Humanity in Healthcare

Putting the Person back in Personnel

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SingHealth DukeNUS ACADEMIC MEDICAL CENTRE

PATIENTS. AT THE HEART OF ALL WE DO.®

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Eliminating ~~Human~~ Error

Part of the

☑ Problem

☐ Solution

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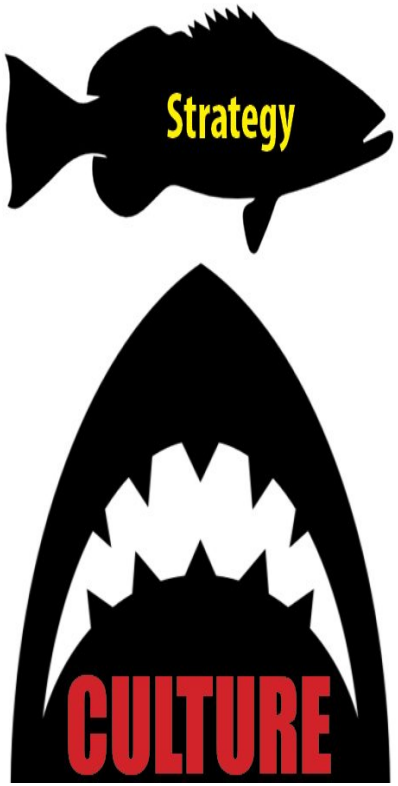
HUMANS AS PART OF THE PROBLEM



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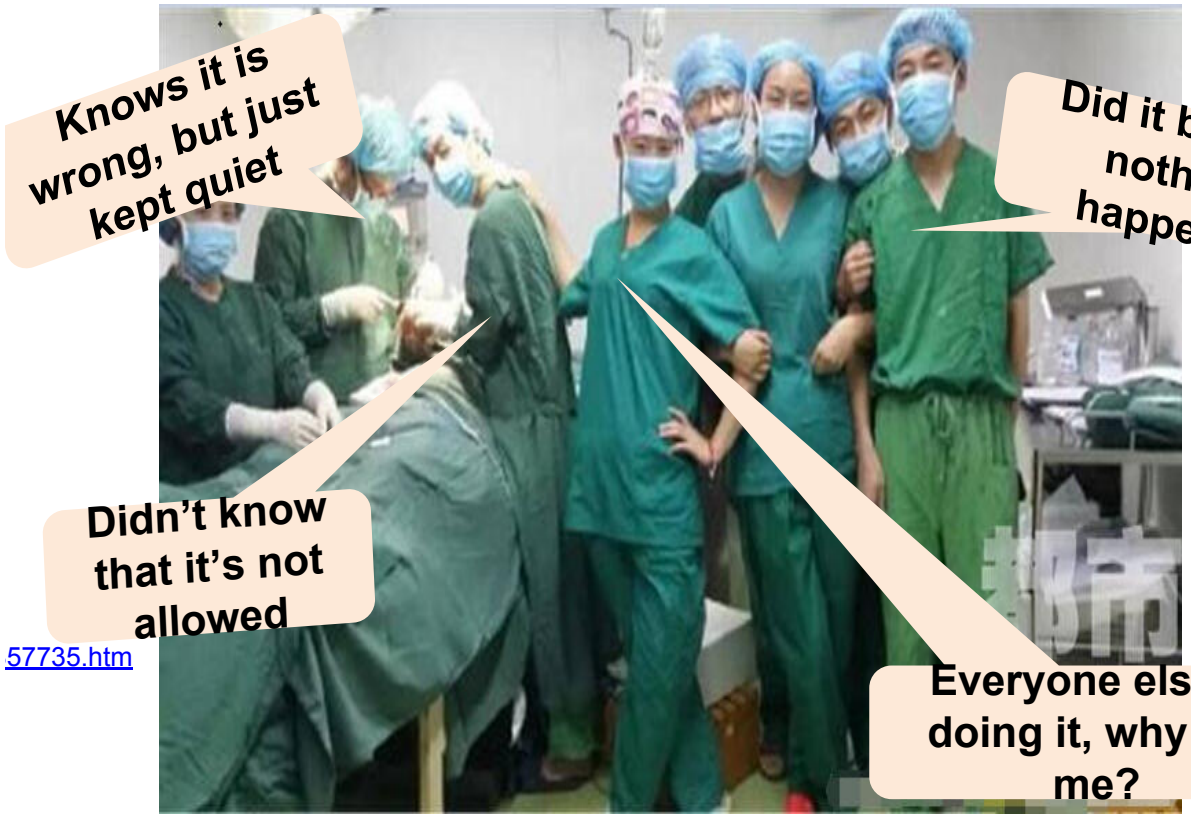

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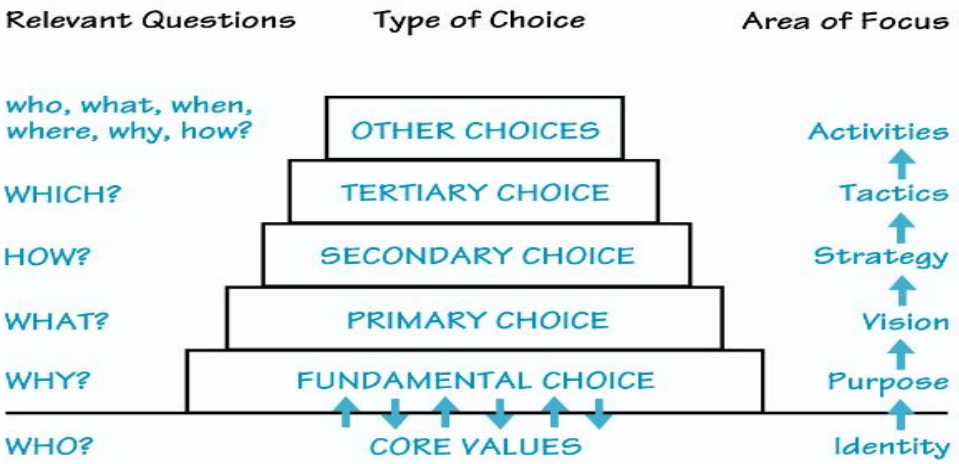
HUMANS AS PART OF THE SOLUTION



"The source of energy at work is not in control, it is in connection to purpose."

