DST Revision Summary: Cardio-Respiratory (DST 400-401)

Background

The following document summarizes the initial evidence review and DST revisions for suite **Cardio-Respiratory** (DST 400 and 401) as outlined in the NNPBC DST stewardship plan. The evidence reviews and syntheses are completed once per 3-year life cycle for each DST. NNPBC Professional Practice is responsible for completing these reviews to inform content revisions for DSTs. Each suite consists of one assessment and diagnostic guideline, along with the corresponding care and treatment plans for the diseases, disorders, and conditions that Certified Practice RNs (RN(C)s) are authorized to diagnose and treat for that system.

The NNPBC evidence review team, which includes an RN-certified practice Consultant, Manager of Practice, Education, and research, and Lead of Continuing Education and Professional Development, completed the initial revisions for suite **Cardio-Respiratory**. Following the integration of revision recommendations, the Subject Matter Expert Advisory Group will review DSTs as outlined in the DST stewardship plan.

Review of References

Before completing the initial evidence review, citations for each DST were evaluated to ensure that references were current, evidence-informed and relevant to the particular DST suite under review. The process of reviewing the citations included updating any broken links to web pages, updating to the latest edition of textbooks, searching for primary literature that was more current and evidence-informed, and removing citations that required membership to an organization that an RN(C) would not have access to.

For example, several references for suite **Cardio-Respiratory** originated from DynaMed, which requires a paid subscription. Another challenge from the initial evaluation of the references was the lack of in-text citations throughout the DSTs. The reviewer was unable to corroborate the reference to the content within the DSTs, making it challenging to verify that the content within the DSTs was current and evidence-informed.

Following a review of the citations for suite **Eyes** (DST 200, 201 and 202), it was recommended that a hierarchy of literature be created to guide decisions around the use of literature to inform DSTs, in conjunction with the feedback from the RN(C) Practice Consultant and Subject Matter Expert Advisory Group.

Literature Hierarchy

UpToDate was selected as the primary evidence source to inform the DST revisions. UpToDate is a widely used clinical resource, accessible to major health system employers such as regional health authorities and community-based primary care clinics. It also allows users to access LexiDrug, a comprehensive drug guide that provides life-span considerations. Information regarding authorship, their review processes, references, and article revision dates are also easily accessible, ensuring high-quality evidence to inform DST revisions.

Following consultation with PSIs, the review team selected the textbook *Seidel's Guide to Physical Examination: An Interprofessional Approach* (2023; 10th ed.) to augment evidence found via UpToDate. This textbook serves as the primary source used throughout the Remote Practice and RN First Call certified practice curriculum, ensuring consistency and congruency of content revisions with certified practice education. UpToDate sources were cross-referenced with the textbook to ensure comprehensiveness in DST revisions.

For pharmacological considerations, *Davis's Drug Guide* was selected to augment any missing or unclear information related to pregnancy and breastfeeding. Like UpToDate, *Davis's Drug Guide* is a widely recognized clinical resource specifically tailored to nurses and nursing practice. For information regarding antibiotic stewardship, Bugs & Drugs was utilized to ensure the appropriate use of antimicrobials as recommended by our Subject Matter Expert Advisory Group.

Lastly, peer-reviewed primary literature was accessed to validate any unclear or vague content in existing DSTs. Open-access primary literature was prioritized to ensure RN(C) could access the sources that informed the DST.

This evidence hierarchy enabled relevant content revisions that aim to maximize clinical utility. Furthermore, utilizing credible, evidence-based sources (UpToDate, Davis's Drug Guide) and a source consistent with certified practice education (*Seidel's Guide*) facilitated content changes that align with both practice and education. Lastly, developing this evidence hierarchy will support future DST revisions, making subsequent reviews more streamlined, methodical, and consistent.

Revision Summary

Changes to DSTs occurred in one of three ways: removing or relocating content, changing and revising existing content to reflect recent evidence and structural or formatting changes. A high-level summary of each DST for the **Cardio-Respiratory** suite is presented below. The following summary is not an exhaustive list of document changes. Rather, it is a high-level summary that provides contextual considerations related to key changes during Phase 1 of the revisions.

Assessment and Diagnostic Guideline: Cardio-Respiratory (DST 400)

Content Removal or Relocation

Following consultation with PSIs, two primary sections of DST 400 were removed or re-located. This decision was made due to the inability to substantiate specific content, inconsistency within the document, and incongruency with the intended purpose of the document. Assessment and diagnostic guidelines intend to support RN(C) practice as it relates to assessing and diagnosing the disease, disorders and conditions within the RN(C) scope of practice. Therefore, content not directly related to diagnosing and managing *Acute Bronchitis – Adult* (DST 401), was moved to DST 100 (Assessment and Diagnostic Guideline: General).

