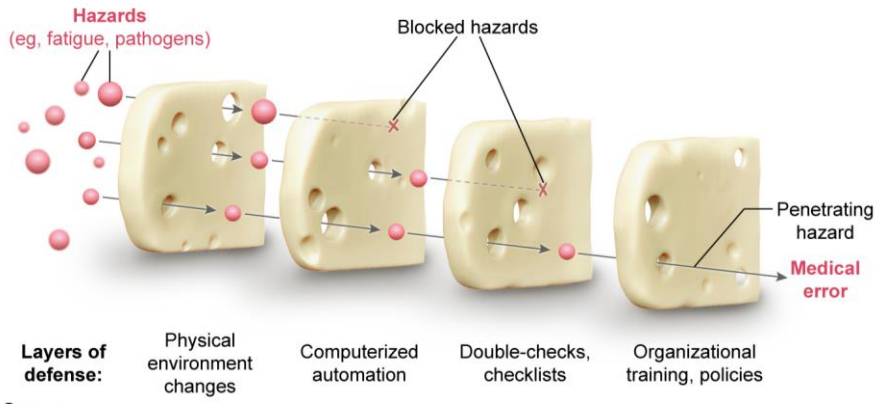

SOCIAL SCIENCES (ETHICS, LEGAL, PROFESSIONAL)

Uworld Step 2 Tables and Images (Subject)

Table of Contents

Communication and interpersonal skills

Cerebral palsy

Cerebral palsy

Diagnosis	• Clinical (usually by age 1-2) – Abnormal motor development & tone (eg, spastic, dyskinetic, ataxic) • MRI of the head (eg, periventricular leukomalacia, basal ganglia lesions)
Management	• Physical, occupational, speech therapies • Nutritional support • Antispastic medications
Comorbidities	• Epilepsy • Speech disorders (eg, aphasia, dysarthria) • Intellectual disability • Feeding difficulties & poor growth • Respiratory (eg, aspiration, restrictive lung disease) • Vision/hearing impairment
Prognosis	• Permanent, nonprogressive deficits

End of life care

Home hospice care

Patient selection	• Life expectancy ≤6 months • Agreement to forgo curative & life-sustaining treatment • Family/private caregiver available for daily needs • Current symptoms can be managed with home care
Location of services	• Patient home • Assisted living facility • Nursing home
Typical services	• Periodic home visits by experienced personnel (eg, nurse) • Palliative medications (eg, analgesics, antiemetics) • Durable medical equipment (eg, hospital bed) • Physical therapy (as well as other therapy modalities)

Reframing personal goals in terminal illness

Explore the patient's understanding of the illness	• Current symptoms & functional limitations • Expected course & prognosis
Clarify the patient's priorities & values	• Personal goals • Fears & obstacles • Individual motivation & purpose
Reframe goals in realistic ways	• Alternate means or schedule • Current & possible help & support • Avoid giving false hope

GENERAL SAFETY CONCERNS

Aggressive patient in the emergency department

Risk factors	• History of violent behavior/antisocial personality disorder • Psychiatric illness (eg, psychosis, delirium, suicidal/homicidal ideation) • Substance use; acute intoxication, withdrawal • Prolonged wait times
Warning signs	• Angry, irritable demeanor • Loud, aggressive speech, cursing, verbal threats • Tense posture, clenched fists, pacing • Desk or wall pounding, throwing objects
Management	• Maintain a distance of 2 arm lengths; avoid direct eye contact • Interview with door open, clinician closer to the exit • Verbal deescalation – Use calm voice, nonconfrontational approach – Provide for basic needs (eg, offer food, drink, blanket) – Listen attentively to clarify patient's wants/needs – Set clear expectations that violence is unacceptable; reinforce that patient will not be harmed – Offer choices if appropriate (eg, oral vs intramuscular medications) • Chemical & physical restraint when verbal deescalation fails & violence is imminent

HEALTH LITERACY

Low health literacy

Definition & risk factors	• Poor comprehension of health information that impairs decision-making • Affects all demographic groups; more common in low SES, elderly, minority groups
Adverse outcomes	• Poor doctor-patient communication • Inadequate preventive care • High emergency department use • Medication errors & nonadherence • Worse health status
Clinical clues	• Asking few or no questions during the visit • Asking to take materials home to read over with others • Inability to recall medication names, dosages, or indications • Frequent missed appointments
Strategies for management	• Use plain language & avoid excessive detail • Use visual aids & "teach-back" • Use empathetic communication, encourage questions

SES = socioeconomic status.

HEALTHCARE QUALITY

Patient-centered care

Overview	• Incorporate patient values into medical decisions • Emphasize outcomes important to patients • Improve health care quality & patient satisfaction
Examples	• Shared decision-making between patient & physician • Decision aids to assist patients in understanding options • Care coordination to streamline chronic condition management

INTIMATE PARTNER VIOLENCE

Assessment of intimate partner violence

Signs	• Location of injuries (eg, genitals, torso, face, head, neck) • Inconsistent explanation, evasive, fearful • Nonadherence to follow-up, emergency department visits • Partner who resists patient being seen alone • Discomfort in examination, sexually transmitted infections, chronic pelvic pain
Interview strategies	• Ensure privacy • Nonjudgmental, empathic, open-ended questions • Avoid pressuring to disclose abuse or report or leave partner • Assess immediate safety; determine emergency safety plan, provide referrals for resources as needed (eg, shelters, domestic violence agency, mental health)

OBESITY

Behavioral interventions for weight loss

Stimulus control	• Maintain stocks of easy-to-prepare, healthy foods • Store healthy foods in prominent locations • Limit stocks of less healthy foods
Physical activity	• Moderate-to-intense aerobic exercise • Resistance/strength training • Lifestyle activity (eg, take stairs, reduce sitting time)
Self-monitoring	Regular documentation of: • Weight • Food intake • Exercise
Accountability/ follow-up	• Provider visits, phone calls, Internet contacts • Group participation sessions