Comprehensible, Manageable and Meaningful

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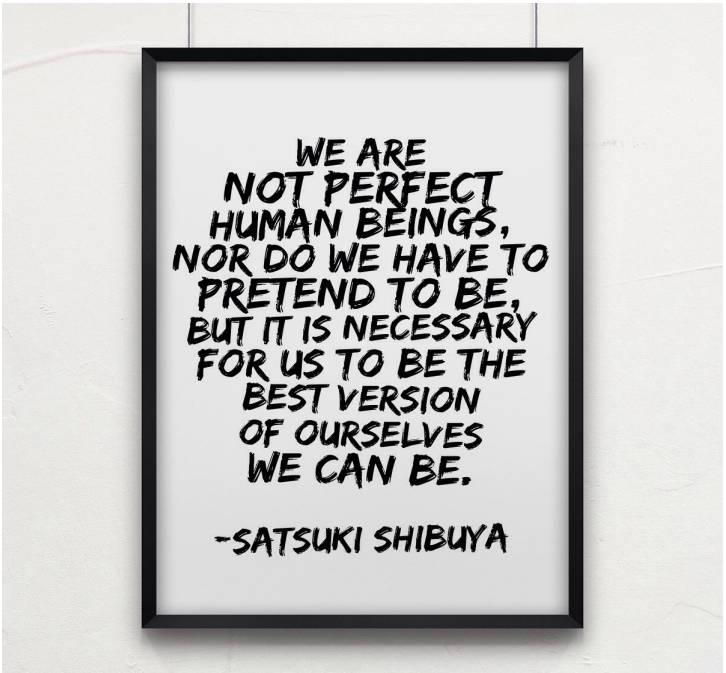
PURPOSE

Our Mission

To deliver the BEST patient care with passion and empathy

- A choice and commitment
- Learn, Unlearn, Relearn



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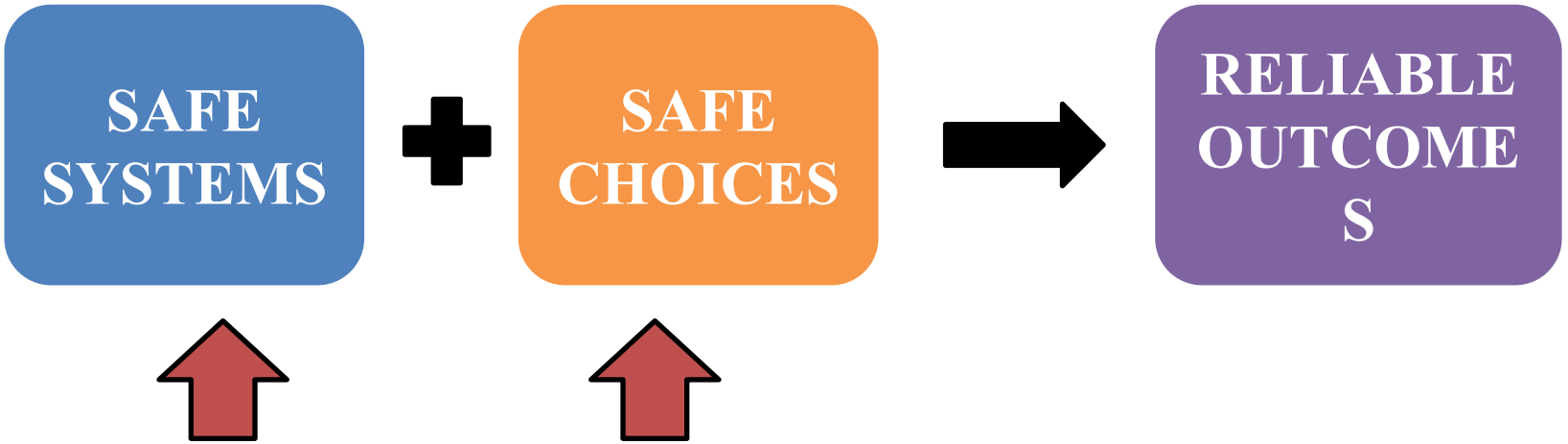
JUST AND LEARNING CULTURE

Organization has a responsibility to employees (and ultimately to patients)

Staff accountable for the quality of choices they make regardless of the outcome

Shared Accountability



ENABLED BY GOOD HUMAN-CENTERED DESIGN

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Just Culture and Human Error

