

SEIPs and Actions Management

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Systems Engineering Initiative for Patient Safety - SEIPS



MODEL ROOTED
IN HUMAN
CENTRED
SYSTEMS
ENGINEERING*
THAT LOOKS AT
THE ENTIRE
SYSTEM AN
INCIDENT TOOK
PLACE WITHIN.



INCLUDES X3
COMPONENTS



WORK SYSTEM



PROCESSES



OUTCOMES



DEFINITIONS



**HUMAN-CENTERED
ENGINEERING
(HCE)** IS A
MULTIDISCIPLIN
ARY FIELD THAT
USES DESIGN
THINKING TO
CREATE
PRODUCTS AND
SYSTEMS THAT
MEET THE NEEDS
OF USERS.



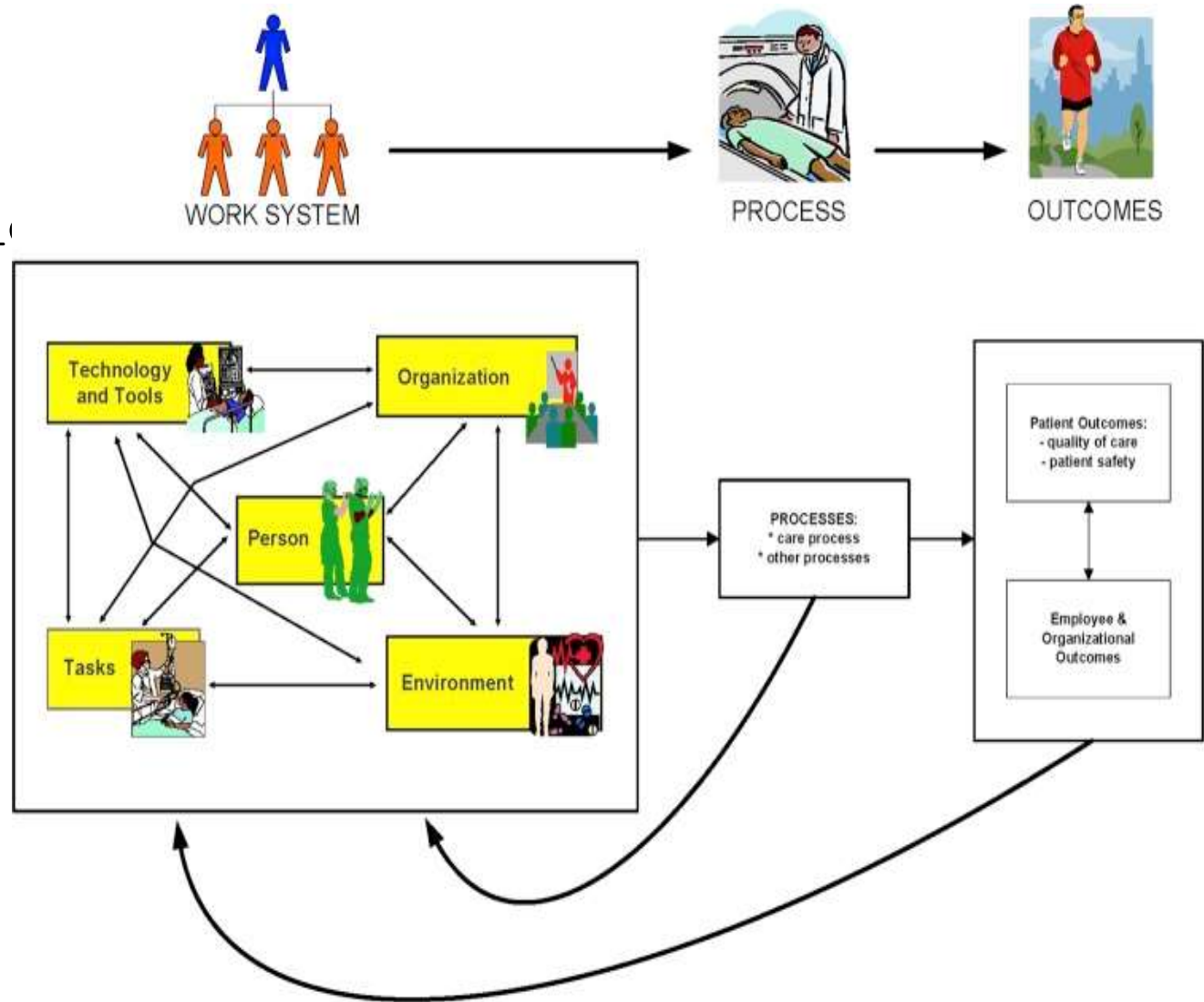
**HUMAN FACTORS,
ALSO KNOWN AS
ERGONOMICS,**
IS THE
SCIENTIFIC
STUDY OF HOW
HUMANS
INTERACT WITH
OTHER ELEMENTS
OF A SYSTEM
AND HOW TO
APPLY THAT
KNOWLEDGE TO
DESIGN
PRODUCTS,
PROCESSES, AND
SYSTEMS. THE
GOAL IS TO
IMPROVE THE
WELL-BEING OF
PEOPLE AND THE

