



Texas Hospital
Association Foundation

NUGGETS OF KNOWLEDGE

Presented by Infection Control Consultants of New Mexico



Infection Control Consultants of New Mexico



Welcome

IC Nuggets of Knowledge Series are monthly one-hour learning sessions using a web-based format to share information, network, and opportunity to address questions and concerns with ICCNM Consultants

When: 1:00 to 2:00 pm

2nd Thursday of the month

If you have feedback on this learning opportunity or have suggestions for future learning opportunities, feel free to reach out to me at any time!

- ncostilla@tha.org



Introductions



- Infection Control Consultants of NM (ICCNM Consulting)
- New Mexico based consulting company
- Consultants are certified in Infection Control (CIC)
- Presenters for this series
 - Kerry Flint, PhD
 - Terri Kangas-Feller
 - Barbara Mooney
- www.iccnm.org

The background of the slide features a soft-focus photograph of two hands. One hand is holding a small, clear plastic pill bottle, and the other hand is positioned below it, palm up, with a few pills visible. The overall color palette is a light, muted green. On the left side, there is a decorative element consisting of several thin, dark, curved lines and a solid reddish-brown arrow pointing to the right.

Infection Prevention

Behavioral Health



Objectives



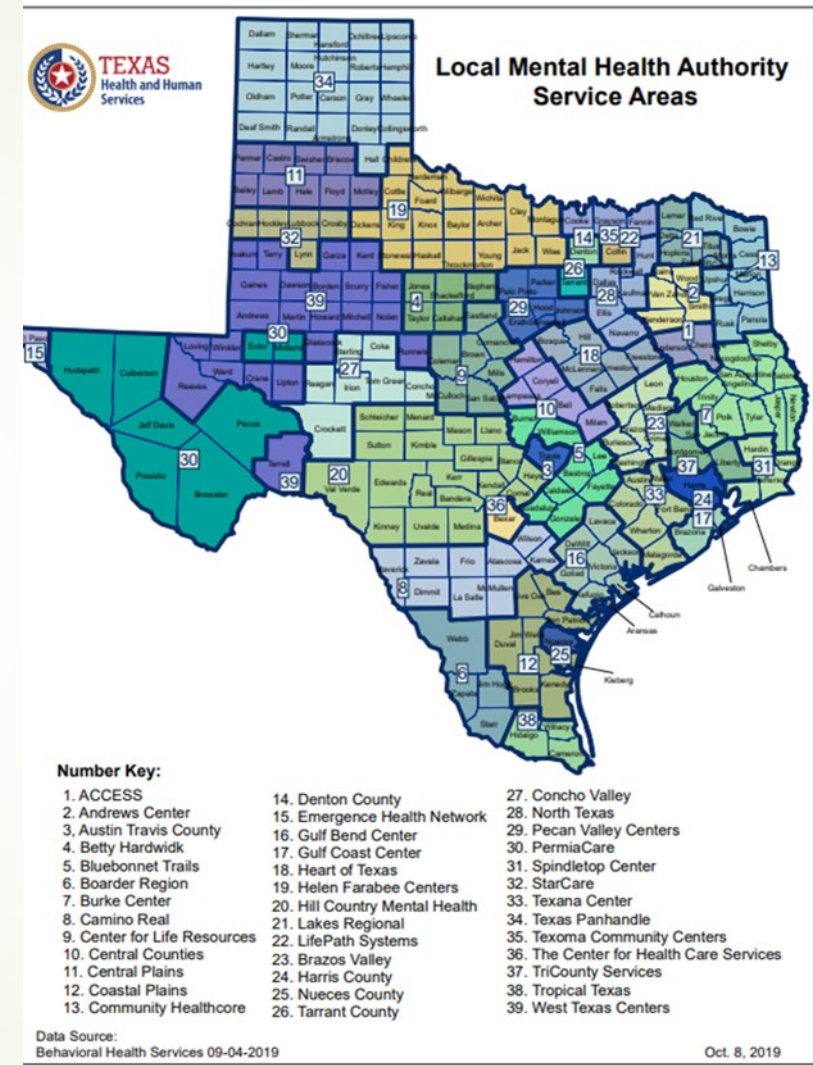
- Review settings where behavioral healthcare is provided.
- Discuss frequently encountered CA and HAI infections.
- Describe challenges and strategies to Infection Prevention and Control activities.



