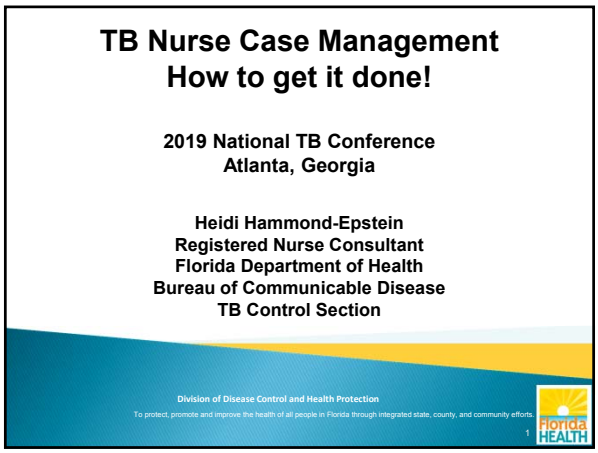
TB Nurse Case Management
How to get it done!
2019 National TB Conference
Atlanta, Georgia
Heidi Hammond-Epstein
Registered Nurse Consultant
Florida Department of Health
Bureau of Communicable Disease
TB Control Section
Division of Disease Control and Health Protection
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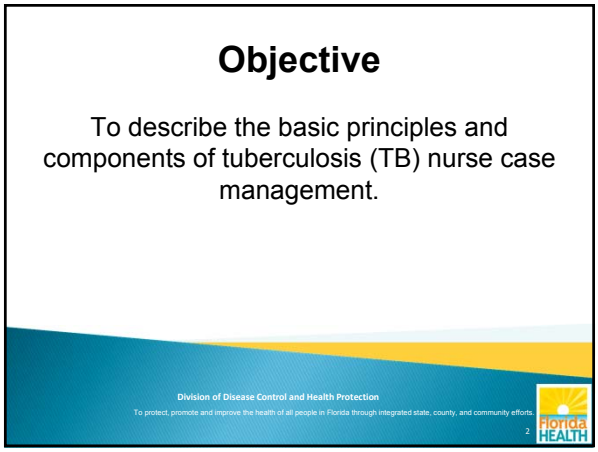
Objective
To describe the basic principles and components of tuberculosis (TB) nurse case management.
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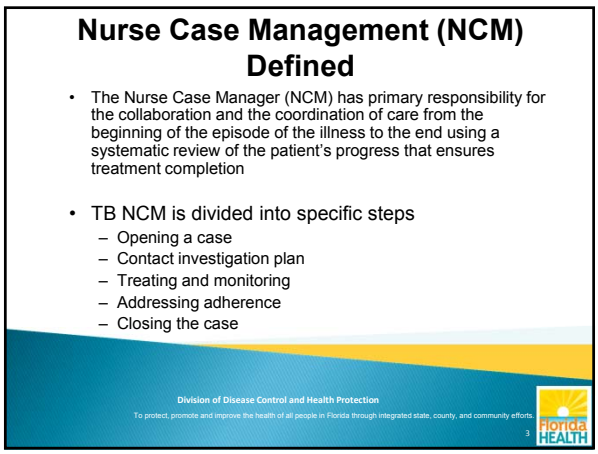
Nurse Case Management (NCM) Defined
The Nurse Case Manager (NCM) has primary responsibility for the collaboration and the coordination of care from the beginning of the episode of the illness to the end using a systematic review of the patient's progress that ensures treatment completion
TB NCM is divided into specific steps
Opening a case
Contact investigation plan
Treating and monitoring
Addressing adherence
Closing the case
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Opening a Case

- Initial Assessment
  - Ascertain extent of the TB illness
  - Obtain and review previous health history
  - Determine actual or potential infectiousness (CI)
  - Evaluate patient's knowledge/beliefs about TB
  - Identify barriers or obstacles to adherence
  - Patient education
  - Review TB medication regimen
  - Review psychosocial status

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Contact Investigation (CI) Plan