The SEIPs Model

The Work System

The Process

The Expected Outcome



SEIPs and Actions

- SEIPs Categories by Contributory Factors

Tier 1	Tier 2	Individual staff factors (Human Factors)	Components
Person Factors			
HF	PH	Physical health	<ul style="list-style-type: none"> • General health (nutrition, hydration, wellness, fitness) • Health related conditions (eg eyesight, dyslexia)
	MH	Psychological/ Mental health	<ul style="list-style-type: none"> • Mental health • Mental alertness • Motivation level (boredom, complacency, low job satisfaction) • Stress / Burnout
	SD	Social domestic factors	<ul style="list-style-type: none"> • Domestic (family related) • Lifestyle (financial, housing, etc) • Language
	PF	Personality factors	<ul style="list-style-type: none"> • Confidence • Risk awareness/risk tolerance
	SO	Social factors	<ul style="list-style-type: none"> • Motivation and values • Beliefs and expectations • Attitudes • Habits
	CF	Cognitive factors	<ul style="list-style-type: none"> • Focus/Attention/Memory /Confusion • Perception • Reasoning and decision-making • Group influence • Workload (underload/overload/well-balanced)

Tier 1 Tier 2 Individual patient factors Components

Person Factors

PT	PF	Physical factors	<ul style="list-style-type: none">• Physical health/condition• Nutrition/hydration• Age related• Body mass related
	SO	Social factors	<ul style="list-style-type: none">• Cultural/religious beliefs• Language/communication• Lifestyle choices• Life events• Living accommodation• Support networks• Social protective factors (relevant to mental health services)• Risk tolerance• Engagement/motivation/compliance/concordance• Interpersonal relationships (staff-patient; patient-family; staff-family)
	MH	Psychological factors	<ul style="list-style-type: none">• Mental health• Mental capacity• Learning disability• Intent (relevant to mental health services)

Tier 1	Tier 2	Task factors	Components
Person ~Factors			
TF	CC	Clinical condition	<ul style="list-style-type: none"> • Pre-existing co-morbidities • Complexity of condition • Seriousness of condition • Options available to treat condition
	PP	Plans, guidelines, policies, procedures and protocols	<ul style="list-style-type: none"> • Informative • Instructional • Representative • Routine use • Usability • Currency • Accuracy • Availability • Accessibility (ambiguous, complex, irrelevant, incorrect) • Monitoring • Review • Targeting/focus (ie audience)

Tasks	DM	Decision-making aids	<ul style="list-style-type: none"> • Available
			<ul style="list-style-type: none"> • Accessible
			<ul style="list-style-type: none"> • Working
			<ul style="list-style-type: none"> • Accurate
			<ul style="list-style-type: none"> • For prioritisation of tasks
			<ul style="list-style-type: none"> • Access to specialist advice
			<ul style="list-style-type: none"> • Access to technical information, flow charts and diagrams
Tasks	TD	Procedural or Task design and clarity	<ul style="list-style-type: none"> • Task complexity
			<ul style="list-style-type: none"> • Task memorability
			<ul style="list-style-type: none"> • Understandable
			<ul style="list-style-type: none"> • Agreed with staff (feasibility)
			<ul style="list-style-type: none"> • Time allocation
			<ul style="list-style-type: none"> • Task sequencing/stage sequencing
			<ul style="list-style-type: none"> • Workload (under/over/balanced)
			<ul style="list-style-type: none"> • Compatibility of tasks/task stages
			<ul style="list-style-type: none"> • Competing task demands
			<ul style="list-style-type: none"> • Feedback from the task
			<ul style="list-style-type: none"> • Transferability to/from other situations
			<ul style="list-style-type: none"> • Influence on task/outcome
			<ul style="list-style-type: none"> • Automation
			<ul style="list-style-type: none"> • Audit, quality control, quality assurance