Reckless Behavior:
Knows the act is unsafe and unjustifiable, but does it anyway

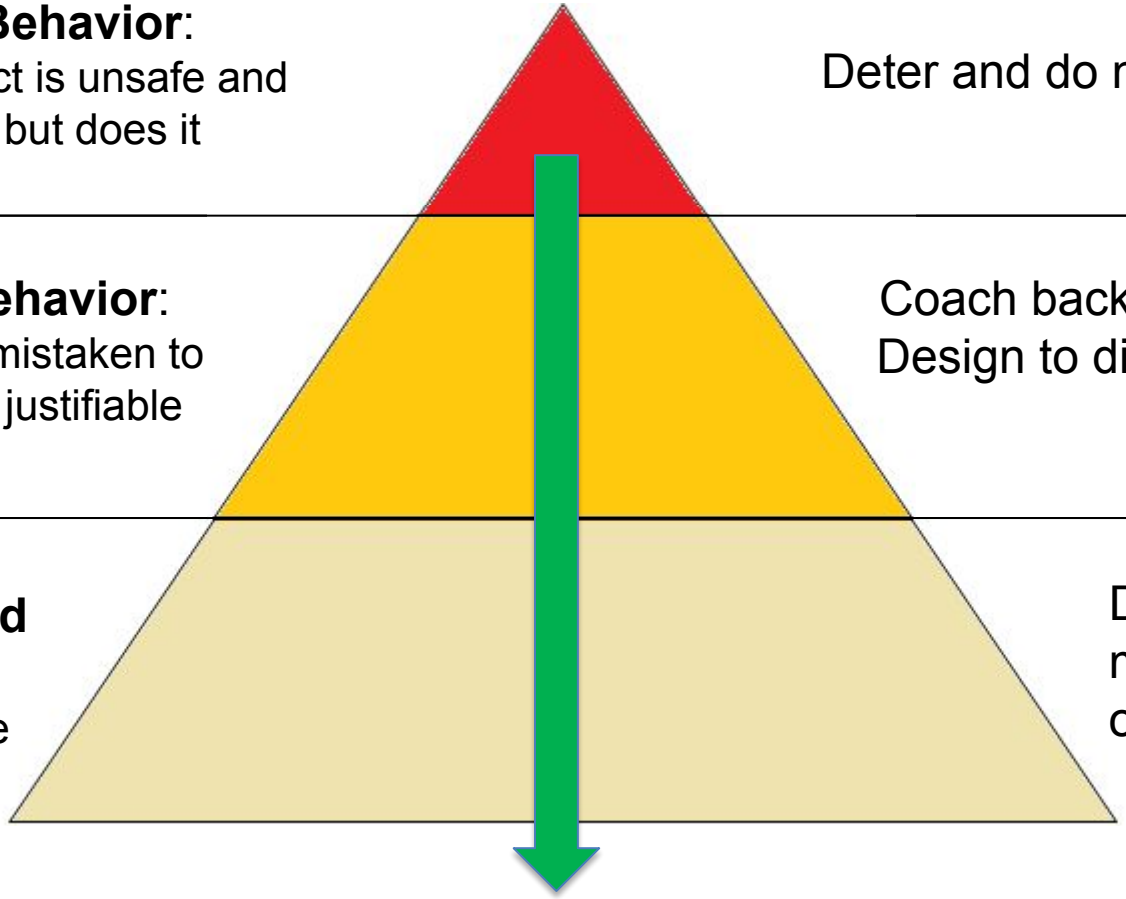
Deter and do not tolerate

At-Risk Behavior:
Unsafe act mistaken to be safe and justifiable

Coach back to safe act
Design to disincentives

Slips, lapses and mistakes
despite safe choices

Design to minimize or mitigate



A learning culture throughout the organization

Sources:
Just Culture (Outcome Engenuity)
Enterprise Risk Management Handbook for Healthcare Entities (2nd Edition), American Health Lawyers Association

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PSYCHOLOGICAL SAFETY

- Define Assumptions
- Examine Assumptions
- Challenge Assumptions

Single-Loop Learning
The most common style of learning i
just problem solving – improving the
system as it exists.

Assumptions
Why We Do What We Do

Strategies and Techniques
What We Do

Results
What we Get

Double-Loop Learning
More than just fixing the problem, this style of learning questions the underlying assumptions, values and beliefs behind what we do.

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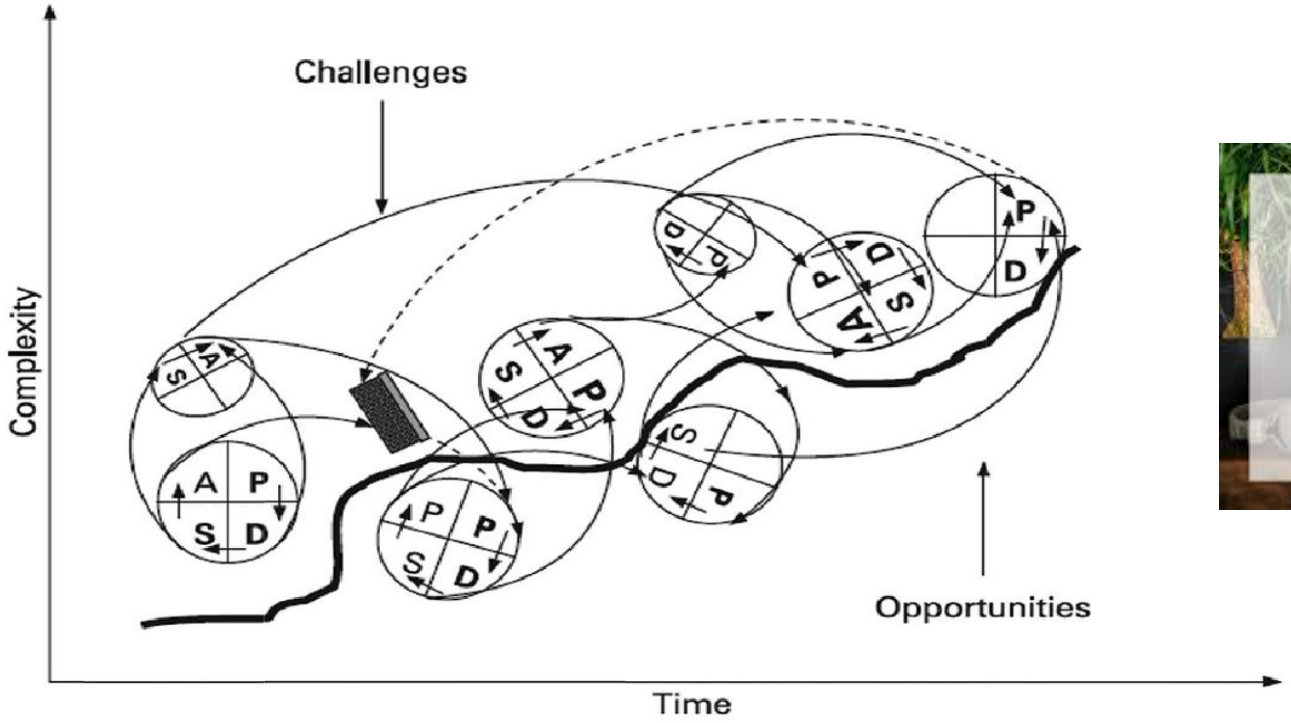
FOCUS ON LEARNING, NOT PERFECTION

Learning Organisations are places "where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together."



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WHAT HUMAN FACTORS IS

Create **good "fit"** between the human and system based on an understanding of the **interaction between system design**
and human abilities & limitations

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SAY OUT THE COLOURS OF THE WORDS

TASK AIM: Before the mic drops, say out the **colours** of the words in the black boxes, from top to bottom

Say

PRACTIC
E

"green"

HAS

"blue"

ICON

"red"

POLAR

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SAY OUT THE COLOURS OF THE WORDS

TASK AIM: Before the mic drops, say out the **colours** of the words in the black boxes, from top to bottom

TEST No.1:
READY?

FLIP

STUNT

CAP

IMPORT

NICE

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SAY OUT THE COLOURS OF THE WORDS

TASK AIM: Before the mic drops, say out the **colours** of the words in the black boxes, from top to bottom

TEST No.2:
READY?