Mental Health in Texas

Care Delivery

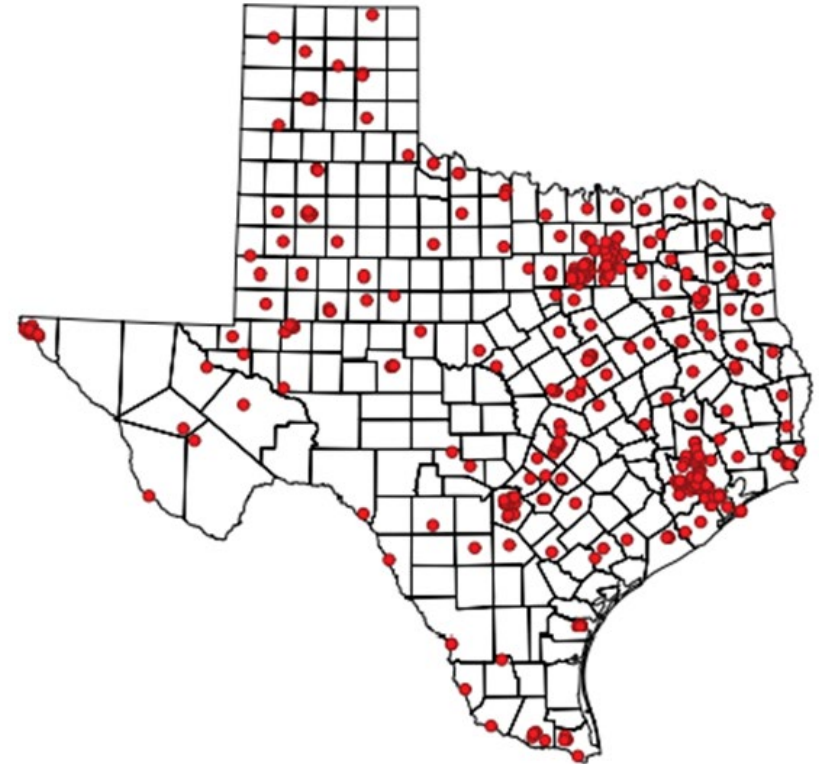
- State Hospitals
- Private behavioral health facilities
- Prisons
- Inpatient beds in hospitals
- Step down facilities
- Outpatient
- Community
- PCP



Service Locations

- 10 State hospitals
- 37 Local Mental Health
- 2 Local Behavioral Health

Location of treatment facilities



<https://www.samhsa.gov/data/quick-statistics>

Behavioral Health

- Individual therapies
- Couples and Family
- Group therapies
- Medication
- Medical
- Neurosurgery

Facility type, by number and percent		
	Facilities	
	No.	%
Psychiatric hospital	64	16.7
General hospital	31	8.1
Residential treatment center for children	34	8.9
Residential treatment center for adults	1	0.3
Other type of residential treatment facility	1	0.3
Veterans Affairs medical center or other VA health care facility	20	5.2
Community mental health center (CMHC)	107	27.9
Partial hospitalization/day treatment facility	19	4.9
Outpatient mental health facility	102	26.6
Multi-setting mental health facility	4	1.0
Other	1	0.3
Total	384	100.0

Private or Public

- Competition
- Consistency
- Skimming
- Indigent
- Coverage
- Rural access

Facility operation, by number and percent		
	Facilities	
	No.	%
Private non-profit	154	40.1
Private for-profit	97	25.3
Public agency or department		
State mental health agency (SMHA)	10	2.6
Other state government agency or department	26	6.8
Regional/district authority or county, local, or municipal government	72	18.8
Tribal government	—	—
Indian Health Service	—	—
Department of Veterans Affairs	25	6.5
Other	—	—
Total	384	100.0

Note: Percentages may not sum to 100 percent due to rounding.

https://www.samhsa.gov/data/quick-statistics-results?qs_type=nmhss&state=Texas&year=2019