Tier 1	Tier 2	Workplace factors	Components
Work System			
EN	EF	Environmental factors	<ul style="list-style-type: none"> • Capacity • Fixture or fitting • Separation • Safety • Cleanliness/hygiene • Temperature • Lighting • Noise levels • Distractions (audio) & Distractions (visual) • Ligature/anchor points
	DS	Design of physical environment	<ul style="list-style-type: none"> • Work area design (eg size, shape, visibility, screens, space, storage) • Security provision • Lines of sight • Use of colour contrast/patterns (walls/doors/flooring, etc) • Space design (adjustable furniture, panic buttons, positioning, etc)
	AF	Administrative factors	<ul style="list-style-type: none"> • Administrative work systems • Administrative infrastructure (phones, bleep systems, etc) • Administrative support

Tier 1	Tier 2	Equipment and technology factors	Components
Technology and Tools EQ	DS	Displays	<ul style="list-style-type: none"> • Information/feedback available • Information clarity • Information consistency • Information legibility • Information Interference • Information displays (colour, contrast, anti-glare screens, etc)
	IM	Integrity and maintenance	<ul style="list-style-type: none"> • Working order • Reliability • Safety features (fail to safe, etc) • Maintenance programme • Emergency back-up services (power, water, piped gases, etc)
	PA	Positioning and availability	<ul style="list-style-type: none"> • Availability and /or Accessibility • Position/placement • Storage • Emergency backup equipment
	UD	Usability/design	<ul style="list-style-type: none"> • Controls • Intuitiveness • Use of colour & /or Use of symbols • User manual • Detectability of problems • Use of items which have similar names or packaging • Compatibility

Tier 1	Tier 2	Organisation Team and social factors	Components
Work System			
OT	CT	Culture	<ul style="list-style-type: none"> • Approach to newcomers • Approach to adverse events • Approach to conflict • Approach to rules/regulations • Approach to seeking support • Approach to interprofessional challenge • Interpersonal relationships • Power relationships
	TS	Team structure and consistency	<ul style="list-style-type: none"> • Shared understanding • Familiarity • Mutual respect • Clarity of roles and responsibilities • Congruence of roles and responsibilities • Informal support networks
	LT	Leadership	<ul style="list-style-type: none"> • Clinical leadership • Managerial leadership • Leadership impact • Leadership decision-making • Timeliness of leadership action • Respect for leadership • Formal support networks for staff

Work System		Operational Management Factors	
OM	CM	Communication management	<ul style="list-style-type: none"> • Communication strategy and policy documents • Involvement of patient/family/carers in treatment and decisions • Communication of risks to patient/family/carers • Communication of risks to staff • Communication of risks to the board • Information from patient/family/carers • Communication flow to staff up, down and across • Communication with other agencies (partnership working) • Measuring effectiveness of communication
	VC	Verbal communication	<ul style="list-style-type: none"> • Tone of voice • Style of verbal communication delivery • Use of language • Specificity • Direction • Channel/route • Verbal communication aids/equipment
	WC	Written communication	<ul style="list-style-type: none"> • Readability • Accessibility/availability • Collated • Completeness • Contemporaneous • Accuracy • Currency • Circulation of written information • Patient identification • Information to patients
	NV	Non-verbal communication	<ul style="list-style-type: none"> • Body language/gestures/facial expression