- Determine the need for a CI
- Identify transmission sites
- Identify contacts and prioritize
- Begin the evaluations
- Treat as needed and complete treatment

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Treatment and Monitoring

- Treatment
  - Initiation of 4 drug therapy (RIPE)
    - **R**ifampin, **I**soniazid, **P**yrazinamide, **E**thambutol
    - Directly Observed Therapy (DOT) standard of care
    - Two phases of standard TB treatment
    - Treatment generally 6–9 months
    - Staying on the correct regimen

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Monitoring

- Monitoring
  - Treatment effectiveness - sputum conversion, clinical improvement
  - Monthly assessment
  - Barrier to adherence
- Collaboration with private providers
- Calculating treatment completion

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Addressing Adherence

- Identify patient barriers and system barriers
- Establish a "contract" between the health care worker (HCW) and the case (patient) as part of the treatment plan
  - Identify patient centered interventions
  - Mutually agreed upon DOT time and place
  - Ensure privacy
- It is a public health responsibility to ensure the patient completes therapy

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Closing the Case

- Clinical improvement
- Culture conversion
- Adequate length of prescribed therapy
- Adequate number of DOT doses = adequate weeks
- End of treatment chest x-ray (CXR) may be ordered to use for comparison in future
- Education

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Let's work through an actual case!

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You receive a call from a local walk in clinic. They have a patient they suspect of having TB.

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Opening the Case (The Initial Report)

- Use your health departments' TB initial report form or intake sheet
- Gather and review information
- Develop a plan

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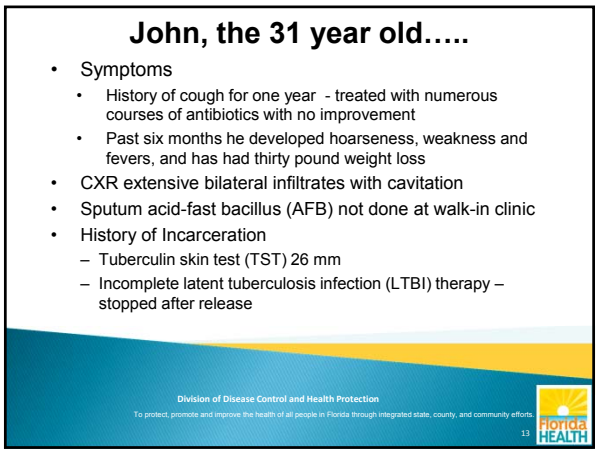
John, the 31 year old…..
Symptoms
History of cough for one year - treated with numerous courses of antibiotics with no improvement
Past six months he developed hoarseness, weakness and fevers, and has had thirty pound weight loss
CXR extensive bilateral infiltrates with cavitation
Sputum acid-fast bacillus (AFB) not done at walk-in clinic
History of Incarceration
Tuberculin skin test (TST) 26 mm
Incomplete latent tuberculosis infection (LTBI) therapy – stopped after release
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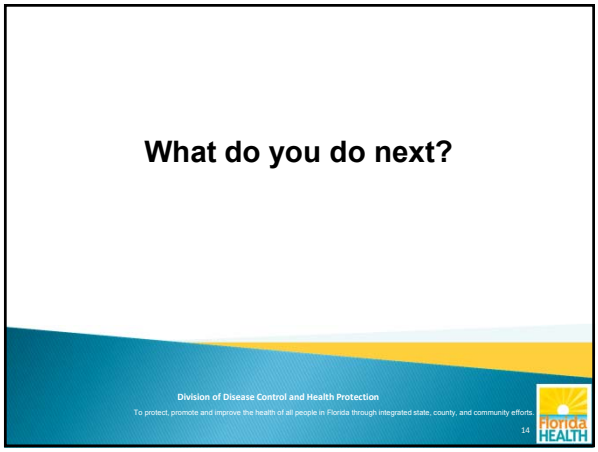
What do you do next?
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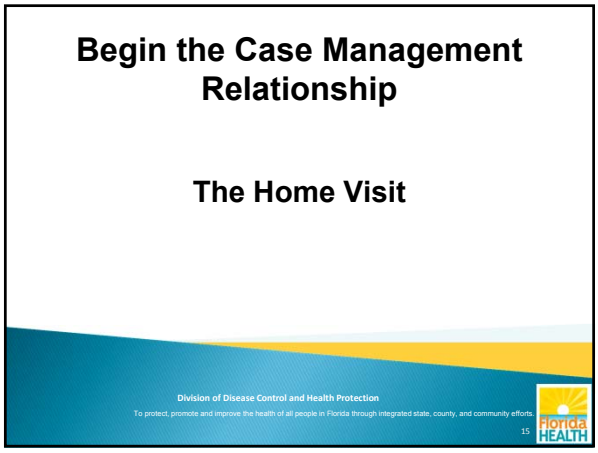
Begin the Case Management Relationship
The Home Visit
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Initial Home Visit is Critical