PATIENT CONFIDENTIALITY

Adolescent nonsuicidal self-injury

Features	• Deliberate injury with no intent to die • Methods: cutting, burning, scratching • Typical onset: age 12-14
Function/purpose	• Regulate distressing emotions • Punish self • Elicit support or allow for avoidance (eg, missing school)
Management	• Psychotherapy • Psychiatric evaluation, medications for comorbid conditions
Confidentiality vs safety	• Consider informing parents if any of the following are present: – Suicidal ideation – Impairment, distress – Multiple episodes, escalating frequency – Single episode with serious medical risks (eg, use of razor, sutures)

Features of effective teams* in health care

Safety culture	• Resource commitment to safety
Collaboration	• Shared understanding & prioritization of goals • Distinct roles that avoid a steep hierarchy
Psychological safety	• Asking questions & voicing concerns encouraged • Avoiding blame or retaliation
Responsiveness	• Feedback respected & promptly acted upon
Situational awareness	• Persistent mindfulness & safety vigilance • Cross-checking of each others' actions
Transparency	• Prompt disclosure of errors & safety information

*Poor teamwork is a leading root cause of sentinel events; improved communication reduces medical errors & improves patient/clinical outcomes.

Stages of change model

Stage		**Motivational interviewing**
Precontemplation	**Not ready to change:** patient does not acknowledge negative consequences	• Encourage patient to evaluate consequences of current behavior • Explain & personalize the risk • Recommending action is premature
Contemplation	**Thinking of changing:** patient acknowledges consequences but is ambivalent	• Encourage evaluation of pros & cons of behavior change • Promote new, positive behaviors
Preparation	**Ready to change:** patient decides to change	• Encourage small initial steps • Reinforce positive outcome expectations
Action	**Making change:** patient makes specific, overt changes	• Help identify appropriate change strategies & enlist social support • Promote self-efficacy for dealing with obstacles
Maintenance	**Changes integrated** into patient's life; focus on relapse prevention	• Follow-up support; reinforce intrinsic rewards • Develop relapse prevention strategies
Identification	**Behavior is automatic:** changes incorporated into sense of self	• Praise changes

SPIKES protocol for delivering serious news

Set the stage	• Arrange for a private, comfortable setting • Introduce patient/family & team members • Maintain eye contact & sit at the same level • Schedule appropriate time interval & minimize interruptions
Perception	• Use open-ended questions to assess the patient's/family's perception of the medical situation
Invitation	• Ask patient/family how much information they would like to know • Remain cognizant of cultural, educational & religious issues
Knowledge	• Warn the patient/family that serious news is coming • Speak in simple & straightforward terms • Stop & check for understanding
Empathy	• Express understanding & give support when responding to emotions
Summary & strategy	• Summarize & create follow-through plan, including end-of-life discussions if applicable

Counseling patients in clinical uncertainty

Introduction	• Establish rapport & express concern • Assess patient's knowledge & understanding of current facts
Data review	• Review established facts • Explain differential diagnosis (individualized) • Clearly state level of uncertainty
Plan of care	• Recommend plan to clarify diagnosis (eg, tests, specialty consultation) • Emphasize shared decision-making • Arrange for follow-up

Reducing antibiotic use in URI & acute bronchitis

Patient assessment	• Careful history & examination to rule out pneumonia & other serious illnesses • Patient's understanding of causes & natural history of illness
Patient education	• Explain expected duration & self-limited course of illness • Explain potential harm & lack of efficacy of antibiotics • Refer to infection as a "cold" or "chest cold"
Management	• Symptomatic treatment: OTC (eg, guaifenesin, tea with honey) & prescription (eg, benzonatate) options • Consider delayed antibiotic prescription (ie, prescription to be filled only if no improvement occurs after predetermined time)

OTC = over-the-counter; **URI** = upper respiratory infection.

Medication nonadherence

Risk factors	• Complex treatment regimen • Adverse drug effects • Expensive drug regimen/limited patient financial resources • Little immediate or apparent benefit of medication • Inadequate physician supervision & written instruction
Interventions to improve adherence	• Integration into daily habits/schedule • Pill organizers & dispensers • Simplified treatment regimen • Automated reminders (eg, smartphone applications) • Frequent telephone contacts & interprofessional (eg, nurse, pharmacist) follow-up • Motivational interviewing • Consolidated refill schedule

Strategies to promote medication adherence

Physician interventions	• Include patient in decisions (formulation, frequency, timing of dosing to match preferences/activities of daily living) • Simplify regimen: – Once daily dosing if feasible – Use fewest drugs possible • Education/addressing barriers: – Provide clear instructions, discuss perceived severity of illness, benefits of medication – Address barriers such as misunderstanding, cost, adverse effects • Nonjudgmental inquiry regarding adherence at follow-up visits
External reinforcements	• Adherence aids: – Electronic reminders – Pill boxes – Pair with other activities (eg, breakfast) • Family support

Addressing barriers to adherence to antihypertensive therapy

Patient	• Insight: provide education, shared decision-making • Cognitive challenges (eg, depression): diagnose & treat • Side effects: change medication/dosing
Physician	• Lack of rapport: arrange for same provider, maintain communication • Complex regimen: prescribe fixed drug combination, once-a-day dosing • Inadequate follow-up: make follow-up appointments; reschedule missed visits
Health care system	• Expensive medications: prescribe generics & preferred formulary drugs • High coinsurance: order routine tests yearly, be aware of costs

Healthcare policy and economics

Health insurance

Pay-for-performance systems

Description	• Incentive payments to providers (eg, physicians) are based on clinical performance • Payment is conditional on meeting predefined quality metrics
Benefits	• Optimizes health care spending while improving quality of care • Rewards improved outcomes & evidence-based use of resources
Examples	• Accountable care organization: network providers coordinate care & receive bonuses based on achievement of patient metrics (eg, goal A1c%)

Patient safety

Preventable adverse drug events

	Risk factors	Sample corrective strategies
Patient	• Polypharmacy • Low health literacy • Very young or advanced age • Communication barriers • Nonadherence/lack of follow-up	• Increased checkpoints in medication reconciliation (eg, multiple providers) • Plain-language medication counseling • Patient "teach-back" (ie, patient describes understanding of treatment in own words)
Provider	• Vague prescriptions • Incorrect medication reconciliation • Absence of counseling • Illegible handwriting	
Medication	• Look- or sound-alike drugs (eg, prednisone/prednisolone)	

