Lessons learned during COVID-19:

The infection control consultation process and COVID-19 data sources

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Agenda

- Overview of the Oregon Health Authority's (OHA) Healthcare-Associated Infections (HAI) Program
- How to connect with the HAI Program
- Evolution of infection control consultations
- Logistical considerations for infection control consultations
- Major areas of inquiry for COVID-19
- Lessons learned from COVID-19 infection control consultations
- COVID-19 data from OHA

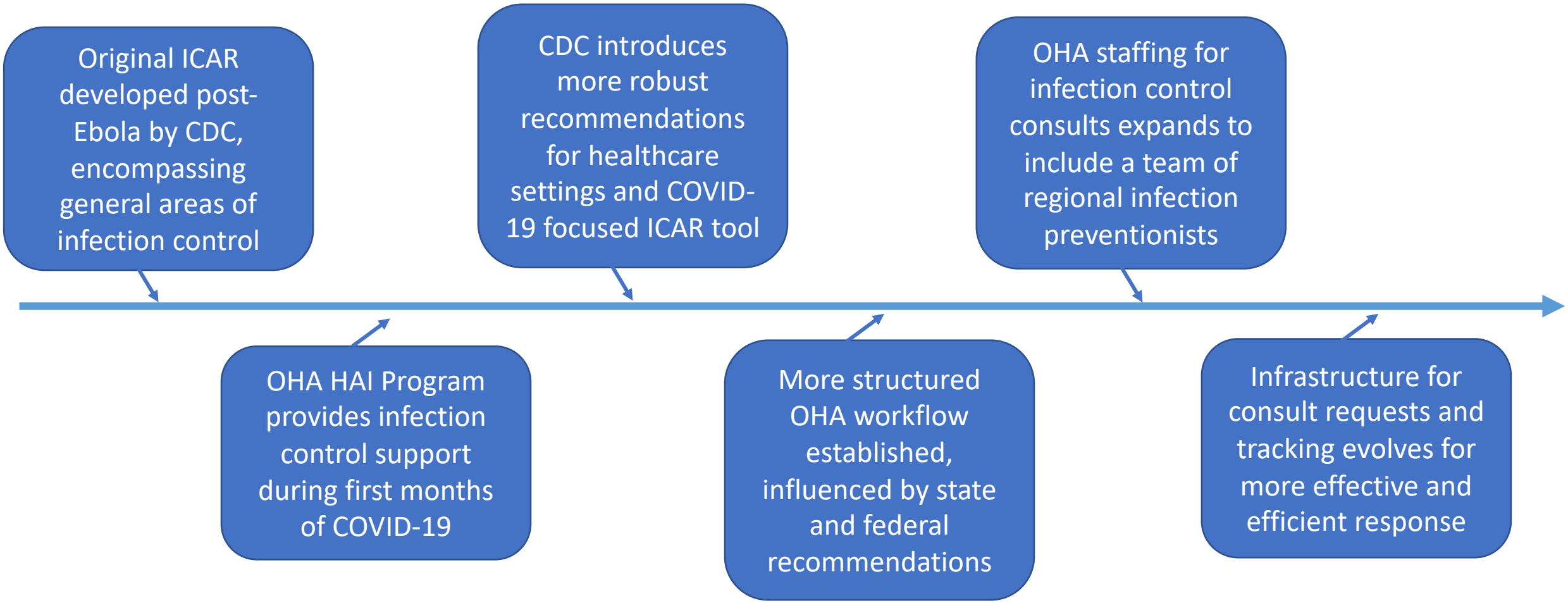
HAI Program overview

- Conduct surveillance for reportable diseases and HAIs
- External and internal data validation
- Support for outbreaks and infection control breaches
- Education and training
- Collaboratives
- Quarterly HAI Advisory Committee
- Research projects - Emerging Infections Program site
- Prevention projects (e.g., interfacility transfer, DROP-CRE, One & Only Campaign, Targeted Assessment for Prevention)
- More info can be found on our website
  - https://www.oregon.gov/oha/PH/DISEASESCONDITIONS/COMMUNICABLEDISEASE/HAI/Pages/index.aspx