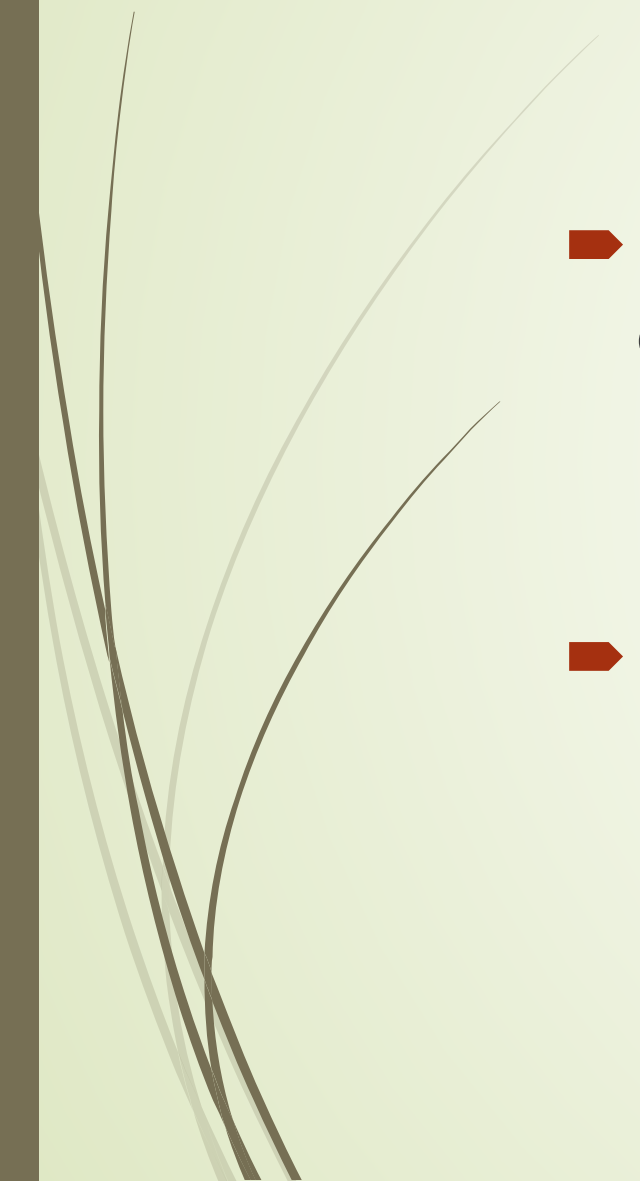


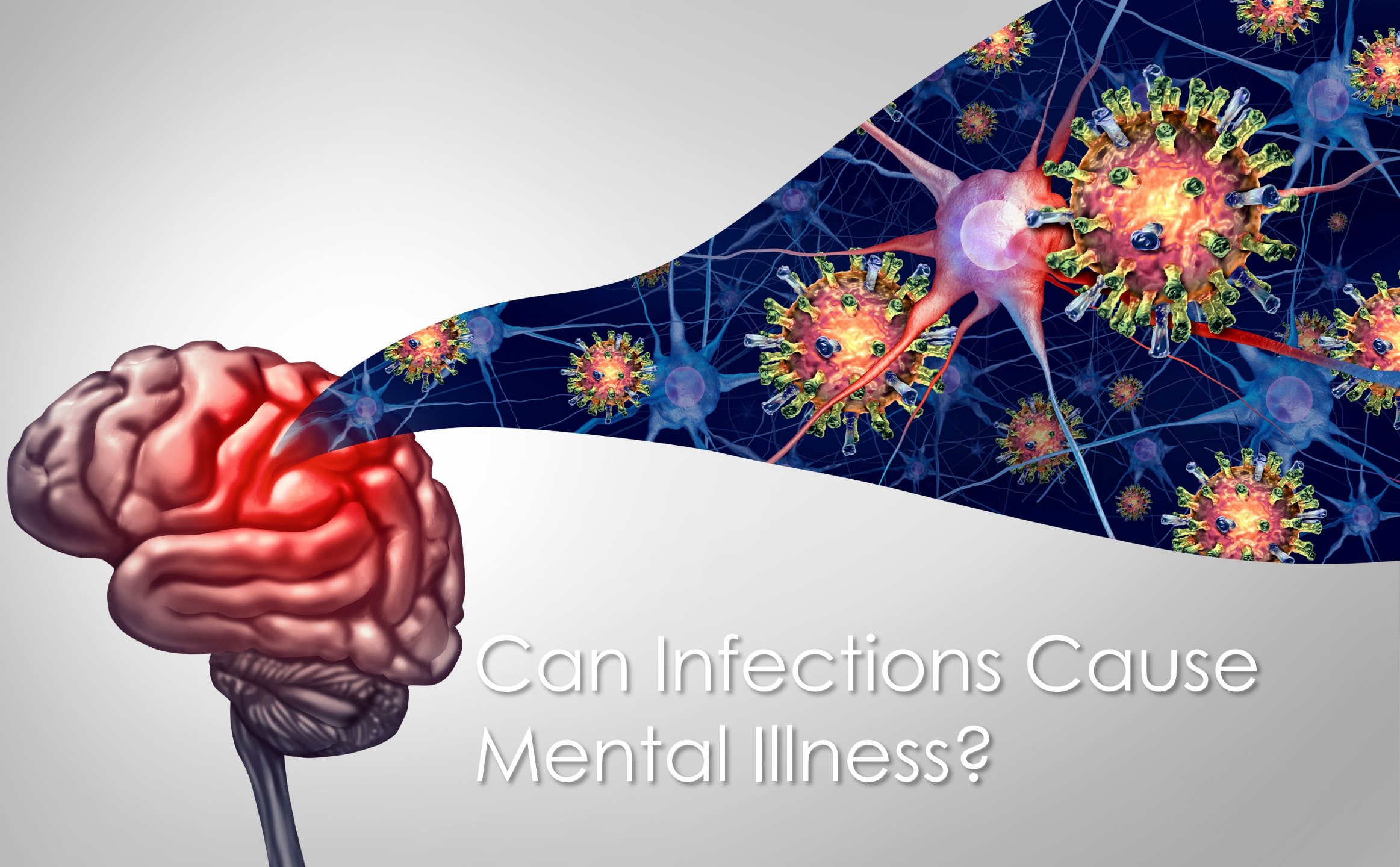
Burden of Mental Illness in the US

- 50% diagnosed with a mental illness or disorder at some point in their lifetime
- 25% of adults will experience a mental illness in a given year
- 20% of children, either currently or at some point during their life, have had a seriously debilitating mental illness
- Almost 6% live with a serious mental illness, such as schizophrenia
- Chronic mental illness effects
 - Diabetes
 - Heart disease
 - Stroke
 - Cancer



Poll