<table>
<tr><th colspan="3">Hierarchy of substitute decision makers*</th></tr>
<tr><td rowspan="2">Highest authority
↓
Lowest authority</td><td colspan="2">Patient-designated proxy (eg, durable power of attorney)</td></tr>
<tr><td colspan="2">Court-appointed guardian**</td></tr>
<tr><td rowspan="6">Next of kin
(default surrogate)</td><td>Spouse/partner</td></tr>
<tr><td>Adult children</td></tr>
<tr><td>Parents</td></tr>
<tr><td>Adult siblings</td></tr>
<tr><td>Other adult relatives</td></tr>
<tr><td>Unrelated friends</td></tr>
</table>

*Decisions guided by substituted judgment standard (ie, what the patient would have chosen).

**Usually appointed only if the patient is not competent to designate a proxy.

Advance directive/surrogate decision maker

AGAINST MEDICAL ADVICE DISCHARGE

Management of AMA discharges

Investigate/address reasons for leaving	• Financial concerns: involve social workers • Substance withdrawal: offer medication-assisted treatment • Care delay dissatisfaction: apologize for unmet expectations
Ensure/document patient's informed refusal	• Determine that patient: – Has capacity for medical decision-making – Understands benefits of staying & risks of leaving – Communicates reasoned basis for refusing treatment • Document informed refusal in chart, including signed AMA form
Provide best possible alternative treatment	• Offer appropriate treatments/prescriptions • Offer assistance with follow-up care • Offer to resume treatment at any time

AMA = against medical advice.

Assessment of decision-making capacity

Criterion	Patient task
Communicates a choice	Patient able to clearly indicate preferred treatment option
Understands information provided	Patient understands condition & treatment options
Appreciates consequences	Patient acknowledges having condition & likely consequences of treatment options, including no treatment
Rationale given for decision	Patient able to weigh risks & benefits & offer reasons for decision

Assessment of decision-making capacity

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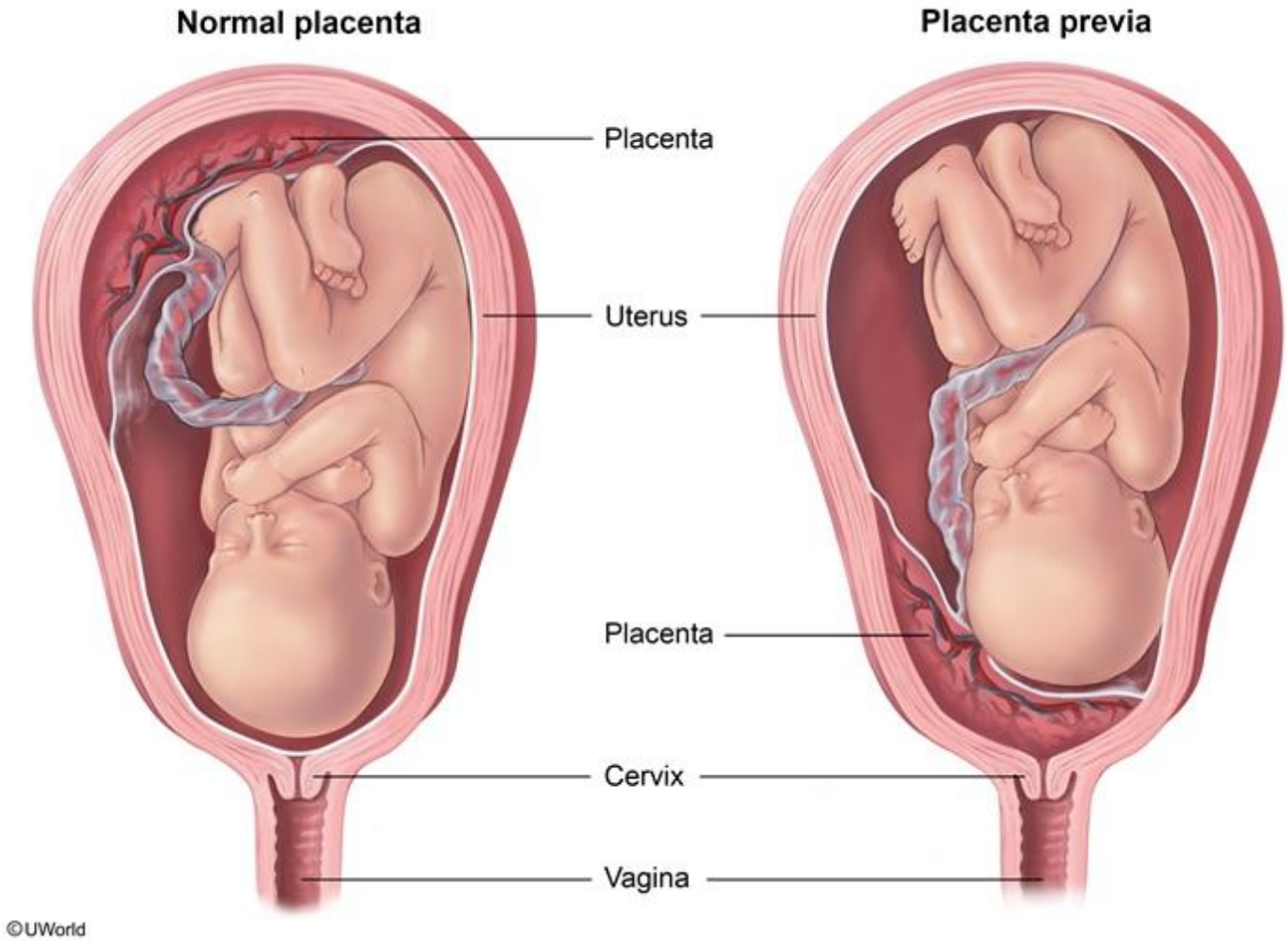
Understands information provided	Patient understands condition & treatment options
Appreciates consequences	Patient acknowledges having condition & likely consequences of treatment options, including no treatment
Rationale given for decision	Patient able to weigh risks & benefits & offer reasons for decision