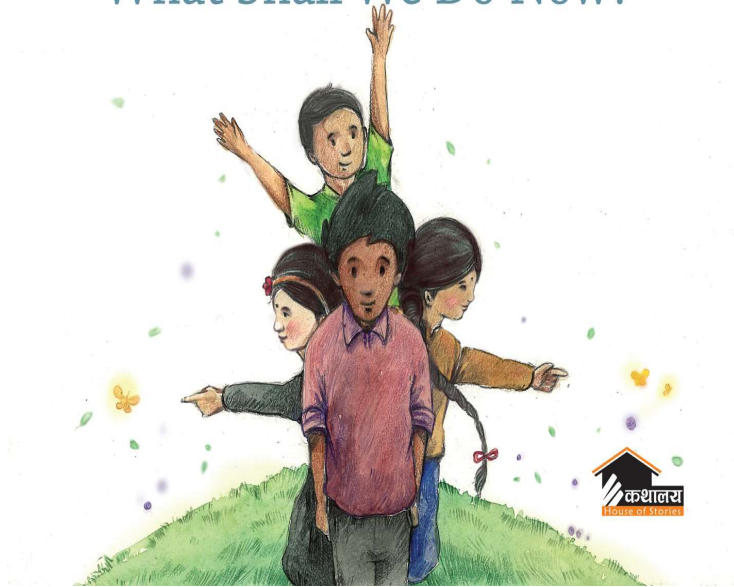
Tier 1	Tier 2	Operational Management Factors	Components
Work System			
OM	SA	Safety focus	<ul style="list-style-type: none"> • Rule compliance • Dealing with risks from past incidents • Awareness of current practice • Adherence to current practice • Empowerment of staff to act • Professional Curiosity
	WK	Work planning and delivery	<ul style="list-style-type: none"> • Risk management plans • Scheduling • Incentive schemes • Contingency planning
	ST	Staffing levels and skill mix	<ul style="list-style-type: none"> • Skill mix • Staff to patient ratio • Workload/weighting/dependency • Temporary staff • Staff turnover
	WL	Workload, shift patterns, hours of work	<ul style="list-style-type: none"> • Working hours including Work breaks • Workload (under/over/balanced) • Extraneous tasks • Social relaxation, rest and recuperation
	TD	Training design	<ul style="list-style-type: none"> • Training needs analysis • Training design • Training/education content • Targeted training • Style of delivery • Time of day provided
	TA	Training Availability / Accessibility	<ul style="list-style-type: none"> • Training availability/accessibility • Core skills training / On the job training • Emergency scenario training (skills drills) • Team training • Refresher training
	SS	Staff supervision	<ul style="list-style-type: none"> • Orientation • Personal supervision • Monitoring of supervision (assessment) • Mentorship
	SC	Staff competence	<ul style="list-style-type: none"> • Knowledge • Skill • Experience • Familiarity with task

Tier 1	Tier 2	Organisational and Strategic	Components
Work System			
OS	SR	Structure	<ul style="list-style-type: none"> • Hierarchical structure (discussion, problem-sharing, etc) • Roles, responsibilities and accountability • Multidisciplinary working • Clinical/managerial approaches • Maintenance • Service-level agreements/contractual arrangements • Safety terms and conditions of contracts
	PR	Priorities/resource	<ul style="list-style-type: none"> • Safety focus • Finance focus • External assessment focus • Workforce resource management • Estates and technology resource management
	SC	Safety culture	<ul style="list-style-type: none"> • Safety/efficiency balance • Commitment to safety • Openness of culture and communication • Risk tolerance • Approach to escalation of concerns • Leadership response to whistleblowing
	PO	Policy, standards and goals	<ul style="list-style-type: none"> • Organisational processes (formal) • Organisational processes (informal) • Processes between/spanning organisations

Tier 1	Tier 2	External context factors	Components
Work System Environment			
EX	NT	National guidelines and policies	<ul style="list-style-type: none"> • Impact of national policy/guidance (DHSC/professional colleges, etc) • Locum/agency policy and usage • Contractor related
	EC	Economic and regulatory context	<ul style="list-style-type: none"> • Service provision • Bed occupancy levels (opening/closures) • Private finance initiative related • Equipment loan related • Financial constraints • Resource constraints
	SO	Societal factors	<ul style="list-style-type: none"> • Values • Beliefs

Resources and Questions

What Shall We Do Now?



- Standard Operational Process (SOP) for Roles and Responsibilities for Action Management - 27.09.24 (002).docx
- SEIPs Categories.xlsx