- Does your facility have designated mental health beds?
 - Have you worked in a mental health setting?
- 




Can Infections Cause
Mental Illness?



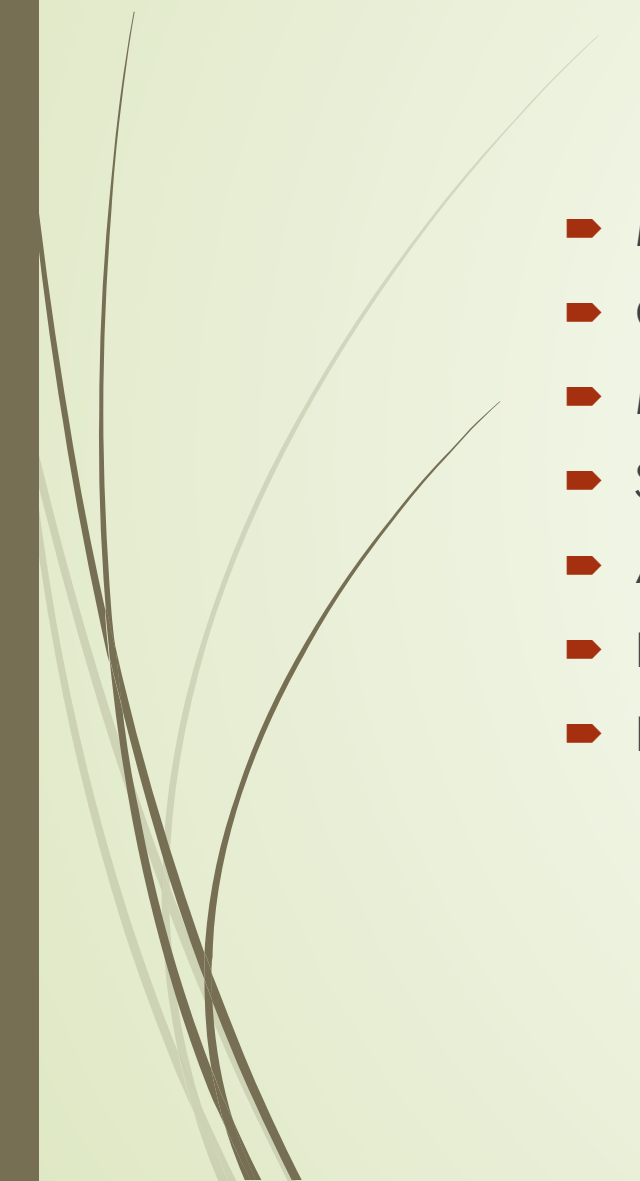
Infections and the Brain




- PANS Pediatric Acute-onset neuropsychiatric syndrome
- EEE
- WNV
- Rabies
- JC virus multifocal leukoencephalopathy
- vCJD
- Lyme
- Altered mental status
- Any disease that causes swelling of the brain, flu, meningitis
- Neurosyphilis –permanent changes if not treated
- Urinary Tract Infection and confusion
- COVID-19 cognitive