Exceptions to informed consent by parent/guardian in minors

Emergency care	• Condition in which delay of treatment is life threatening
Emancipated minor (adolescents)	• Parent • Married • Military service • Financially independent • High school graduate • Homeless
Specific medical care (adolescents)	• Sexually transmitted infection • Substance abuse (most states) • Pregnancy care (most states) • Contraception

Ethical principles in medicine

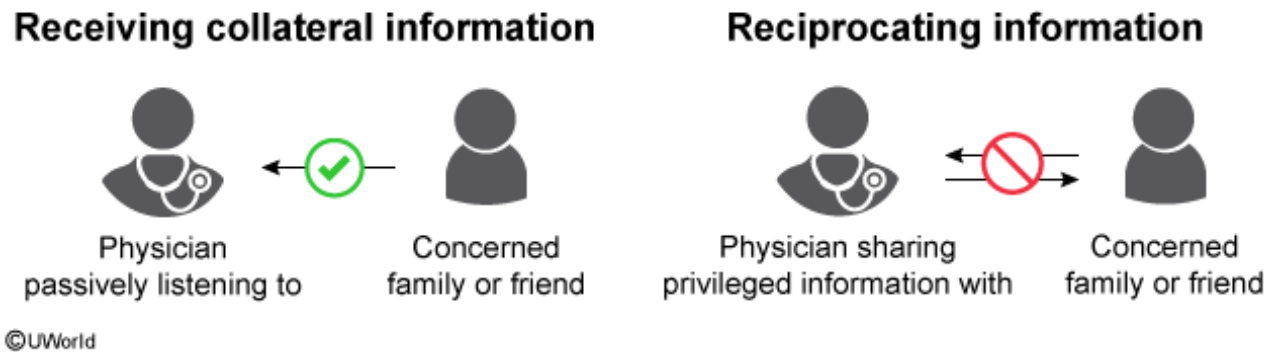
Principle	Duty
Beneficence	Promote good & act in the best medical interests of the patient
Nonmaleficence	Do no harm to the patient
Autonomy	Protect & facilitate the patient's individual, informed decisions
Justice	Equally distribute health care resources & provide fair & equitable treatment
Proportionality	Ensure that methods used to achieve a worthwhile goal are necessary, appropriate & not excessive



Placenta previa

Care philosophies at the end of life

Withdrawal of Life Support	• Shift in focus to comfort measures only • Withdrawal of aggressive measures ≠ withdrawal of all care • Avoids treatment-related morbidity • Active dying may soon follow
No Escalation of Treatment	• Sets upper limits of treatment (eg, no hemodialysis, no invasive ventilation) • Avoids futile interventions with greatest morbidity • Facilitates agreement between family & care team • Provides time for family to process loss & eases feelings of guilt



Receiving collateral information Reciprocating information

Ethical considerations for randomized controlled trials

Appropriateness of RCT	• Intervention arms are at equipoise (ie, intervention is not already known to be superior to control)
Appropriateness of control	• Control is equivalent to the accepted standard of care • Control does not pose unacceptable risks to participant
Appropriateness of inactive placebo	• Acceptable when effective standard of care is unclear or does not exist OR • When effective standard of care exists, but temporarily withholding such therapy would not harm the participant
Appropriateness of stopping RCT	• Trial stopped when interim data analysis shows clear, highly significant benefit or harm

RCT = randomized controlled trial.

Miscellaneous

PHYSICIAN MISCONDUCT

Physician impairment

Definition	• Impaired ability to practice medicine competently & safely due to psychiatric/medical illness, alcohol, or drug dependency
Recognition	• Lateness, unexplained absences, inaccessibility • Unusual rounding times • Inappropriate orders, prescriptions errors, incorrect charting • Increased irritability, anger, conflicts with staff & colleagues • Overt signs of substance misuse/abuse (eg, excessive drinking at hospital functions, slurred speech, smell of alcohol, poor hygiene, needle marks) • Increase in patient complaints • Deterioration in clinical performance (usually a late sign)
Management	• Report to PHP • Refusal to comply with PHP recommendations may result in the provider being reported to the state medical board

PHP = Physician Health Program.

Patient safety

CHILD ABUSE

Features of possible child abuse

Risk factors	**Caregiver background** • Young or single parents • Lower education levels • Substance use disorder • Psychiatric conditions (depression, impulse control disorders) • History of childhood abuse **Home environment** • Unstable family situation (eg, divorce, conflict) • Financial difficulties, job loss • Lack of social support • Domestic violence **Children** • Physical, intellectual, or emotional disabilities • Unplanned pregnancy/unwanted child
Clinical presentation	• Unexplained or implausible injuries • Injuries in different stages of healing • Malnutrition • Sudden behavioral or scholastic changes
Management	• Document objective findings from evaluation • Report suspected abuse to child protective services

Elder Abuse & Neglect

Elder abuse

Risk factors	• Female • Dementia, chronic mental illness • Functional impairments • Social isolation • Shared living environment • Poor socioeconomic status/financial stress
Manifestations of abuse	**Physical & sexual abuse** • Atypical abrasions, lacerations, contusions, fractures • Pain not consistent with reported etiology • Anogenital injuries • Newly acquired STI
	Psychological & verbal abuse • Change in behavior/personality • Depression/anxiety
	Neglect • Inadequate nutrition or hydration • Pressure injuries • Deterioration in comorbid conditions
	Financial exploitation • Failure to adhere to medication regimen • Multiple missed appointments • Unpaid expenses or rent payments

STI = sexually transmitted infection.