Examples of content changes include:

- **Symptoms requiring urgent referral**: The list of symptoms requiring urgent referral was removed from the document and replaced with a disclaimer to ensure compliance with the RN(C) scope of practice.
    - This change was made due to conflicting information in the list of symptoms with key assessment indicators for Cardio-Respiratory conditions. In addition, the list itself could not be substantiated due to a lack of clarity regarding the framework used to develop the list of symptoms.
- **General Appearance and vital signs** were moved to DST 100.
    - This change was made to align documents, as general appearance and vital signs are not specific to Cardio-Respiratory conditions, disease or disorders and are an expected competency of RN practice.
- **Physical Assessment – Cardio-Respiratory** were moved to DST 100.
    - This change was made to align with the purpose of the document. This section provides assessment information that is not specific to diagnosing *Acute Bronchitis – Adult* (DST 401), but instead supports RN(C) in their clinical reasoning. As a result, this information was moved into DST 100, which exists as a supportive resource for RN(C).

Assessment and Diagnostic Guidelines now contain specific guidance on physical examinations and diagnostic tests related to conditions that can be managed, treated, and/or diagnosed within the Certified Practice framework.

Content Change

Content related to Potential causes, History, and Key Physical Assessment of *Acute Bronchitis – Adult* (DST 401) was updated with the most recent available literature. Diagnostic tests were also updated. All content in the document is now cited in the text with an appropriate, evidence-based source, as noted above.

During Phase One of the DST revisions, Adult and Pediatric DSTs were combined into a single document. For suite **Cardio-Respiratory** (DST 400 and 401), any reference to pediatrics was removed as RN(c) are only authorized to diagnose and treat acute bronchitis in adults.

Examples of content changes include:

- **Associated systems**: The content was updated to direct the RN(C) to the appropriate DST to support comprehensive assessments if the RN(C) believes the Cardio-Respiratory conditions are associated with systemic conditions ("Refer to the 'Physical Assessment of the Ears, Nose and Throat' section of the *Assessment and Diagnostic Guideline: General* as needed"). This note aligns with other DST suite revisions to help maintain consistency across all documents.

- **Potential causes**: The content was updated and expanded, with additional details added.
    - For example, predisposing risk factors such as endotracheal intubation, tracheostomies, and COPD can result in other bacterial causes such as *Streptococcus pneumoniae* and *H. Influenzae.*
- **Predisposing Risk Factors:** The content in this section was consolidated using current primary literature and re-written for clarity.
- **History:** This section was updated and summarized to improve clarity regarding symptoms associated with acute bronchitis and to reflect recommendations from UpToDate and StatPearls.
- **Key Physical Assessment Findings:** The content in this section was updated and consolidated to reflect the current and best available literature. A new visual algorithm for presenting symptoms associated with bronchitis was also added to support the RN(c) in differential diagnosis.
- **Diagnostic Tests:** Recommendations for Electrocardiogram (ECG), Culture and Sensitivity (C&S) of sputum was removed as ECG and C&S are not recommended in the current literature. New diagnostic tests were added to support differential diagnosis. Of note, all RN(c) are required to follow agency policies and procedures when autonomously ordering diagnostic tests.
    - *Chest X-ray* was added to DST 401 to support RN(C)s in carrying out the necessary diagnostics to rule out pneumonia.

Care and Treatment Plan: Cardio-Respiratory (DST 401)

Content Change

Primary revisions of the Care and Treatment Plan for suite **Cardio-Respiratory** (DST 401) focused on clarifying the process of determining whether the presentation of acute bronchitis is viral or bacterial. The

Other examples of content changes include:

- **Goals of Treatment:** Antimicrobial stewardship and managing symptoms are the primary goals of treatment. As evidenced by a review of the literature, up to 90% of acute bronchitis cases are caused by viral organisms and do not require antibiotic therapy.
- **Pharmacological and Non-Pharmacological Interventions:** Antibiotic therapy was removed from the care and treatment plan to align with evidence recommendations and reflect the most common causes of acute bronchitis
- **Documentation:** The documentation sections of suite **Cardio-Respiratory** were updated to align with regulatory requirements.

Conclusion

Initial revisions for suite **Cardio-Respiratory** (DST 400-401) were informed by an evidence hierarchy and consultations with post-secondary representatives. Primary changes include the removal or relocation of content for the assessment and diagnostic guideline. Content revisions to enhance accuracy, clarity, and detail were carried out according to the NNPBC DST stewardship plan. Lastly, formatting and structural changes were made to ensure consistency and organization across all documents.