Connecting with the HAI Program

- Provide infection control consultations across the continuum of care
- Requests can be made via web-based form: https://epiweb.oha.state.or.us/fmi/webd/ICRequest?homeurl=https://www.oregon.gov/oha/PH/DISEASESCONDITIONS/DISEASESAZ/Pages/COVID-19.aspx
  - COVID-19 and beyond
  - Virtual/remote or in-person
  - Assistance with events including outbreaks or clusters
  - Responsive or proactive
  - Regardless of the presence of cases (e.g., infection control breaches, drug diversion events)
  - One-off questions
- Work with local public health authorities (LPHAs) on reportable diseases, HAIs, and outbreaks

Evolution of infection control consultations: CDC and OHA



ICAR: Infection Control Assessment and Response

Regional infection preventionist model

Region 1: Clackamas, Clatsop, Columbia, Multnomah, Tillamook, Washington
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Therese.antony@dhsoha.state.or.us

Region 2: Benton, Lincoln, Linn, Marion, Polk, Yamhill
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Mary.e.martin@dhsoha.state.or.us

Region 3 and 5: Coos, Curry, Douglas, Jackson, Josephine
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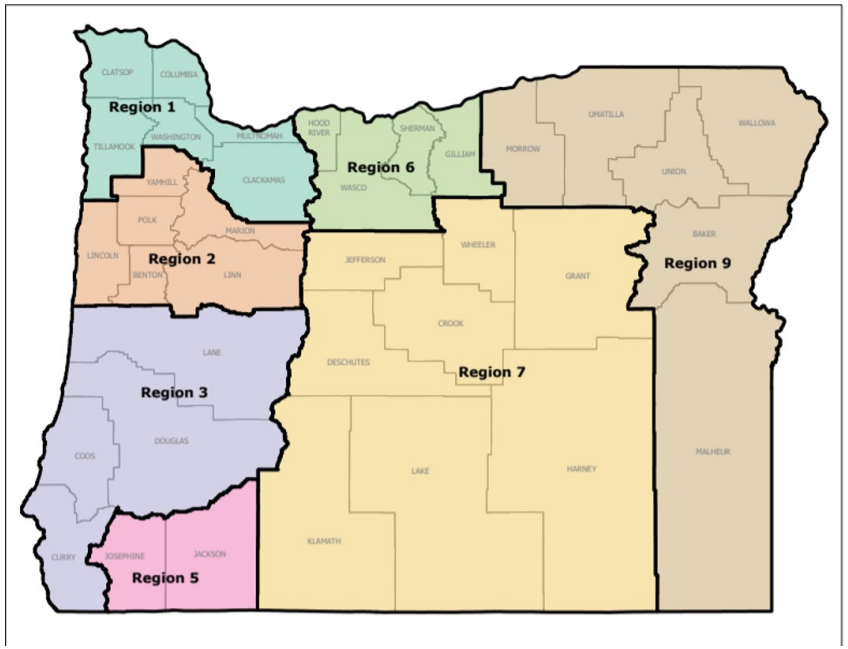

Regional infection preventionist model

Region 6: Hood River, Gilliam, Sherman, Wasco
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Region 7: Crook, Deschutes, Grant, Harney, Jefferson, Klamath, Lake, Wheeler
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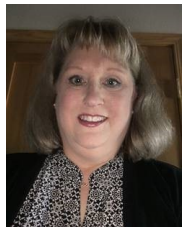