End of Life Care

Hospice model

- Focus on quality of life, not cure or life prolongation
- Symptom control (eg, pain, nausea, dyspnea, agitation, anxiety, depression)
- Interdisciplinary team (eg, medical, nursing, psychosocial, spiritual, bereavement care)
- Services provided at home, assisted-living facility, or dedicated facility
- Requires survival prognosis of ≤6 months

Falls in older adults

Overview	• Leading cause of injury, morbidity, mortality
Risk factors	• History of fall • Sensory & cognitive disturbance • Chronic disease (eg, T2DM, arthritis, CVD) • Medications (eg, neuroleptics, antidepressants, vasodilators)
Outpatient prevention	• Screening: musculoskeletal (eg, "get up & go" test*), vision, hearing, bone density, orthostasis • Medication & home safety review • Correction of vitamin D deficiency (in select patients) • Supervised exercise program
Inpatient prevention	• Assess fall risk & customize strategies to patient's specific risk factors • Optimize environment (eg, minimize furniture, lower the bed, place in direct view of nurses if high risk) • Perform frequent checks on high-risk patients • Avoid restraints & overreliance on fall alert systems

***Ask the patient to rise from a chair & walk briskly to the end of the room. Time & patient difficulty in this test predict the risk of falling.

CVD = cardiovascular disease; **T2DM** = type 2 diabetes mellitus.

Infection control: isolation precautions

Type	Pathogen*	Key requirements
Airborne	• Bacterial: tuberculosis • Viral: primary VZV (chickenpox), disseminated VZV reactivation (shingles/zoster), dermatomal VZV reactivation (shingles/zoster) in immunocompromised patients, COVID-19, measles	• Negative pressure room • N95 respirator
Contact	• Multidrug-resistant organism (eg, MRSA, VRE, ESBL producing) • Bacterial: *Clostridioides difficile*, *Escherichia coli* O157:H7 • Viral: RSV, primary VZV (chickenpox), disseminated VZV reactivation (shingles/zoster), dermatomal VZV reactivation (shingles/zoster) in immunocompromised patients	• Gloves & gowns • Single-use equipment (eg, stethoscope)
Droplet	• Bacterial: *Neisseria meningitidis*, *Haemophilus influenzae* type B, *Mycoplasma pneumoniae* • Viral: influenza virus, adenovirus	• Mask within 1-2 m (3-6 ft) of patient
Standard	• Followed for all patients even when no infection is apparent	• Hand hygiene • Gowns/gloves/masks when appropriate (eg, during procedures)

*Precaution is started immediately when infection with pathogen is suspected.

COVID-19 = coronavirus disease 2019; **ESBL** = extended-spectrum beta-lactamase; **MRSA** = methicillin-resistant *Staphylococcus aureus*; **RSV** = respiratory syncytial virus; **VRE** = vancomycin-resistant *Enterococcus*; **VZV** = varicella-zoster virus.

Airborne precautions

Indications	• Tuberculosis • Varicella* (chickenpox) • Herpes zoster** (shingles) • Rubeola (measles)
Components	• **N95 respirator** or powered air-purifying respirator • **Negative-pressure isolation room** with high-efficiency particulate air filter • As needed if contact with body fluid is anticipated: clean gloves, disposable gown, goggles/face shield

*Only when uncrusted lesions are present; contact precautions also required.
**Only in disseminated disease or immunocompromised clients; contact precautions also required.

Treatment of opioid use disorder

	Mechanism	Advantages & disadvantages
Buprenorphine*	Partial mu-opioid agonist	• Lower risk of misuse & lethal overdose • Does not require complete withdrawal prior to initiation • Slightly less effective at keeping patients in treatment
Methadone	Full mu-opioid agonist	• More effective at patient retention • Does not require complete withdrawal prior to initiation • Significantly higher risk of misuse & lethal overdose
Naltrexone	Pure opioid antagonist	• Does not cause physiologic dependence • Requires complete opioid withdrawal prior to initiation • Increased risk of overdose with noncompliance and relapse
Nonmedication therapy	Psychosocial interventions	• Helpful adjunct to medication-assisted treatment • Used alone in motivated patients who want to avoid medications • Less effective than medication-assisted treatment

*Sublingual buprenorphine may sometimes be combined with naloxone (opioid antagonist with poor sublingual bioavailability) to prevent abuse by crushing or dissolving buprenorphine.

Errors related to transfers of care

Definition	• Adverse patient outcomes due to changes in responsibility of patient care • Can occur in clinical setting (eg, shift change, transfer between departments) or post-discharge
Root causes	• Suboptimal communication (omitted or vague information) between providers • Excessive distractions during signout process • Lack of standardized signout protocols • Documentation errors (eg, outdated medication list, no documentation of cross-cover events)
Preventive strategies	• Implement standardized signout communication (eg, checklists or mnemonics) • Avoid vague instructions (eg, "follow-up x-ray"); communicate specific action plans • Conduct signout communication in quiet environment • Add redundancy (eg, separately documenting cross-coverage events in addition to verbal signout communication) • Ensure accuracy of information in written signout

Prevention of central line–associated bloodstream infections

Catheter insertion	• Hand hygiene (prior to use of gloves) • Full barrier precautions (eg, mask, sterile gloves, gown, drape) • Preparation of skin with chlorhexidine solution • Procedure performed by experienced provider
Catheter type and site	• Use of PICCs and tunneled catheters • For CVCs, use of subclavian and internal jugular vein sites over femoral vein
Catheter duration	• Limit duration (eg, <6 days) for CVCs • Prompt removal of catheter when no longer needed • Avoid routine replacement of CVCs

CVC = central venous catheter; **PICC** = peripherally inserted central catheter.