Post COVID-19 Syndrome Long Haulers

- Malaise
 - Concentration
 - Mood
 - Sleep interruption
 - Anxiety
 - Depression
 - Fatigue
 - Uncertainty of cause
 - Psychological
 - Physiological
- 



Medications, Substance Use and Mental Status

- Narcotic painkillers
- Sedatives, particularly benzodiazepines
- Stimulants
- Sleeping pill
- Antidepressants
- Parkinson's disease medications
- Antipsychotics.
- Comorbidity
 - 50% of individuals with mental illness also have a substance use disorder and vice versa
- Concurrent treatment



Infections in the Mentally Ill



Common Infections

Infections

- Hepatitis C
- HIV
- Fungal
- Urinary Tract Infections
- STD
- Stomatognathic diseases
- Respiratory - TB

Risks

- Substance use
- Hygiene
- Urinary retention
- Behaviors
- Judgement impairment
- Hygiene
- Comorbidities
- Smoking
- Homelessness



Infection Categories

Community Associated

- Present or incubating on admission

Hospital Associated

- Acquired in the health care setting

Milieu or Behavior Associated

- Acquisition related to patient behavior



CA Versus HAI

➤ Community Associated

- HCV
- HIV
- MRSA
- Infestations
- UTI
- STD

➤ Healthcare Associated

- Respiratory
- Conjunctivitis
- Fungal
- Infestations
- Gastrointestinal

Any of these could be milieu associated



Reducing Risk



- ▶ Single rooms, Single bathrooms
- ▶ Clean showers after each resident
- ▶ Frequent cleaning of bathrooms
- ▶ Dedicating bathrooms for residents on precautions –lock
- ▶ Ensure disinfectants have antifungal properties
- ▶ High Touch Surfaces
- ▶ Vaccinations
- ▶ Test after sexual encounters between patients
- ▶ Roommate considerations
 - ▶ No devices
 - ▶ Immune status
 - ▶ Behaviors
- ▶ Room consideration
 - ▶ Ventilation
 - ▶ Proximity to toilet
 - ▶ Proximity to PPE
 - ▶ Limit capacity to allow for private room
 - ▶ Furnishings



Get an early start

- Records on admission
- Screening on admission
 - HCV, HIV, STD, admission physical
- Vaccination registries, hepatitis
- Screening tools for risky behaviors
- Sexual health promotion and condoms
- Needle cleaning and exchange
- Resource handout on discharge

Physical Complication in Severe Mental Illness

- MetS Metabolic Syndrome

- Insulin resistance
- Hypertension
- Dyslipidemia
- Cancers

- Obesity

- CVD
- COPD
- Osteoporosis



Bloodborne Pathogens

Bloodborne Risk to Healthcare Workers



- HIV
 - Needle stick: 0-0.3%
 - Splash: less than 0.3%
- Hepatitis B
 - Needle stick: 0-30%
- Hepatitis C
 - Needle stick: 0-10%



Hepatitis C screening

- **Screening:** a serologic test for the HCV antibody (Ab)
 - Once positive, always positive
 - Timing
 - Rapid antibody test- CLIA waived.
- **Confirmatory:** Presence of HCV RNA, commonly called hepatitis C viral load.
 - Few days
- **Genotype:** Specific genotype 1-6 and 30 subtype of the virus should be known to guide treatment
- **Drug resistance:** Mutations allow the virus to have resistance, consider after treatment failure