Region 9: Baker, Malheur, Morrow, Umatilla, Union, Wallowa
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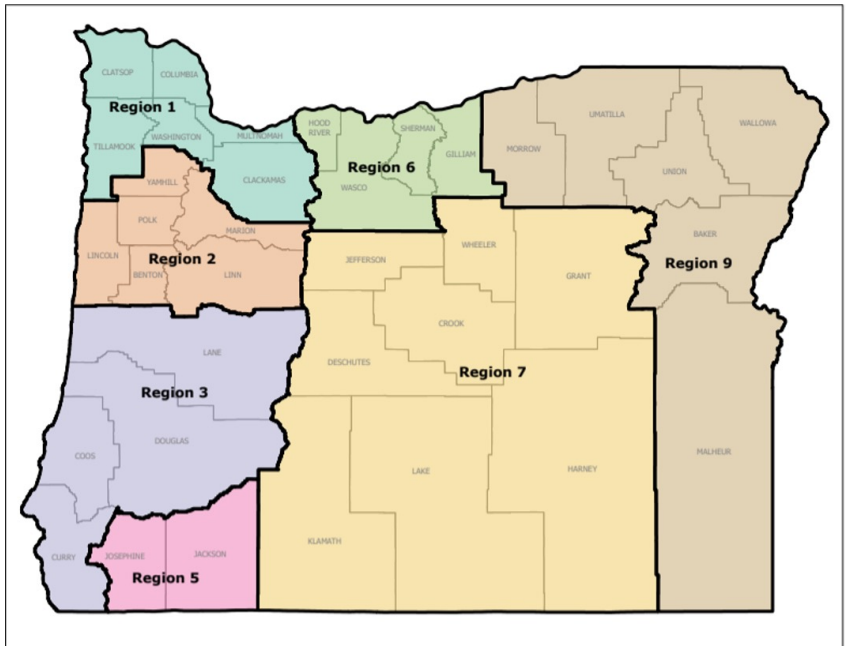

Logistical considerations

- New consults prioritized and assigned to HAI Program staff, facility type, magnitude/severity of outbreak (if cases present)
- Consults provided onsite or virtually; pros and cons to each approach
- In addition to OHA HAI staff and facility or regional/corporate staff, can include others from OHA, LPHA, regulatory agency
- Time commitment depends on facility capacity and onsite/remote format
- Pre-work includes scheduling, requesting facility map, collecting case numbers if applicable
- Reason for consult may be shared in the request; others known to the facility may also provide insight regarding areas for improvement

After the party is over

- Within 1-2 days of the consult, written recommendations provided via email
- Approximately a week after the original consult, follow-up consultation and associated written recommendations (more often remote or phone-based)
  - Multiple follow-ups may occur as needed
- Ongoing support (e.g., by email, by phone) with specific questions or new scenarios is available for the duration of the outbreak and beyond

Setting the stage

- Review roles of the team
  - OHA HAI Program infection preventionist or epidemiologist, other OHA epidemiologists assigned, local public health authority staff, regulatory partners
- Remind that the HAI team is non-regulatory
- The facility is the expert about their own experience
- HAI staff provide best practice recommendations that prioritize infection control. However, open conversations about feasibility helps us offer practical, scalable, or step-wise approaches
- Observations are a snapshot in time and do not always show the work that has gone into infection control over time. Continued improvements to practices after the consult are expected
- Acknowledge this can be a challenging conversation
- Infection prevention is burdensome and resource-intensive but is an investment in prevention
- What to expect during and after the consult, including follow-up consults and ongoing support

About the facility

- Layout
  - Number of units/buildings, rooms/apartments, restroom/bathing facilities
    - Single-occupancy or shared
    - Licensed beds, vacant rooms/apartments, current census
  - Communication and regulatory considerations when multiple licensed facilities are onsite
- Type of unit and acuity of care provided; patient population served
- Staffing
  - Number of shifts, approximate staff per shift

About the outbreak

- Consults considered “responsive” when there are cases of COVID-19 among either patients/residents or staff
- Number of cases since start of outbreak (staff and patients/residents)
  - Placement within the facility? Any roommates, shared restrooms?
  - Have staff been excluded from work?
- Operationalize quarantine for patients/residents
  - Reason for quarantine
  - Number of cases
- Levels of transmission occurring in the local community
- Whether facility has had a previous infection control consult, who provided it
- Infection control capacity (at the facility as well as contract/regional/corporate)