RED

YELLOW

PURPLE

GREEN

BLUE

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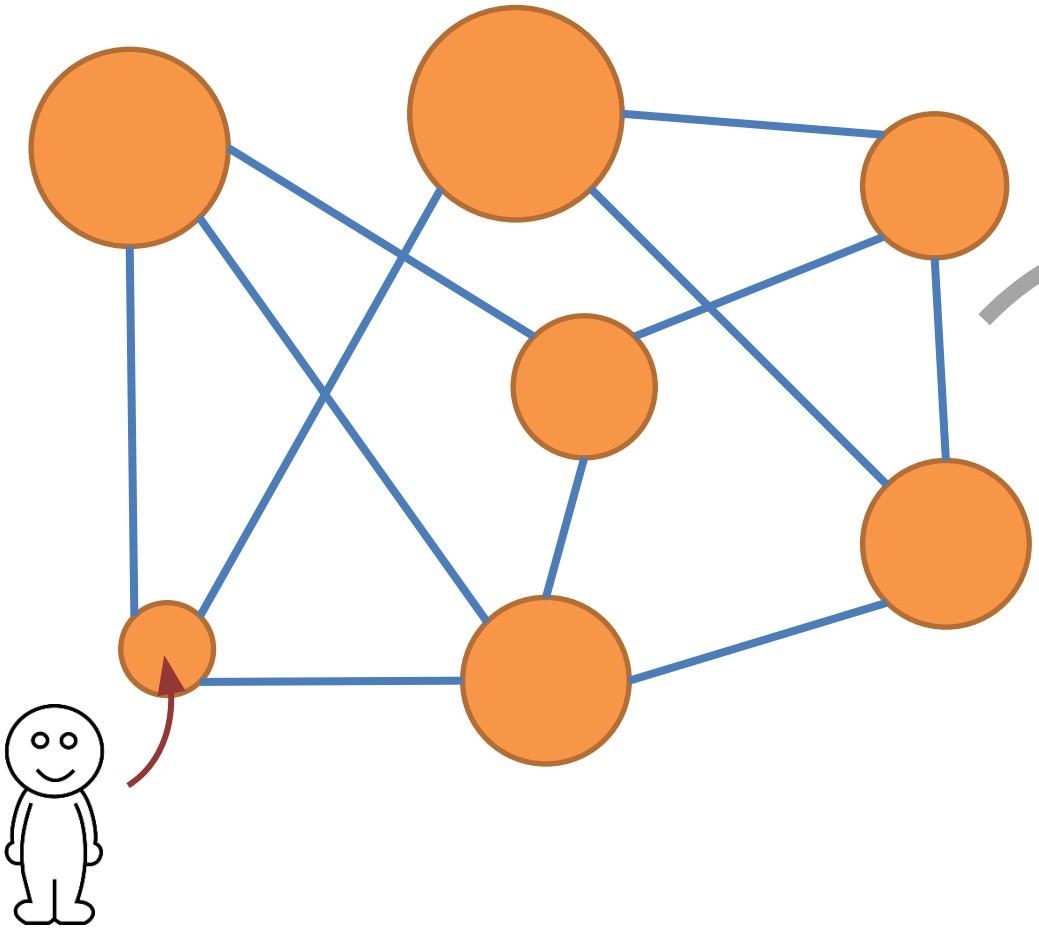
SYSTEMS THINKING



HUMAN
Goals, Needs,
Abilities & Limitations

OUTCOME

Every system is perfectly designed to get the results it gets

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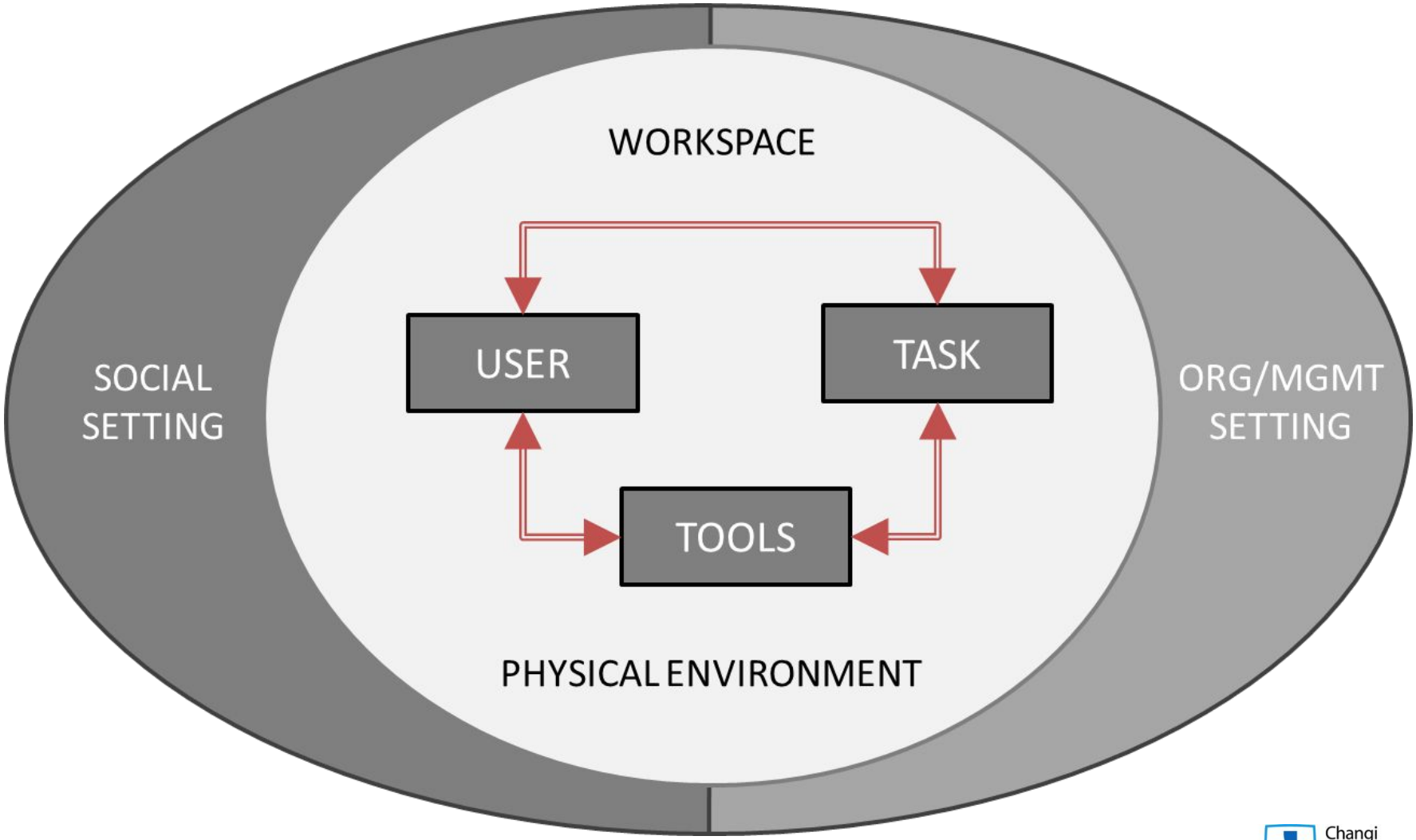
SOCIO-TECHNICAL SYSTEM THINKING