- Assessment of John
  - Build rapport/gain information
  - Provide TB disease education/consents
  - Review treatment/medications/initiate DOT
  - Assess patient/obtain baseline clinical information
  - Collect specimens/diagnostic or baseline testing
  - Explain and arrange contact investigation

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Initial Home Visit is Critical (continued)

Assessment of home

- Check the safety of his environment
- Observe for unknown/unapparent contacts
- Identify barriers to care
- Uncover needs for incentives and enablers

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Home Visit Supplies

- Packing your bag
  - Blank TB record documents/already completed records/ consents
  - Educational materials and drug information sheets
  - Supplies for phlebotomy, TST or IGRA
  - BP cuff/stethoscope, thermometer, and scale
  - “E” chart and color vision test book
  - Three sputum containers
  - Nebulizer, saline, and tubing

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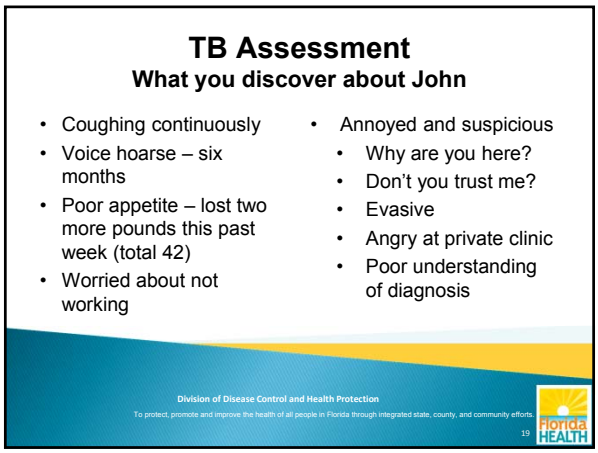
TB Assessment
What you discover about John
Coughing continuously
Voice hoarse – six months
Poor appetite – lost two more pounds this past week (total 42)
Worried about not working
Annoyed and suspicious
Why are you here?
Don't you trust me?
Evasive
Angry at private clinic
Poor understanding of diagnosis
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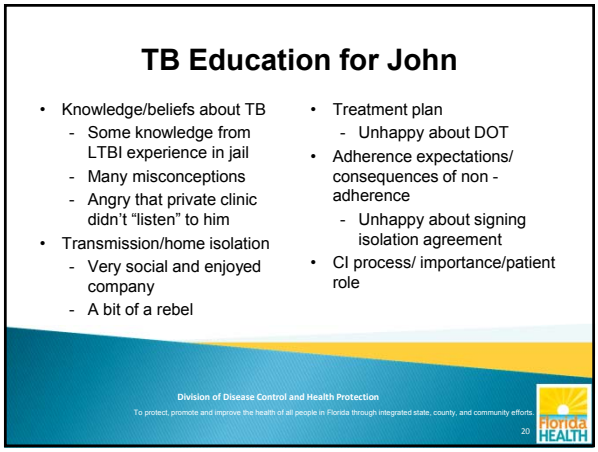
TB Education for John
Knowledge/beliefs about TB
Some knowledge from LTBI experience in jail
Many misconceptions
Angry that private clinic didn't "listen" to him
Transmission/home isolation
Very social and enjoyed company
A bit of a rebel
Treatment plan
Unhappy about DOT
Adherence expectations/ consequences of non - adherence
Unhappy about signing isolation agreement
CI process/ importance/patient role
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John's Contact Investigation
Conversations are always ongoing
John lives alone
Has a girlfriend who has 12 year old daughter
Works construction
Plays cards weekly
Incarcerated in the past
Find out more specifics and details
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What I Found Out From John