Infection control recommendations

- Recommendations attempt to address the needs of the facility
- Coming slides will cover major areas of inquiry
  - Focus on major takeaways, considerations, pain points
  - Will not provide recommendations
  - Will not be exhaustive

Patient/resident case identification

- Testing
  - Approaches vary based on facility type, relationships with labs or healthcare systems, Clinical Laboratory Improvement Amendments (CLIA) waiver, supplies (e.g., test kits, transport media)
  - Upon admission, for symptomatic individuals, for those with known exposures
  - Context of outbreaks
- Considerations for testing include
  - PCR vs point of care: confirmatory testing, sensitivity, turnaround time
  - Interpretation of results
  - Turnaround time
- Patient/resident monitoring (particularly outside of the acute care environment)
  - Frequency can vary by patient/resident groups (e.g., COVID-19 positive vs. negative)
  - Objective measures and symptoms
- Monitoring includes objective measures and questions regarding symptoms

Cohorting and patient/resident management

- Placement of COVID-19 positive and quarantined patients/residents
  - Multiple-occupancy rooms; shared toilet and bathing facilities
  - Physical separation of patient/resident populations (e.g., designated units, temporary barriers) and fire marshal involvement
- Criteria used to discontinue patient/resident transmission-based precautions for isolation or quarantine

Cohorting and staff management

- Context: Staffing shortages and crises, increased workload and job stress, compounded by transmission in the community
- Staff exclusions
- Criteria used to allow staff to return to work after isolation or quarantine
- Designate staff to care for particular patient/resident groups (i.e., COVID-19 positive or COVID-19 negative)
- Provide separate space and facilities for cohorted staff (e.g., entry/exit points, screening stations, break areas, restrooms, personal protective equipment [PPE] disinfection/storage areas)
- Staff designated to different patient/resident groups should avoid contact and observe physical distancing, including while carpooling, during meals, and outside of work

Mitigating risk when cohorting cannot be achieved

- Staff providing care to both COVID-19 negative and positive patients/residents, implement mitigation steps (also recommended for staff working in other facilities [e.g., agency, hospice, physical therapy, occupational therapy, etc.])
    - Document staff that provide care on both units
    - Minimize frequency and duration of crossovers that occur
    - Audit infection control practices of these staff (e.g., monitor PPE use and hand hygiene). Note that any PPE optimization strategies for these staff must be factored into any audits
    - Prioritize for serial testing where applicable
    - Bring minimal items into patient/resident rooms
    - Adjust schedules to provide care to negative patients/residents first

Vaccination

- Concerns leading to hesitancy among staff and patients/residents
- Second doses and boosters
- Side effects causing absenteeism
- Exemptions
- Support from public health
- Impact on quarantine and isolation

Education

- Observations and audits for adherence to high-priority practices in all locations and for all shifts, with immediate feedback provided
  - PPE: Selection, donning/doffing, disposal, cleaning/disinfection, storage
  - Hand hygiene: Selection of ABHR versus soap/water, duration
  - Environmental services (EVS): Selection and use of disinfectants, adherence to contact time
- Identify patterns (shift, task, individual) to focus audits and education
  - Poor adherence
  - High-risk staff and patient/resident populations
- Use multiple approaches to convey information (e.g., printed materials, participatory learning, verbal reminders, buddy system, train-the-trainer)
- Inform staff about newly implemented or changing practices and policies