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PATIENT-CENTERED COMMUNICATION DESIGN

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PATIENT FOOD CHARTING GUIDE

Chart Diet Accurately
- Carbohydrate (NT, ¼, ½, ¾, 1 Share)
- Meat (NT, ¼, ½, ¾, 1 Share)
- Vegetable (NT, ¼, ½, ¾, 1 Share)

Patient Eaten	Not Taken (NT)	Eaten 1/4 Share	Eaten 1/2 Share	Eaten 3/4 Share
CARROT CAKE		Eaten ¼ CARROT CAKE	Eaten ½ CARROT CAKE	Eaten ¾ CARROT CAKE
CHEE CHEONG FUN (RICE NOODLE ROLL)		Eaten ¼ CHEE CHEONG FUN	Eaten ½ CHEE CHEONG FUN	Eaten ¾ CHEE CHEONG FUN
WAFFLE/ PANCAKE		Eaten ¼ WAFFLE/ PANCAKE	Eaten ½ WAFFLE/ PANCAKE	Eaten ¾ WAFFLE/ PANCAKE

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"Match the real world" visual design facilitate accurate communication and charting of food consumption

Credit: CGH Dietetic Consultation

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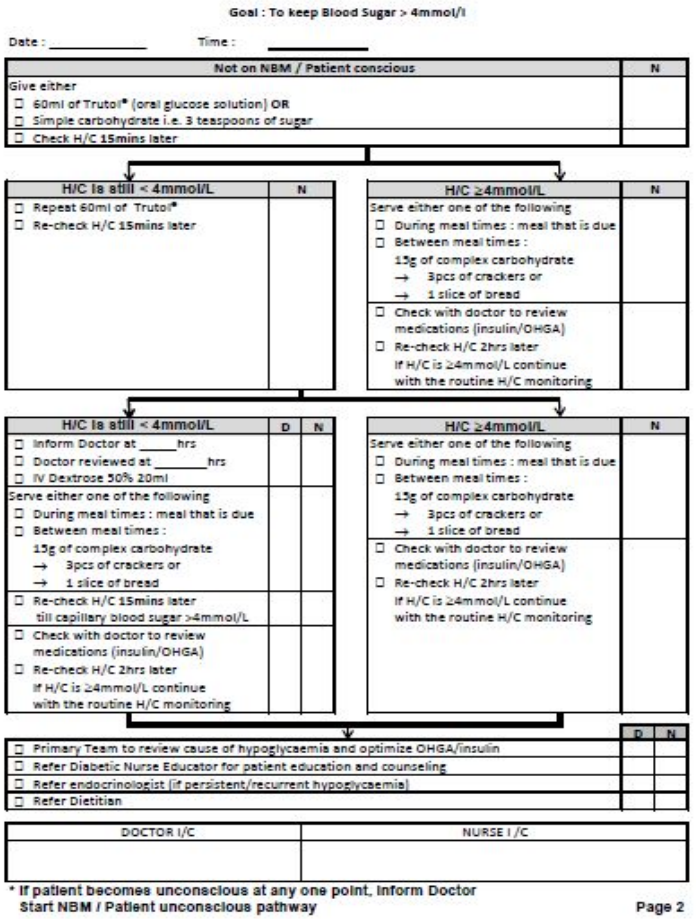
STAFF-CENTERED DECISION AID DESIGN



Goal : To keep Blood Sugar > 4mmol/l

Date : _____ Time : _____

Not on NBM / Patient conscious	N
Give either ☐ 60ml of Trutol® (oral glucose solution) OR ☐ Simple carbohydrate i.e. 3 teaspoons of sugar ☐ Check H/C 15mins later	

H/C is still < 4mmol/L	N
☐ Repeat 60ml of Trutol® ☐ Re-check H/C 15mins later	

H/C ≥4mmol/L	N
Serve either one of the following ☐ During meal times : meal that is due ☐ Between meal times : 15g of complex carbohydrate → 3pcs of crackers or → 1 slice of bread	
☐ Check with doctor to review medications (insulin/OHGA) ☐ Re-check H/C 2hrs later If H/C is ≥4mmol/L continue with the routine H/C monitoring	

H/C is still < 4mmol/L	D	N
☐ Inform Doctor at _____hrs ☐ Doctor reviewed at _____hrs ☐ IV Dextrose 50% 20ml		
Serve either one of the following ☐ During meal times : meal that is due ☐ Between meal times : 15g of complex carbohydrate → 3pcs of crackers or → 1 slice of bread		
☐ Re-check H/C 15mins later till capillary blood sugar >4mmol/L		
☐ Check with doctor to review medications (insulin/OHGA) ☐ Re-check H/C 2hrs later If H/C is ≥4mmol/L continue with the routine H/C monitoring		

H/C ≥4mmol/L	N
Serve either one of the following ☐ During meal times : meal that is due ☐ Between meal times : 15g of complex carbohydrate → 3pcs of crackers or → 1 slice of bread	
☐ Check with doctor to review medications (insulin/OHGA) ☐ Re-check H/C 2hrs later If H/C is ≥4mmol/L continue with the routine H/C monitoring	

	D	N
☐ Primary Team to review cause of hypoglycaemia and optimize OHGA/insulin		
☐ Refer Diabetic Nurse Educator for patient education and counseling		
☐ Refer endocrinologist (if persistent/recurrent hypoglycaemia)		
☐ Refer Dietitian		

DOCTOR I/C	NURSE I /C

* If patient becomes unconscious at any one point, inform Doctor
Start NBM / Patient unconscious pathway