Hep B Immunity

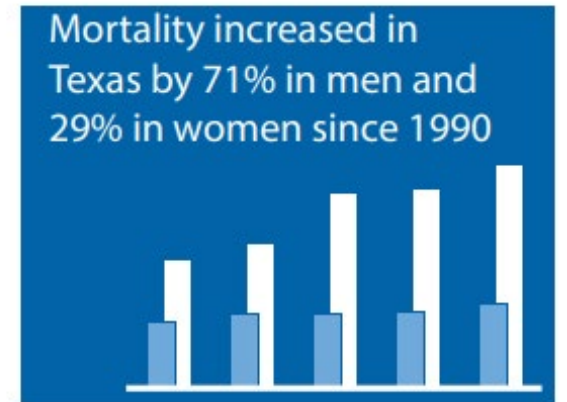
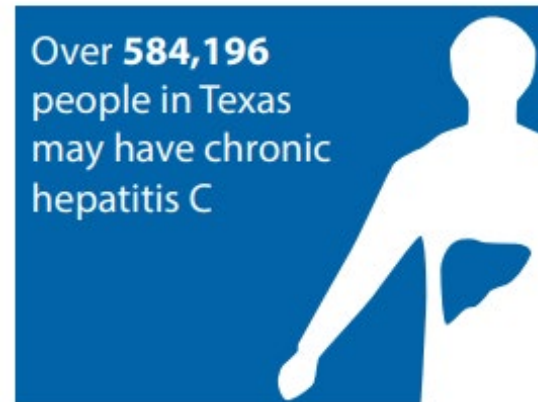
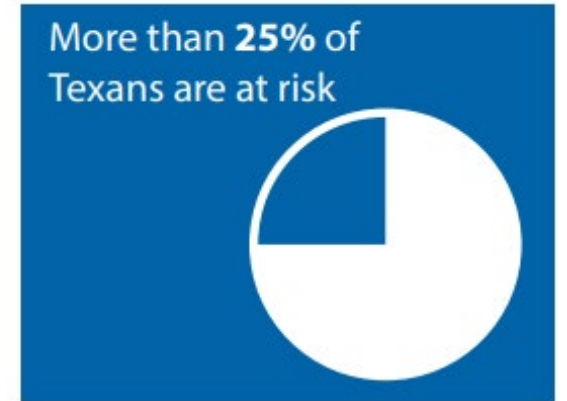
- Hep A/B combined vaccine
- Hep B individual vaccine
- Consider two dose options over 3 and 4
- Prevent further insult to the liver in presence of Hep C
- When in doubt- call the lab

HBsAg anti-HBc anti-HBs	negative negative negative	Susceptible
HBsAg anti-HBc anti-HBs	negative positive positive	Immune due to natural infection
HBsAg anti-HBc anti-HBs	negative negative positive	Immune due to hepatitis B vaccination
HBsAg anti-HBc IgM anti-HBc anti-HBs	positive positive positive negative	Acutely infected
HBsAg anti-HBc IgM anti-HBc anti-HBs	positive positive negative negative	Chronically infected
HBsAg anti-HBc anti-HBs	negative positive negative	Interpretation unclear; four possibilities: 1. Resolved infection (most common) 2. False-positive anti-HBc, thus susceptible 3. "Low level" chronic infection 4. Resolving acute infection

Adapted from: A Comprehensive Immunization Strategy to Eliminate Transmission of Hepatitis B Virus Infection in the United States: Recommendations of the Advisory Committee on Immunization Practices. Part I: Immunization of Infants, Children, and Adolescents. MMWR 2005;54(No. RR-16).

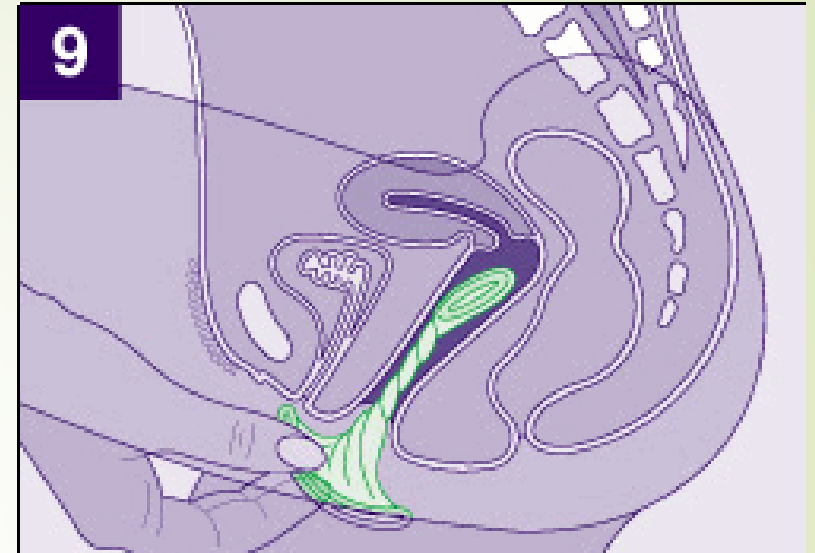
Treatment Considerations

- Prevalence of Hepatitis C markedly higher with severe mental illness - 6 times higher
- Greater risk of liver damage due to comorbidities
- Adherence to treatment concerns
- Chance of unfavorable psychiatric side effects, depression
- Costs 25k-95k
- Advocacy



