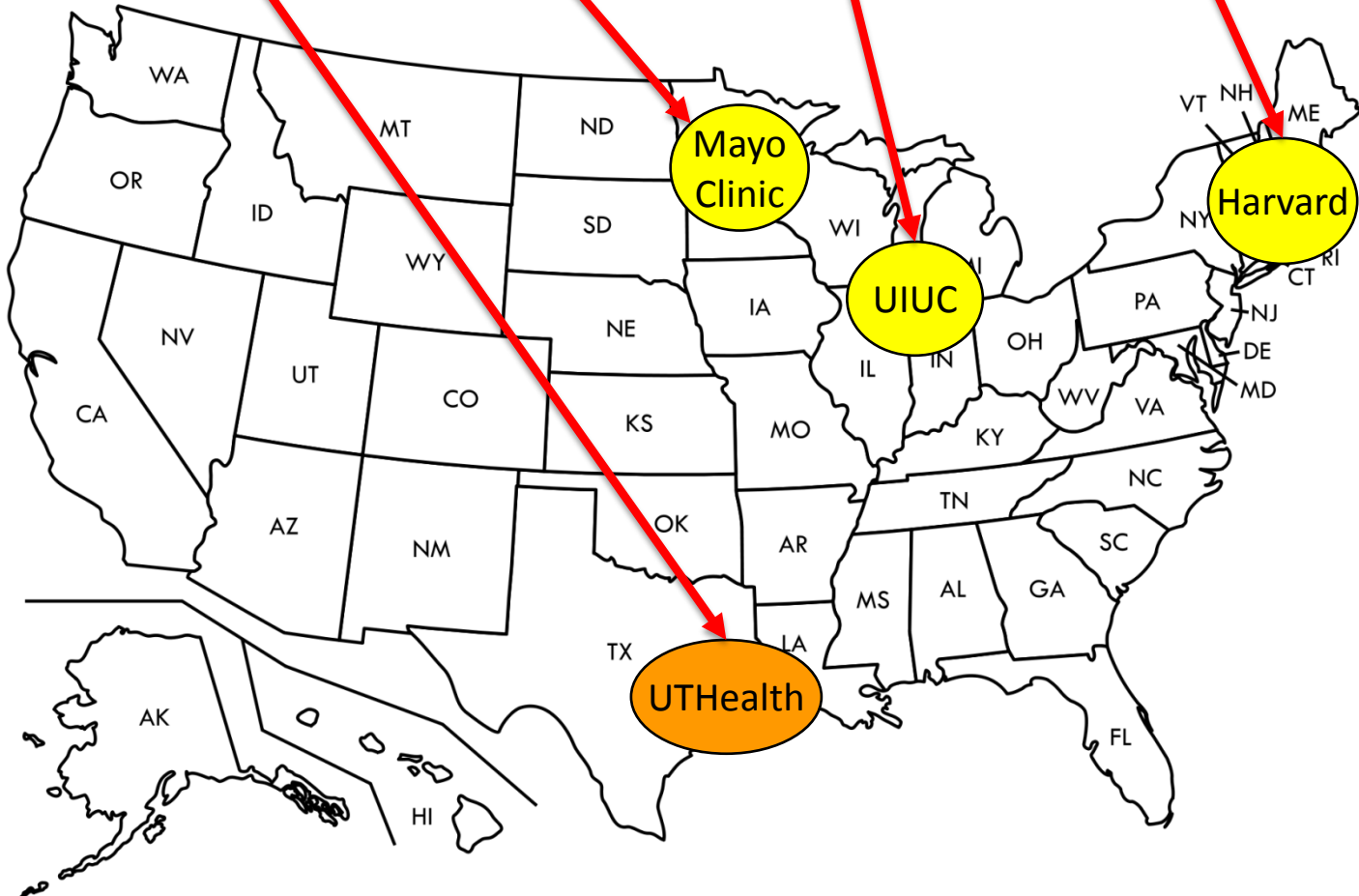
Cognitive

Standards

Privacy/Security

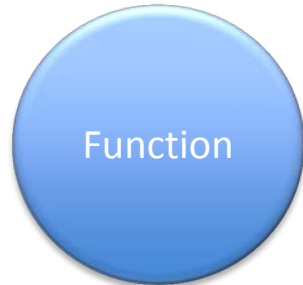
Technology

Workforce





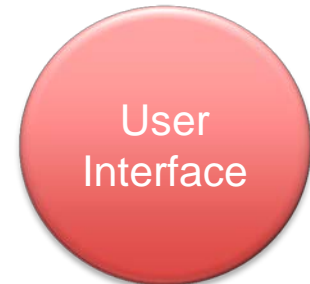
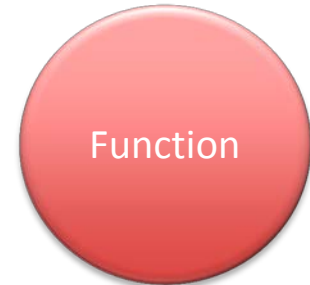
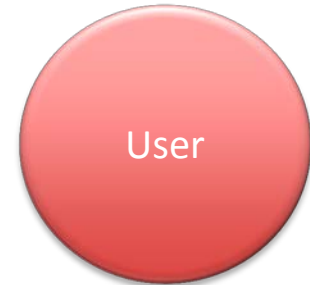
Good cognitive support