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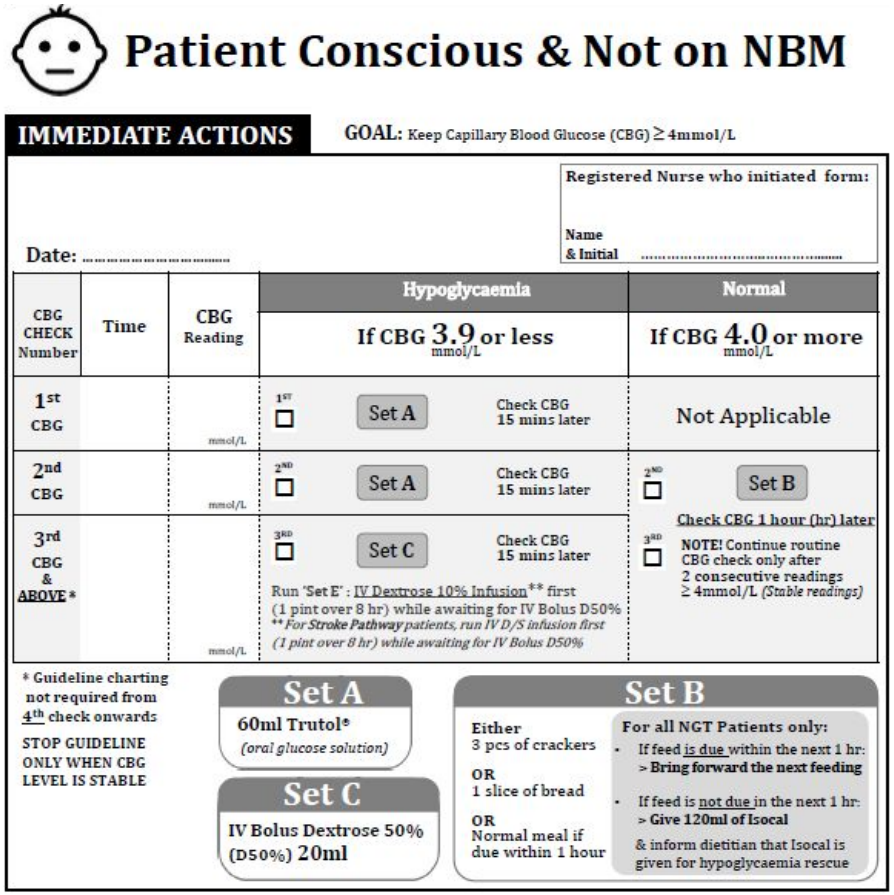

Patient Conscious & Not on NBM

IMMEDIATE ACTIONS GOAL: Keep Capillary Blood Glucose (CBG) ≥ 4mmol/L

Registered Nurse who initiated form:
Name & Initial .....

Date: .....

CBG CHECK Number	Time	CBG Reading	Hypoglycaemia If CBG 3.9 mmol/L or less	Normal If CBG 4.0 mmol/L or more
1st CBG		mmol/L	☐ 1ST Set A — Check CBG 15 mins later	Not Applicable
2nd CBG		mmol/L	☐ 2ND Set A — Check CBG 15 mins later	☐ 2ND Set B — Check CBG 1 hour (hr) later
3rd CBG & ABOVE *		mmol/L	☐ 3RD Set C — Check CBG 15 mins later Run 'Set E' : IV Dextrose 10% Infusion** first (1 pint over 8 hr) while awaiting for IV Bolus D50% ** *For Stroke Pathway patients, run IV D/S infusion first (1 pint over 8 hr) while awaiting for IV Bolus D50%*	☐ 3RD NOTE! Continue routine CBG check only after 2 consecutive readings ≥ 4mmol/L *(Stable readings)*

* Guideline charting not required from 4th check onwards

STOP GUIDELINE ONLY WHEN CBG LEVEL IS STABLE

Set A
60ml Trutol®
(oral glucose solution)

Set C
IV Bolus Dextrose 50% (D50%) 20ml

Set B
Either
3 pcs of crackers
OR
1 slice of bread
OR
Normal meal if due within 1 hour

For all NGT Patients only:
- If feed is due within the next 1 hr: > **Bring forward the next feeding**
- If feed is not due in the next 1 hr: > **Give 120ml of Isocal**

& inform dietitian that Isocal is given for hypoglycaemia rescue

Information grouping and graphical design eases understanding of algorithm

Credit: CGH Hypoglycaemia Prevention Team

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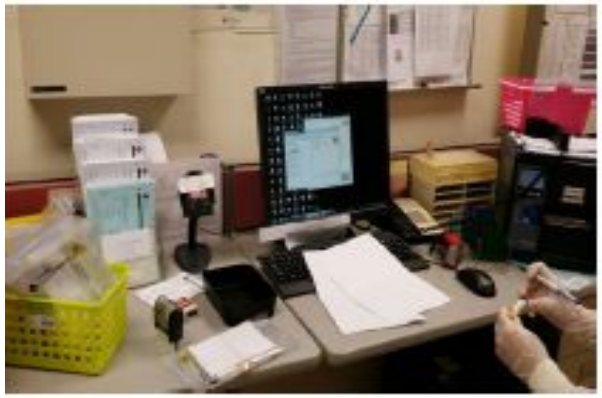
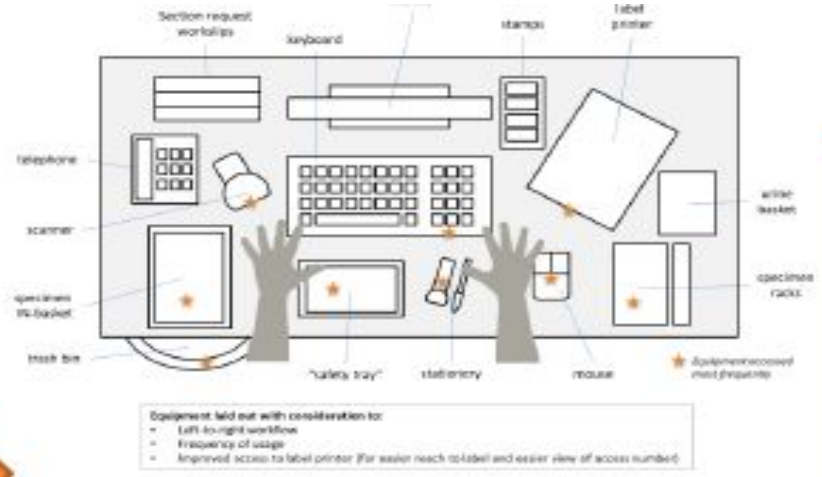
STAFF-CENTERED TASK & WORKDESK DESIGN