- Symptomatic for over a year
- Girlfriend "feels sick"
  - Sleeps two nights per week at John's home
  - Her daughter sleeps every night of the week at John's home (girlfriend works nights)
- Works six days a week – outdoor construction
  - Travels with six other men in a pick-up truck
  - Co-workers are also drinking and card player buddies
- Monday night card games at his home (20-25 friends)
- Jail for seven months, two years prior to current TB diagnosis
  - Completed four months of INH in jail, stopped when released as he felt fine and believed he took 'enough' medication to treat an infection

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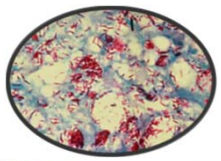
John's Sputum Smears

All three are AFB smear positive at 4+



Classification of Smear	Smear Result	Infectiousness
4+	Strong positive	very infectious
3+	Strong positive	very infectious
2+	Moderate positive	infectious
1+	Moderate positive	infectious
Actual number of AFB seen	Weak positive	infectious
No AFB seen	Negative	Maybe infectious (15-25%)

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The CI Plan

- Accountability – Nurse Case Manager
- Infectious period
- Prioritize
  - Potential transmission sites
  - Contacts
- Screening/testing
- Treatment
  - Window period
  - Infected contacts

A CI investigation really never ends. There will be multiple conversations with John to ensure you find as many contacts as possible

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Prioritize Transmission Sites and Contacts

- Symptomatic girlfriend – secondary case
- 12 year old was high due to extent of exposure to mother and John
- Work contacts
  - traveled with and socialized with six in particular
  - not all work contacts
- Card game/drinking friends…overlap? YES

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Treatment and Monitoring

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NN2

Treatment of Drug Susceptible TB Guidelines 2016

Case management interventions during treatment of cases with tuberculosis

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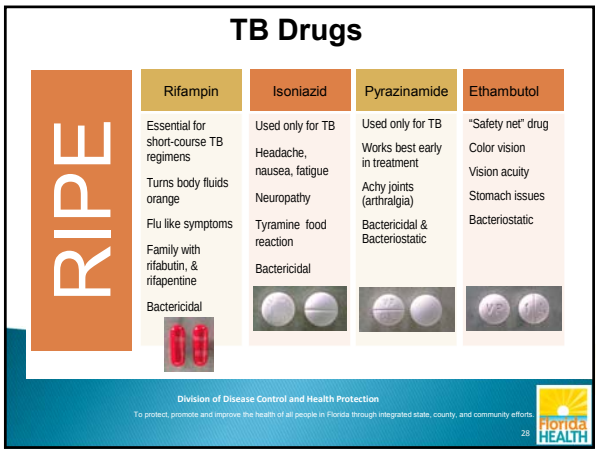
Slide 27