HIT Gaps



Poor cognitive support





HIT Gaps



Personalized

≠



One size fits all

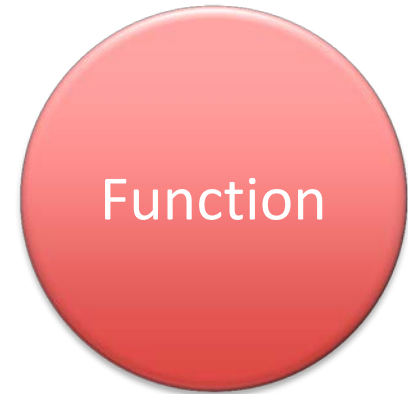


HIT Gaps



All essential functions
and
Only essential functions

≠



Overhead functions;
Missing essential functions

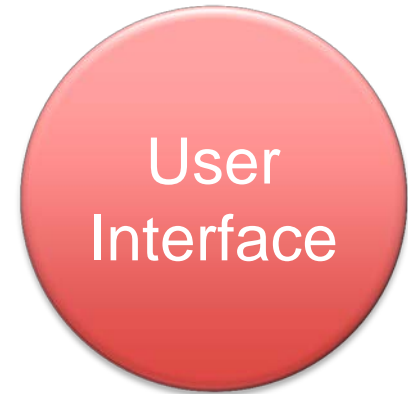


HIT Gaps



Intuitive, direct,
transparent, structured

≠



Confusing, indirect,
memory-based, scattered



HIT Gaps



Safe, effective, efficient,
work-centered

≠



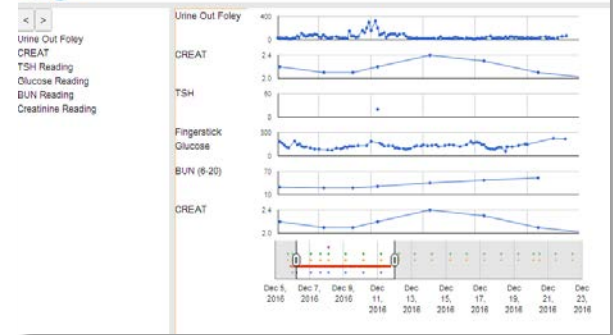
Disconnected,
redundant, unclear,
interruption-laden



Priority Contact

Priority Selector

- 1 Priority One**
Life threatening condition, urgent contact
Business Rules: 1 call / 1 day 1 contact point
- 2 Priority Two**
Life changing condition, sensitive contact
Business Rules: 1 call / 1 day 1 contact point
- 3 Priority Three**
Routine contact, change of care plan
Business Rules: 1 call / 1 day 1 contact point
- 4 Priority Four**
Low priority callback, no change in plan
Business Rules: 1 call / 1 day 1 contact point



Standard Mode: Define Rule Logic

Write a logic clause about

Select an option below (a new window will open)

Recent HgA1c Result
Recent HgA1c Order

Hx - High HgA1c
No Hx - High HgA1c

YES Hx - High HgA1c
NO Hx - High HgA1c

NO Hx - High HgA1c
Hx - High HgA1c

No Hx - High HgA1c
Hx - High HgA1c

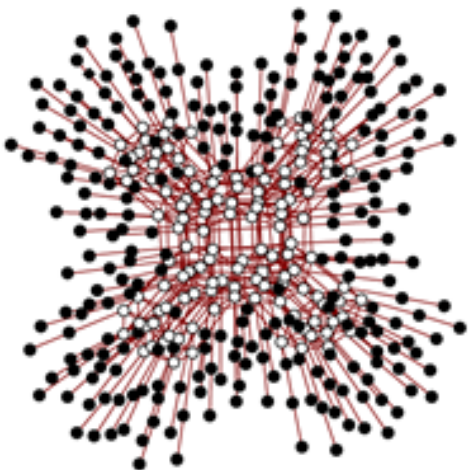
Hx - High HgA1c
Hx - High HgA1c

NO Hx - High HgA1c
Hx - High HgA1c

All must be true
One+ must be true

SHARPC NCCD solutions

SYFSA



TwinList

TwinList

Table with columns: Patient ID, Name, Address, etc.