Old Processing desks



New Processing desks

Items placed to facilitate efficient flow of motions

Credit: CGH Core Lab Processing Team

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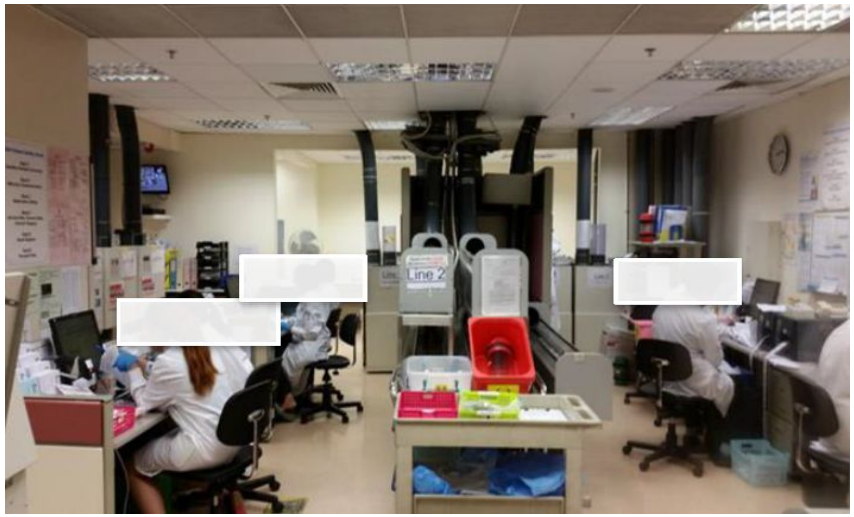
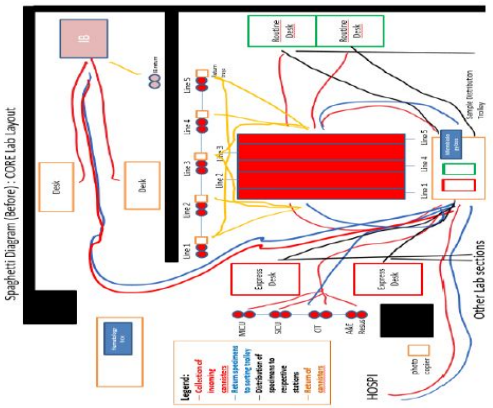
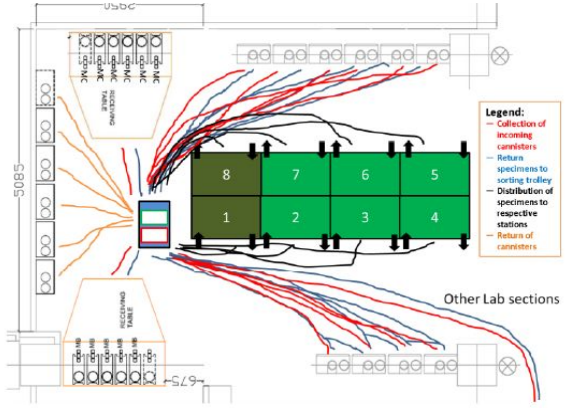
STAFF-CENTERED TEAMWORK & WORKSPACE DESIGN



Distributed outward facing desks

Clustered central facing desks





Credit: CGH Core Lab Processing Team

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PATIENT-CENTERED MODEL OF CARE & SPACE DESIGN

Empowering patients to return to normalcy and wellness

"Cluster housing" ward concept with common dining, family area and rehab to encourage interactivity and peer support amongst patients

Pre-discharge Rehab in mock-up HDB apartment

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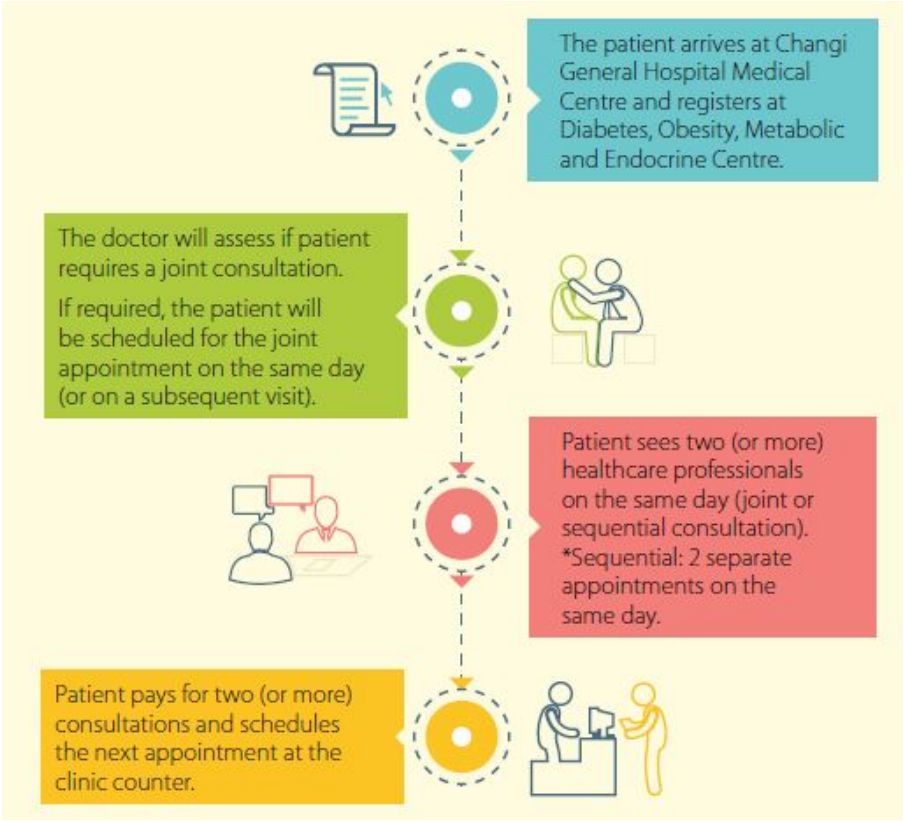
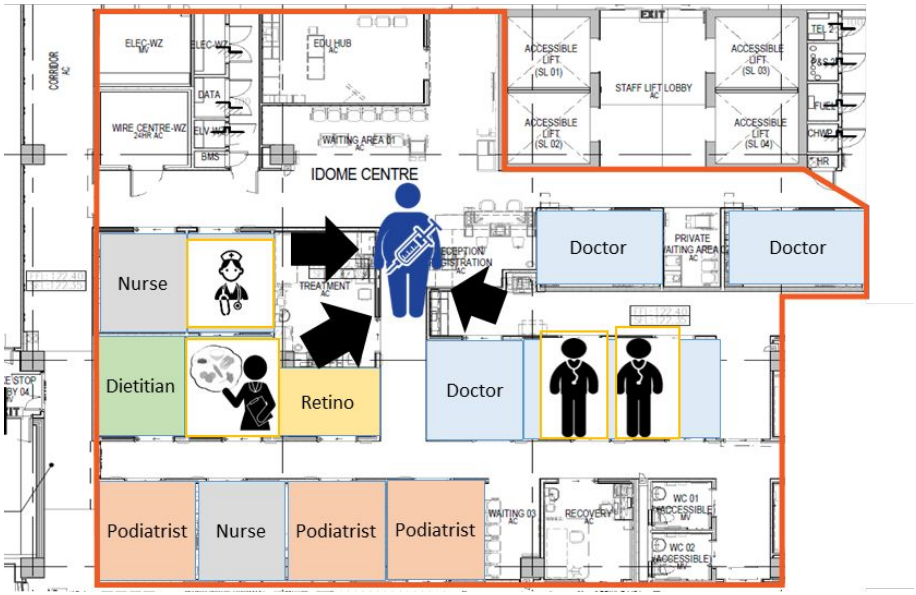
PATIENT-CENTERED MODEL OF CARE & SPACE DESIGN