HIV AIDS

- Safer sex teaching
 - Latex
 - Male and Female condoms
 - Alternative activities
 - Awareness of sores, blisters, rash or discharge
 - Testing





Infestations



Arthropods, Mites and Lice

- ▀ *Cimex lectularis* Bed Bugs
- ▀ *Sarcoptes scabiei* Scabies Mite
- *Pediculus humanus capitis* Head louse
- *Pediculus humanus corporis* Body louse, clothes louse
- *Pthirus pubis* “Crab” louse, pubic louse

Cimex lectularis



- No known disease transmission
- Nocturnal
- Do not reside on body
- Anesthetic
- Treatment of symptoms
- Elimination
 - Housekeeping and the professional
 - Pesticide resistant



Bed bug elimination



- Vacuum-seal bag
- Examining habitat
 - Crevices in furniture
 - Screw indentations on chairs
 - Electric wall plates
 - Mattress seams
 - Light fixtures
- Steam, heat, cold
 - Pesticides by a professional
 - Adjacent rooms and floors
- Avoid OTC remedies
- 30 minutes in hot dryer
- Prevention
 - Inspect belongings on admission
 - Empty seams of clothing and pockets
 - Provide a change of clothing
 - Bag items that cannot be inspected
 - Clock, radio
 - Sticky tape monitoring
 - Hot dry belongings
 - Scrutinize donations
 - Inspect items brought from home

Sarcoptes scabiei



- No known disease transmission
 - Secondary bacterial infections
- Skin to skin contact
 - Crusted scabies- fomites
- Permethrin-retreatment, sulfur on infants
- Burrows
- Wash in water at 130 F and dry on high
 - Bag for two weeks
 - Dry clean
 - Up to four weeks to develop symptoms

Crusted Scabies – "Norwegian"



- Transmission occurs from touch and fomites
- Immune compromised, elderly
- Pruritis often absent
- Multiple treatments needed
 - Concurrent treatment

Pediculosis humanus corporis



- Body lice are known to transmit disease ([epidemic typhus](#), trench fever, and [epidemic relapsing fever](#)).
- Crowded, no access to clean clothes or bathing, refugees & homeless
- No treatments
- Live on the clothes, move to the body to feed
- Wash in water at 130 F and dry on high
 - Bag for two weeks
 - Dry clean

A microscopic image showing several pubic lice (Pthirus pubis) on human hair. The lice are small, brownish, and have a pear-shaped body with six legs. They are attached to the hair shafts. The background shows the skin and other hair shafts.

Pthirus pubis

- No disease transmission
 - Secondary bacterial infections
- Sexual contact
 - Children sexual abuse
- Permethrin, topical ivermectin in pubic area
- Comb removal on eyelashes and eyebrows
- Pubic area or any coarse hair
- Wash in water at 130 F and dry on high
 - Bag for two weeks
 - Dry clean



Pediculosis humanus capitis

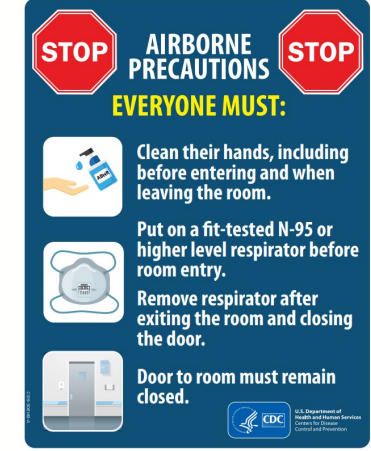
- No disease transmission
 - Secondary bacterial infections
- Head to head contact
 - Less transmission via hats and combs
- Pyrethrin and permethrin only kill live lice
 - Additional treatments or combing
- Spinosad also kills eggs, prescriptions needed
- Wash in water at 130 F and dry on high
 - Bag for two weeks
 - Dry clean



Precautions

Protection in an unpredictable environment

STANDARD CONTACT DROPLET AIRBORNE





Precautions

- Hepatitis C
- HIV
- Fungal
- Urinary Tract Infections
- STD
- Scabies
- Lice
- Bed Bugs
- Respiratory