NN2 Nixon,Stefani N, 6/29/2017


TB Drugs
RIPE
Rifampin
Essential for short-course TB regimens
Turns body fluids orange
Flu like symptoms
Family with rifabutin, & rifapentine
Bactericidal
Isoniazid
Used only for TB
Headache, nausea, fatigue
Neuropathy
Tyramine food reaction
Bactericidal
Pyrazinamide
Used only for TB
Works best early in treatment
Achy joints (arthralgia)
Bactericidal & Bacteriostatic
Ethambutol
"Safety net" drug
Color vision
Vision acuity
Stomach issues
Bacteriostatic
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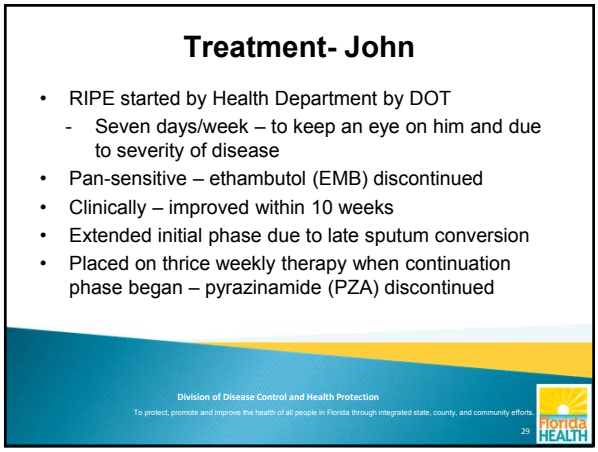
Treatment- John
• RIPE started by Health Department by DOT
- Seven days/week – to keep an eye on him and due to severity of disease
• Pan-sensitive – ethambutol (EMB) discontinued
• Clinically – improved within 10 weeks
• Extended initial phase due to late sputum conversion
• Placed on thrice weekly therapy when continuation phase began – pyrazinamide (PZA) discontinued
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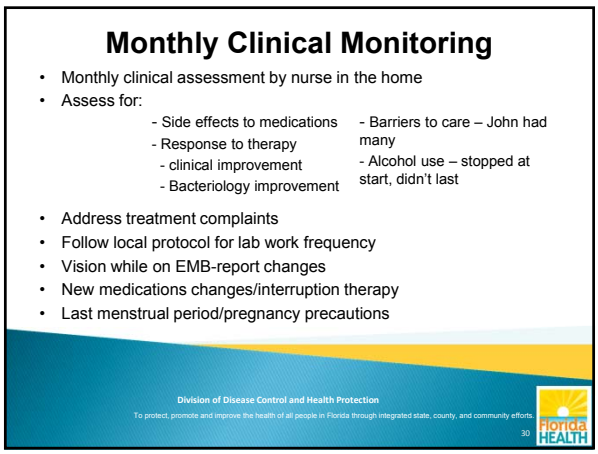
Monthly Clinical Monitoring
• Monthly clinical assessment by nurse in the home
• Assess for:
- Side effects to medications
- Response to therapy
- clinical improvement
- Bacteriology improvement
- Barriers to care – John had many
- Alcohol use – stopped at start, didn't last
• Address treatment complaints
• Follow local protocol for lab work frequency
• Vision while on EMB-report changes
• New medications changes/interruption therapy
• Last menstrual period/pregnancy precautions
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Addressing Barriers to Adherence

- Prior inadequate treatment for LTBI
- Alcohol
- Social life
- Not working – no money
- Guilt about 12 year old

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Closing the Case - John

- Extended treatment four months after sputum culture conversion – total 11 months
- Calculated 47 weeks of treatment
  - Seven days a week for eight weeks
  - Five days a week for 24 weeks
  - Three days a week for 15 weeks

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Closing the Case – John (continued)

- A final CXR was done
- Summary of treatment provided to John
- Educate about future symptoms
- Provide contact information for future questions