Air quality

- Reduce concentration of viral particles (“dilution”)
  - Decrease number of people in occupied areas
  - Introduce fresh air and maximize air exchanges/filtration
- Inspect/maintain HVAC systems. Optimize filter function (e.g., installation, change regularly, check for proper fit, upgrade to highest compatible minimum efficiency reporting values [MERV])
- Where permanent air-handling systems cannot be established, increase air filtration with portable HEPA units. Select appropriately-sized systems for areas where they will be used
- Establish directional airflow so air moves from clean to dirty areas (using HVAC grills, fans, portable HEPA filters, ventilated headboards, etc). Test to ensure function is as expected
- Increase fresh air (e.g., open windows/outdoor air dampers to reduce HVAC air recirculation)
- Turn on fans in bathrooms adjacent to patient/resident rooms and open windows
- Avoid use of freestanding fans if possible. When necessary, do not place on the floor

Observations and audits

- Observations and audits of infection control practices best targeted to…
- Processes
  - Entry screening (in applicable facilities)
  - PPE use
  - Hand hygiene
  - Environmental cleaning and disinfection
- Areas of the facility
  - Laundry room
  - Kitchen
  - Staff areas (break, smoking)
  - Common rooms
  - Patient/resident care areas (no room entry) – COVID-19 positive, quarantine
  - Multiple wings, buildings, and units

Personal protective equipment (PPE)

- Staff use of PPE
  - Selection of appropriate PPE for task and staff duties
  - Order and location of donning and doffing, disposal
- Optimization strategies
- Match approaches with recommendations for community transmission levels
- PPE burn rate primary factor now, in contrast to early pandemic when availability and cost posed major challenges
- Storage, cleaning and disinfection, hand hygiene, staff crossover
- Management during breaks, lunches, at shift end
- PPE readily available in patient care areas, including backups for items such as respirators and eye protection
- Contain new or disinfected PPE to prevent cross-contamination

PPE: Respiratory protection and N95s

- Evolving understanding of COVID-19 transmission routes
- Develop a respiratory protection program providing fit testing and medical clearance
- Voluntary respirator use outside of fit-tested N95s
  - KN95s and beyond
  - Seal checks
- Manage aerosol-generating procedures
  - Identify these patients/residents in a facility
  - When clinically feasible, transition to alternative treatments (e.g., metered dose inhalers for nebulizers

Hand hygiene

- Considerations for staff
  - Observations/audits
  - Selection of soap and water versus alcohol-based hand rubs (ABHR)
  - Perform hand hygiene using correct practices at all opportunities
  - Unconventional PPE practices increase risk of self-contamination/inoculation
- Facility-level considerations
  - Walkthroughs
  - ABHR or hand hygiene stations functional and present throughout the facility (e.g., near doorways, in patient/resident care areas)
  - Evolving considerations for behavioral and memory care settings (e.g., individual bottles of ABHR, decontamination, lanyards)

Environmental cleaning and disinfection

- Environmental Protection Agency (EPA) List N includes products with a claim against SARS-COV-2
  - Selection and availability of disinfectants
- Contact time: Concept, technique, and List N
- Frequency
- Checklists
- Items that cannot be disinfected
- Observations and interviews
  - Identify high-touch surface, state correct contact time, describe order

Laundry

- Use of freestanding fans and laundry chutes may pose risk of cross-contamination and aerosolization
- Considerations for access
- Disinfectable hampers, particularly in a residential setting
- Flow of traffic and physical space (dirty to clean)
- Linens in carts and on shelves
  - Clearly marked dirty/clean
  - Contained to prevent cross-contamination
- Use of PPE (out of context of patient/resident care; nonstandard items)
- Personal items (e.g., water bottles)

Kitchen

- Physical distancing
  - Narrow prep stations
  - Flow of traffic
- Separation between kitchen staff and patients/residents, including care areas and staff with direct care duties
  - Kitchen staff handling food, utensils, etc.
  - Discontinue kitchen staff participation in meal delivery
  - Dedicated break areas
- Use of PPE (out of context of patient/resident care; nonstandard items)
  - Considerations regarding safety glasses as eye protection
- Personal items (e.g., water bottles)