Common cognitive errors in medicine

Type of bias	Definition	Example
Anchoring	• Fixating on initial impressions to make a diagnosis • Related to confirmation bias	• Burning throat pain diagnosed as acid reflux despite weight loss • Correct diagnosis is lung malignancy
Availability	• Allowing recently seen or memorable (high-stakes) cases to sway diagnosis	• Dyspnea diagnosed as influenza during peak influenza season • Correct diagnosis is pulmonary embolism
Confirmation	• Emphasizing evidence that supports presumed diagnosis & overlooking information that supports other diagnoses • Related to anchoring bias	• Burning throat pain after eating spicy food diagnosed as acid reflux despite weight loss • Correct diagnosis is malignancy
Framing	• Allowing diagnostic approach to be influenced by context & presentation of information	• Abdominal pain diagnosed as opioid withdrawal in patient described as drug-seeking • Correct diagnosis is bowel obstruction

Medication prescribing in elderly patients

Major considerations	• Increased susceptibility to ADEs • Increased polypharmacy risk due to multiple chronic conditions • Susceptibility to harms from overtreatment & undertreatment
Principles of prescribing	• Limit the number of prescribers • Review criteria for geriatric populations (eg, Beers,* START**) • Consider time to benefit for drug • Tailor regimen to the patient's goals & life expectancy • Frequently reassess appropriateness of medication

*Beers criteria: list of medications considered potentially inappropriate or to be used with caution in the elderly.
**START criteria: used to identify potential harm of withholding specific drug in older patients.
ADEs = adverse drug events; **START** = Screening Tool to Alert to Right Treatment.

Patient safety procedures in the surgical setting

Preoperative verification	• Patient identity, operative site, type of operation, & side (verified/documented by ≥2 providers) • Performed in preoperative holding area • Should involve patient (or surrogate) and 2 patient identifiers
Site marking	• Mark (eg, "YES" + initials) on each operative site (do not mark nonoperative sites) • Clearly mark using permanent marker
Surgical time-out	• Occurs immediately prior to skin incision • Repeat verification of patient identity, operative site & side • Entire surgical team participates & all concerns addressed

System based-practice and quality improvement

Disability

Disability insurance

Definition	• Financial assistance for employees unable to perform full job duties due to illness • May be short term (eg, <6 weeks) or long term • Offered through private insurance or Social Security Administration
Clinician's role	• Document findings related to medical condition • Define severity & expected duration of condition • Identify restrictions & job-related functional limitations
Challenges	• Disability definitions & certification requirements vary by program • Determining disability duration may require longitudinal & repeated evaluation • Clinician assessment may conflict with patient preferences

Hospice care

Patient selection	• Terminal illness with life expectancy ≤6 months • Agreement to forego curative & life-sustaining treatment
Management goals	• Optimize palliative care regimen • Avoid unwanted treatments & hospitalizations • Reduce caregiver burden
Typical services	• Care provided in patient home (including nursing home, assisted living facility) or inpatient hospice facility • Periodic home visits by experienced personnel (eg, nurse) • Medication titration (eg, analgesics, antiemetics) • Durable medical equipment (eg, hospital bed) • Physical therapy (as well as other therapy modalities) • Spiritual, psychosocial & grief counseling

Quality improvement processes

Model for Improvement	• Incremental cycles of planning, piloting, assessing & refining an intervention to achieve a specific goal (ie, PDSA cycle) • Example: testing a new check-in procedure with weekly tabulation of patient satisfaction surveys
Lean	• Identification & removal of inefficiency & waste in a workflow • Example: streamlining scheduling to reduce excess waiting time
Six Sigma	• Near-elimination of defects through statistically driven process improvement • Example: controlling annual incidence of wrong-site surgery to <0.00001% through enhanced safety measures
Change Management	• Engaging personnel to adopt innovation & implement organizational changes • Example: identifying frontline early adopters to lead implementation of a new EHR system

EHR = electronic health record; **PDSA** = Plan-Do-Study-Act.

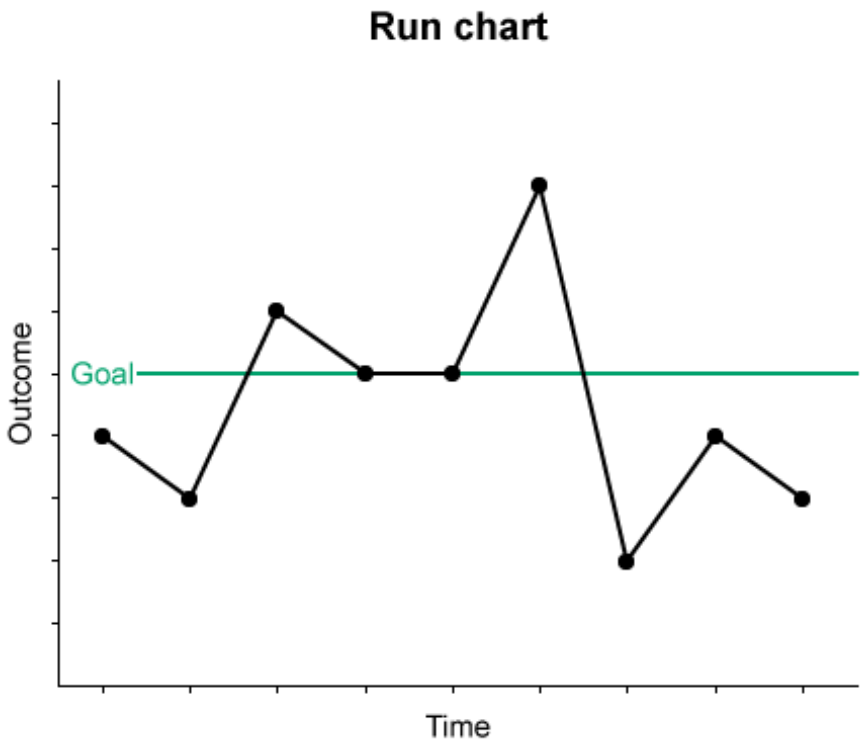
Indicators used in quality measurement

Structural indicators	• Measure organizational structures, including human resources • Examples: nurse-to-patient ratio, clinician knowledge
Process indicators	• Measure health care worker compliance with a process, assess performance, detect variations • Example: percentage of eligible patients screened for colon cancer
Outcome indicators	• Measure changes in health status or outcomes • Examples: blood pressure, mortality rate, nosocomial infection rate
Balancing indicators	• Measure tradeoffs incurred as a result of systems change • Example: increased documentation time after implementing a new safety protocol