Automatic Clinical Summarization

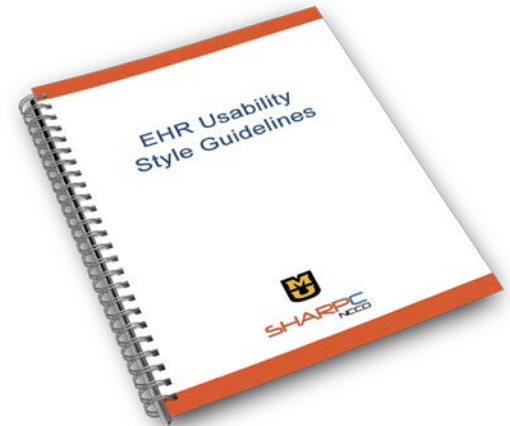
Adam Q. Smith - 375 Plantation Rd., Luling, TX W: 713-985-4215 BC/BS TX
62yr white male smk 5'-9" 195 lbs (44 lbs in 6 mo.) BMI-28.8
Note: Referral to dietician (10/2/10) not scheduled

Hypertension (dx: 2/23/99) BP-138/92 (today) (↓ from 145/100 in 3 mo.) on Atenolol (50 mg QD) + Hydrochlorothiazide (25 mg QD)
Consider: [•] Lisinopril (10 mg QD) - CPG: High Blood Pressure

Type 2 DM (dx: 7/1/03) HbA1c-6.1% (4/20/09) (↓1.2% in 6 mo.) UACr - 50 mg/g (4/20/09) on Metformin (500 mg TID) + Rosiglitazone (4 mg QD).
To Do: [•] HbA1c due - CPG: Diabetes Mgmt [•] dilated eye exam - Pat Ed: retinopathy

Cardiac risk factors: Total cholesterol 215 mg/dL, HDL 44 mg/dL (12/2/09), ATP III 10 yr risk of MI or death - 22% Pat Ed: Cardiac Risk Factors

Visit History: St. Clair Hosp - Pneumonia (11/27/09); ED - Santa Monica Hosp - wrist fracture (7/4/08); Dr. M. Welby - Physical (5/3/07)



EHR Usability:

The Emotional Stages

Some time in the past...



We are here...



Some time in the future...





The Near Future



**Community
Physicians
Group**













Community
Professionals
Group

Temperature:
Video camera



Height:
Video camera



Weight:
Embedded floor sensors





Heart rate:
Door handle sensor

Blood pressure:
Door handle sensor





twinlist

compare lists confirm choices show help (short options) start over!

Default: [dropdown] Sort by: [dropdown] Filter on: [dropdown] After action: [dropdown]

Intake unique Intake similar Identical Hospital similar Hospital unique

Intake unique	Intake similar	Identical	Hospital similar	Hospital unique
Meloxicam PO daily 7.5 mg		Darbepoetin SC weekly 300 mg		Omeprazole PO daily 40 mg
		Calcitriol PO daily 0.25 mg		Ciprofloxacin PO daily 500 mg
		Ramipril PO daily 5 mg		ferrous Gluconate PO 100 mg
	Acetaminophen PO q6h 325 mg		Acetaminophen PO q6h 325 mg	
	Fulvicin PO daily 1 mg		Folic acid PO daily 1 mg	

Intake unique: Meloxicam (PO daily 7.5 mg)

Intake similar: Acetaminophen (PO q6h 325 mg), Fulvicin (PO daily 1 mg)

Identical: Darbepoetin (SC weekly 300 mg), Calcitriol (PO daily 0.25 mg), Ramipril (PO daily 5 mg)

Hospital similar: (empty)

Hospital unique: Omeprazole (PO daily 40 mg), Ciprofloxacin (PO daily 500 mg), ferrous Gluconate (PO 100 mg)

Acetaminophen (PO q6h 325 mg) and Folic acid (PO daily 1 mg) are listed in both the Intake similar and Hospital similar columns.





An Advanced View of the Eye

Normal Healthy Eye

Labels in the eye diagram: SCLERA, IRIS, PUPIL, CORNEA, CILIARY MUSCLE, OPTIC DISC, LAMINA CRIBROSA, VITREOUS, FOVEA, ORA SERRATA.

Labels in the retina diagram: FOVEA, BLOOD VESSELS, NERVE FIBER LAYER, GANGLION CELL LAYER, INNER PLEXIFORM LAYER, EXTERNAL LIMITING MEMBRANE, INNER/OUTER PHOTORECEPTOR JUNCTION, RPE INTERDIGITATION, RPE/BRUCH'S MEMBRANE COMPLEX.