Integrated Multi-Specialty Practice: One-Stop Centre for Patient



Aligned clinical protocol for same condition across specialties

Diabetes, Obesity, Metabolic and Endocrine Centre



Infrastructure design facilitates cross-corridor consultation and collaboration

Allows patient to experience integrated care, save travel time, receive diagnosis & treatment earlier

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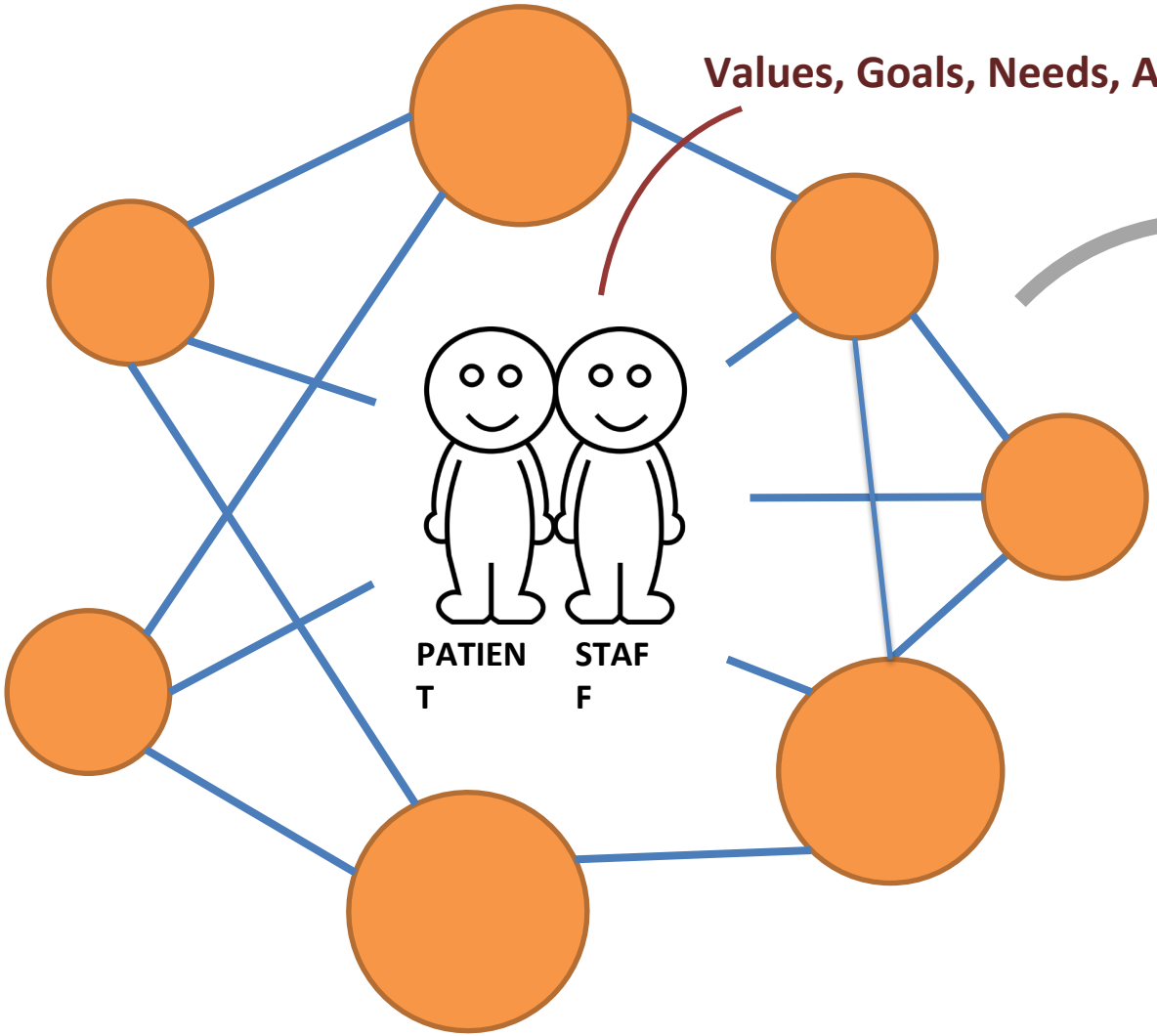
HUMAN-CENTERED SYSTEMS



OUTCOME

Every socio-technical system is perfectly designed to get the human performance, errors & experience it gets

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