- Standard
- Standard
- Contact
- Contact
- Standard
- Contact
- Standard/Contact
- Standard
- Droplet



Isolating the Psychiatric Patient

- Not physically ill
- Destabilizing effect
- Routines interrupted
- Isolation increases depression
- Possible decrease in stimulation
patients experiencing mania
- Missing group therapies
- Missing socialization
- Adherence, confrontation,
escalation
- Legal considerations
- Distraction
- One on one
- Cohort wing
- Safe activities
 - Therapeutic
 - Television
 - Phone
 - Music



Clean, Contained and Cooperative

- Can a patient who is infectious be out of their room?
- Depends on the infection and the patient

- **Clean**- Performs hand hygiene on leaving room. Has clean clothing on.
- **Contained** – If coughing, wears a mask, weeping wounds are covered, not oozing or dripping, continent or wears a brief
- **Cooperative** – cognitive ability to understand the basics of not transmitting the disease purposely to others and practices same



Products



Infection Prevention environment and safety

Ligature

- Sinks
- Showers and tubs
- Hand sanitizing units
- Phones

Other

- Consumption of hand gels
- Beds
- Mattresses



Hand Gel

Ethanol and Isopropanol

- Ingestion
- 30-60 minutes
 - Hypotension
 - Hypothermia
 - Decreased respiratory drive
 - Gastrointestinal
 - Central nervous system

Alternatives

- Foam
- Timed dispensing/ lockout volumes
- Solid mount or embed in wall
- Touchless
- Unbreakable
- Wipes
- Benzalkonium chloride, triclosan and chlorhexidine gluconate.
- High visual areas

Restraints

- Disposable
- Disinfection
- Materials





Risk Situations

Risk Situations

- Phlebotomy
- Shaving
- Codes
 - Medical
 - Psychiatric
 - Environmental – fire
- Court
- Transportation
- Unwelcome news

Plan for the unexpected



Venipuncture and Phlebotomy



- Two staff
- Explain process
- PPE
- Safety mechanisms
- Locked and secured sharps containers
- Limit the number of draws
- Secure/lock equipment
- Consider fingerstick alternatives, micro sampling
- Allow for alternative times based on behavior
- Consider distraction techniques
- Consider opening items in front of the individual
- Provide positive reinforcement
- Share results with patient
- Pediatric tubes

Codes – medical and personal safety


Minimizing risk

- Practice
- Team
 - Roles
 - Call
 - Clear language
 - Clear area
 - Obtain supplies
 - PPE
 - Stretcher
 - Medication
- Don't respond alone



PPE

- Bite resistant gloves
- Spit shields
- Spit collars
- Bites sleeves
- Bite resistant clothing
- Ambu-bags
- One way valve respirators
- PPE Go Bags



Transport, Court, Unwelcome News, Evacuations

- Describe process to patients
- PPE go bags
- Communication tools for additional support, phones, alarms
- Disinfectant in vehicles
- Choose location of giving unwelcome news in a safe area, away from peers, PRN medication
- Show of support
- Fires-Evacuations:
 - List of residents
 - Plan for residents in seclusion or restraints
 - PPE go bags for staff
 - Emergency medication

Shaving Emergency Injections

- ▶ Never handle a used razor
- ▶ Have patient place the razor in the sharps container
- ▶ Portable sharps container for razors only
- ▶ Small container for emergency injections
 - ▶ Locked and secured





Therapeutic Rapport



Therapeutic Rapport and Repertoire

- 
- Educate at their level
 - Nonjudgmental
 - Choices
 - No threats
 - Consistent messaging
 - Collaborate
 - Empathize
 - Silence
 - Lower your volume
 - Trauma Informed Care
 - Validate
 - Open ended questions
 - Avoid technical jargon
 - Humor
 - Patient goals
 - Discharge planning
 - Avoid staff “splitting”
 - Picture on badge
 - Masks that allow visualization of the mouth

A vibrant rainbow arches across a dramatic sky filled with dark, heavy clouds. The rainbow's colors are bright and distinct, contrasting sharply with the dark background. Below the rainbow, a lush green field stretches across the foreground, with rolling hills visible in the distance. The overall scene conveys a sense of hope and renewal.

Thank You



CNE: You will receive an email from me with information on how to get your credit.

Website: [Nuggets of Knowledge](#)

Next Session: August 11 at 1pm

[Fungi](#)

THANK YOU!!