Common areas and staff areas

- Physical distancing (e.g., at screening station, in elevators)
  - Floor markers, furniture placement, maximum capacity signage
- Risk in staff only areas (e.g., break rooms, offices, cars)
  - Cohort for different care populations
  - Provide space and supplies to safely manage PPE
  - Consider creative options for better-ventilated dining (e.g., outdoors, HEPA filters)

Comorbid infections and outbreaks

- During influenza season
  - If compatible symptoms arise, testing for influenza, COVID-19, ideally other respiratory pathogens (e.g., RSV)
  - Influenza cases in patients/residents or staff
  - Percentage of vaccinated staff and patients/residents
  - Provision of annual vaccination at no cost to staff
- When COVID-19 and contact transmission organisms co-occur (e.g., norovirus, multi-drug resistant organisms)
  - Focus on appropriate hand hygiene, environmental cleaning and disinfection
  - Draw down PPE optimization strategies

Challenges of the consult process

- Changing recommendations from multiple agencies
- Confusion regarding recommendations versus requirements
- Facility must identify staff to be responsible for implementing recommendations
- Technical issues can make remote observations difficult
- Crisis and contingency strategies for PPE and staffing
- Balancing priorities against infection prevention, particularly for special populations (e.g., pediatrics, behavioral, memory care)

Silver linings and best practices

- Early contact and intervention
- Flexibility
  - Scheduling, time commitment and recurrence of consult and follow up based on facility preference/capacity, remote/in-person
- Focused approaches based on facility type, patient population, and staff capacity/knowledge
- Providing tangible resources (PPE, nurse crisis teams, testing, vaccination)
- Virtual/remote consults allow us to reach more facilities and include more partners, particularly prior to the establishment of our regional IP team
- Collaborative consults are an opportunity for everyone to get on the same page
- Increasing capacity for and knowledge of infection control in Oregon's clinical community

Birds' eye view: Lessons learned

- Communicating about public health priorities (infection prevention focus, non-regulatory) remains complex
- Recommendations for and approaches to controlling COVID-19 will continue to evolve
  - E.g., the way we characterize community transmission and its impact on recommendations
- Importance of developing strategic and systematic ways to collaborate with regulatory and licensing partners in the future
- Don't let perfect become the enemy of good: Baby steps towards best practices are important ("chisel away at risk")

COVID-19 data dashboards

- Area of focus: statewide data, regional data, health equity data
- Content type, including COVID-19 data
  - For vaccination, cases, testing and sequencing, hospital capacity and emergency department visits by geography
  - By race and ethnicity, age group, language and disability
  - https://public.tableau.com/app/profile/oregon.health.authority.covid.19/viz/OregonsCOVID-19DataDashboards-TableofContents/TableofContentsStatewide

- Suggested dashboards
  - Health Care Workforce Vaccination Rates
  - Cases, Hospitalizations, Deaths by Demographic Group
  - Hospitalization Trends
  - Underlying Conditions & Symptoms in Deaths & Hospitalizations
  - COVID-19 Hospital Bed, ICU Bed, and Ventilator Usage by Day
  - Emergency Department Visits for COVID-like Illness

COVID-19 data reports

- https://govstatus.egov.com/OR-OHA-COVID-19
  - Weekly Data Report
  - Weekly Outbreak Report
  - Breakthrough Cases Report
  - Race, Ethnicity, Language and Disability Report
  - Age Adjustment Report
  - Data Report: Year-in-Review
- RSV surveillance data: https://www.oregon.gov/oha/ph/DISEASESCONDITIONS/COMMUNICABLEDISEASE/DISEASESURVEILLANCEDATA/Pages/RespiratorySyncytialVirusSurveillanceData.aspx
- Flu Bites: https://www.oregon.gov/oha/ph/diseasesconditions/communicabledisease/diseasesurveillancedata/influenza/pages/surveil.aspx

Thank you!

What can the HAI Program do to support critical access hospitals?

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