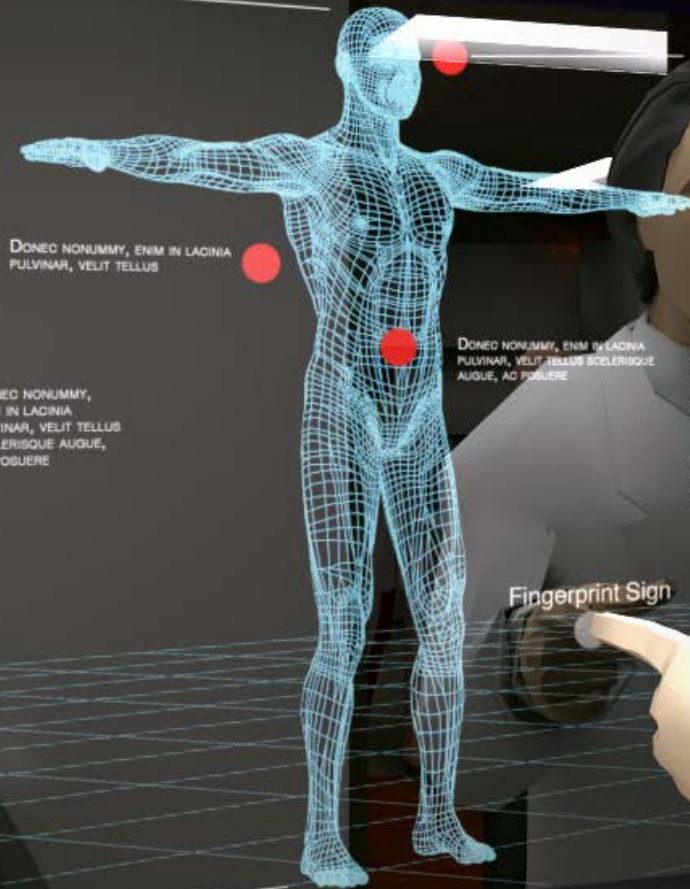
DOE, JOHN

LOREM IPSUM DOLOR ET AMET, CONSECTETUR ADIPISCIUNG ELIT, NAM NIBH. NUNC VARIUS FACILIS ERHOE. SED ERAT, IN IN VELIT QUIE ARDU ORNARE LAORREY. CURABITUR ADIPISCIUNG LECTUS MASDA.

INTERER UT PURUS AD AUGUS COMMOOD COMMOODO. NUNC RED MI BU JUSTO TEMPOR CONSECTETUR. ETIAM VITAE NIBH. IN DIGNISSIM LACUS UT ANTE. CRAS ELIT LECTUS, ABBIDUM A, ADIPISCIUNG VITAE, COMMOOD ET, DUE.

UT TRICIDUNT TORTOR. DONEC NONUMMY, ENIM IN LACINIA PULVINAR, VELIT TELLUS SCOLERISQUE AUGUE, AC POSUIERE LIBERO URINA EGRET NEQUE. CRAS IPUM. VESTIBULUM PRETIUM, LECTUS NEO YEMINATIS VOUTRIT, PURUS LECTUS ULTRICES RIBUS, A CONDOMENTUM RIBUS MI ET QUAM. PULSANTESQUE AUCTION PRINIBILLA NEQUE. DUE ET MASDA UT LOREM IACULUS VESTIBULUM. MASDAHAM FACILIS ELIT RED JUSTI. QUIBQUE VIL UTAT MALESQUARA VELIT.

5'-9"



DONEC NONUMMY, ENIM IN LACINIA PULVINAR, VELIT TELLUS

DONEC NONUMMY, ENIM IN LACINIA PULVINAR, VELIT TELLUS SCOLERISQUE AUGUE, AC POSUIERE

DONEC NONUMMY, ENIM IN LACINIA PULVINAR, VELIT TELLUS SCOLERISQUE AUGUE, AC POSUIERE

INTERER UT PURUS VITAE NIBH. IN DIGNISSIM LACUS UT ANTE. CRAS ELIT LECTUS, BIBENDUM A, ADIPISCIUNG VITAE.

UT TRICIDUNT TORTOR. DONEC NONUMMY, ENIM IN LACINIA PULVINAR, VELIT TELLUS SCOLERISQUE AUGUE, AC POSUIERE LIBERO URINA EGRET NEQUE. CRAS IPUM. VESTIBULUM PRETIUM, LECTUS NEO YEMINATIS VOUTRIT, PURUS LECTUS ULTRICES RIBUS, A CONDOMENTUM RIBUS MI ET QUAM.



Fingerprint Sign