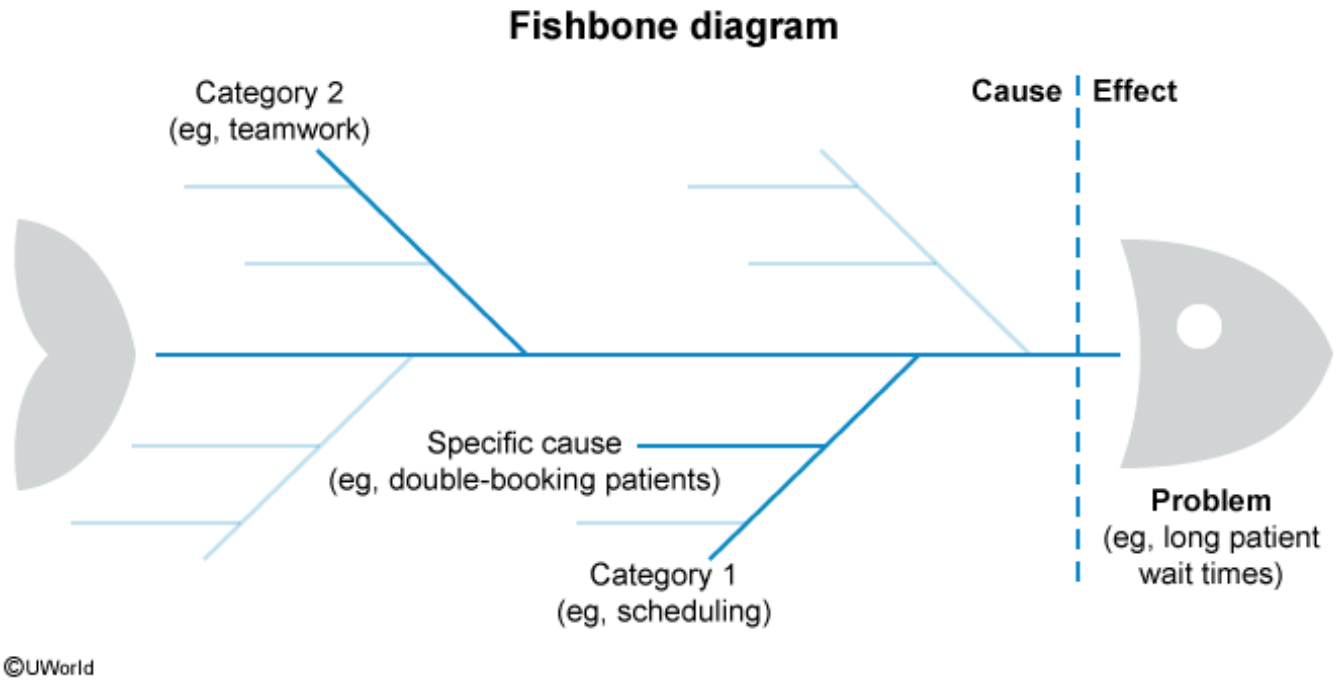
Home health care

Overview	• Health services provided by skilled HCWs (eg, nursing, PT/OT, SW) in the home • Covered by Medicare if patient is homebound & has skilled health needs
Uses	• Medically stable for discharge but homebound & requiring intermittent monitoring • High risk of adverse events (eg, fall risk, complex medication regimen) • Skilled nursing needs (eg, wounds, physical rehabilitation)
Benefits	• Promote patient mental health, autonomy & independence • Reduce risk of hospital readmission & length of hospitalization (eg, fewer nosocomial infections) • Decrease health care spending (ie, less expensive than skilled nursing facility)

HCWs = health care workers; **OT** = occupational therapy; **PT** = physical therapy; **SW** = social work.



Run chart



Fishbone diagram

Root cause analysis

Overview & uses	• Retrospective, comprehensive & systematic error analysis tool • Conducted after sentinel event* or cluster of patient safety incidents
Principles	• Uncovers fundamental factors that lead to variations in performance & opportunities for error • Focuses on systems, not individual performance (ie, no blame) • Generates action plan for organizational process improvements

*Sentinel event: patient safety incident unrelated to patient's underlying condition resulting in death, severe temporary harm, or permanent harm.

Improving hand hygiene compliance in health care settings

Reason for noncompliance	Example solution
Ineffective placement of sinks and dispensers	Place sinks/dispensers outside each patient's room
Lack of accountability	Build hand hygiene into provider evaluations
Lack of safety culture	Create safety teams, provide real-time feedback on compliance
Forgetfulness or lack of time	Visual cues (eg, signs, red arrows) near doorways

Reducing errors in patient handoffs

Optimize information	• Discuss highest-acuity (ie, "sickest") patients first • Provide extra detail on critical patients • Avoid information overload
Optimize communication	• Follow template (eg, checklist) • Include oral & written communication • Encourage questions throughout discussion • Use read-back selectively (eg, for to-do items)
Optimize actions	• Include follow-up items (eg, to-do list) • Provide anticipatory guidance (eg, "if/then" format)

Clinical decision support systems

Purpose	• Assist providers in making clinical decisions based on patient data (eg, laboratory data) • Usually integrated into computerized provider order systems • Recommend actions to providers based on patient clinical information
Potential benefits	• Increase reliability of medical decision-making (ie, limiting potentially harmful variations of care) • Detect and intervene in cases of human error (eg, entering incorrect drug dose) • Reduce medication prescription errors
Examples	• Tool suggesting default drug dose and frequency based on patient weight • Prompt recommending specific DVT prophylaxis in a patient following high-risk surgery • Prompt recommending specific diagnostic tests in a patient with suspected pulmonary embolism

DVT = deep venous thrombosis.