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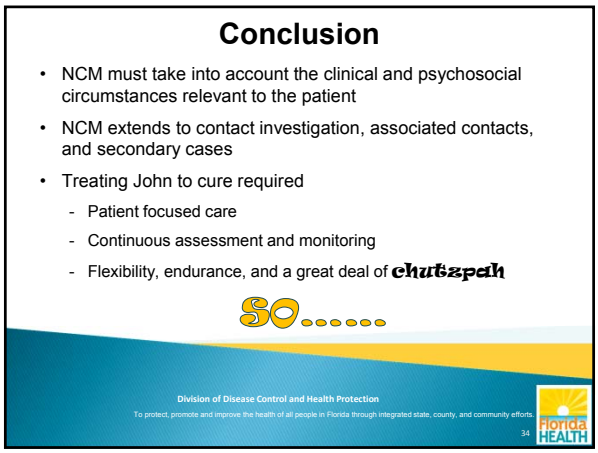
Conclusion
• NCM must take into account the clinical and psychosocial circumstances relevant to the patient
• NCM extends to contact investigation, associated contacts, and secondary cases
• Treating John to cure required
- Patient focused care
- Continuous assessment and monitoring
- Flexibility, endurance, and a great deal of chutzpah
SO……
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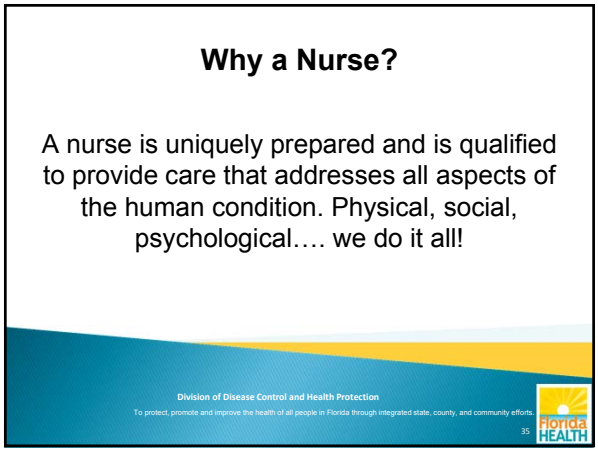
Why a Nurse?
A nurse is uniquely prepared and is qualified to provide care that addresses all aspects of the human condition. Physical, social, psychological…. we do it all!
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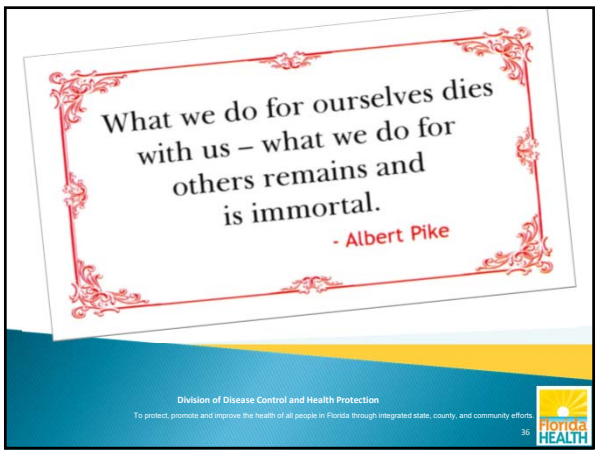
What we do for ourselves dies with us – what we do for others remains and is immortal.
- Albert Pike
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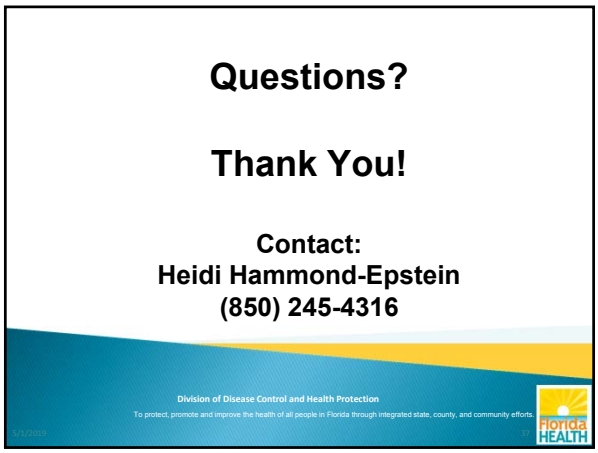
Questions?
Thank You!
Contact:
Heidi Hammond-Epstein
(850) 245-4316
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