Strategies to improve health care communication

Strategy	Description	Benefits
Standardized handoff	Checklist or other systematic process frames provider-to-provider discussion during sign-out	Ensures consistency and reliability, reduces errors of omission
Closed-loop communication/ "read-backs"	Sender relays message to receiver, receiver repeats information back to sender; sender confirms message is correct	Minimizes errors of misinterpretation and misunderstanding
Interdisciplinary rounds	Team members represent multiple disciplines (eg, nursing, pharmacy)	Increases continuous learning and collaborative oversight of patient's condition
Team huddles & debriefing	Brief, interdisciplinary discussions of patient concerns and risks; held prior to, during, and/or after clinical event	Reduces hierarchical barriers, encourages speaking up, promotes shared team safety goals
Team-based training	Train team members together via interactive formats (eg, simulation)	Improves communication & collaboration, promotes group learning, reduces hierarchical barriers

Human factors engineering strategies

Reliability	Strategy	Description & examples
Highest	**Forcing functions**	• Hard stops in design or process to eliminate risk of incorrect use • Example: each anesthesia gas fits only one compatible socket & is not interchangeable
	Computerized automation	• Automated processes to remove human effort & variations that cause error • Example: automated vital signs monitoring
	Environment & physical layout	• Workspace design to facilitate correct action & minimize error • Example: look-alike drugs stocked in different locations
High	**Standardization & simplification**	• Uniform processes to minimize variation, complexity & learning curve • Example: every hospital unit follows the same process for heparin administration
	Human-machine redundancy	• Repetitive step to confirm correct action in an error-prone process • Example: barcode scanning of medications in addition to visual inspection
Medium	**Reminders, alerts & double-checks**	• Processes prompting providers to check actions to reduce errors • Examples: drug-drug interaction alerts; time-out before procedures

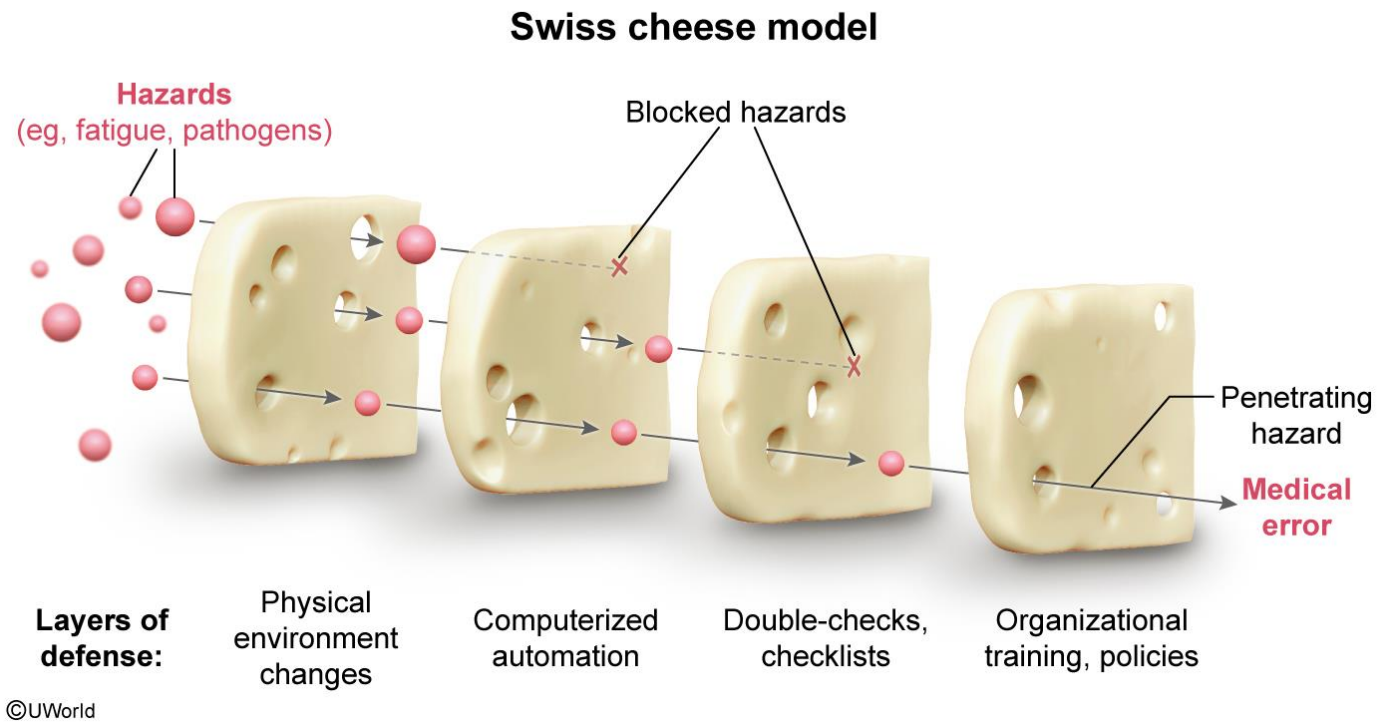
Human factors engineering seeks to reduce error risk by designing systems based on expected human behaviors. Less reliable HFE strategies include trainings, policy changes & education.

Systems approach to error prevention

Overview	• Address organizational environment & teams • Emulate high-reliability organization practices (eg, aviation)
Components	• **Culture of safety:** prioritize safety-promoting resources • **Resilience:** systems design to prevent errors • **Team-based vigilance:** safety oversight by entire team • **Comprehensive analysis:** avoid simplistic explanations
Examples	• **Human factors engineering:** reduce human effort needed for safe action • **Swiss-cheese model:** multiple overlapping layers to block errors ("holes")

Common tools used in error analysis

Root cause analysis (event analysis)	• Retrospective • Identifies all underlying reasons (systems & personnel-related) that an error occurred
Failure modes & effects analysis	• Prospective • Identifies the likelihood & potential sources of system failures before error occurs
Common cause analysis	• Retrospective • Identifies most common themes & trends present among multiple errors
Morbidity & mortality conference	• Retrospective • Identify system-level improvements to address an error through confidential, interdisciplinary, standardized group discussion



Swiss cheese model

Implicit bias

Definition	• Subconscious stereotypes about & attitudes toward a specific group (eg, ethnic minority) • Nondeliberate & unconscious; distinct from intentional discrimination
Effects	• Influences provider thinking, communication & behavior (eg, affecting differential diagnosis, treatment) • Contributes to health disparities (eg, suboptimal pain management)
Management	• Assess for presence of biases (eg, using standardized testing tools*) • Promote individual & group exploration (eg, debriefing) of bias & stereotypes • Train providers to recognize & monitor thought processes (eg, metacognition)

*Examples include computerized, image-based sequential priming tests.