



APPENDIX B.

PICOS Questions by Chapter

Appendix B. PICOS Questions by Chapter

Exhibit B–1. PICOS Approach for Health Maintenance Chapter: Antibiotics

Patients	Children With SCD
Intervention	Prophylactic antibiotic therapy
Comparison	Placebo, no prophylactic antibiotic therapy
Outcomes	Incidence of relevant infections Incidence of relevant mortality Incidence of adverse effects of prophylactic antibiotics
Study Design	Randomized or nonrandomized studies with original data

Exhibit B–2. PICOS Approach for Health Maintenance Chapter: Screening

Patients	Individuals With SCD
Intervention	Screening strategies using the following tests: <ul style="list-style-type: none"> ▪ Electrocardiogram ▪ Echocardiogram ▪ Pulmonary function testing ▪ Renal function testing ▪ Serial eye/retinal examination ▪ Brain imaging ▪ Transcranial Doppler
Comparison	Control group in which no screening was provided
Alternate Study Type	Studies that compared patients identified by screening in an asymptomatic state; then those with positive screening tests were subjected to treatment vs. no treatment
Outcomes	Development of acute and chronic complications
Study Design	Randomized or nonrandomized (including noncontrolled studies)

Exhibit B–3a. PICOS Approach for Health Maintenance Chapter: Blood Pressure (Question 1)

Patients/Exposure	Individuals With SCD
Comparison	Age- or sex-matched healthy controls or patients with confirmed AA genotype
Outcomes	<ul style="list-style-type: none"> ▪ Diastolic, systolic, and mean blood pressure ▪ Prognosis of hypertension
Study Design	Randomized or nonrandomized studies with original data

Exhibit B–3b. PICOS Approach for Health Maintenance Chapter: Blood Pressure (Question 2)

Patients	Individuals With SCD and Hypertension
Comparison	Treatment of hypertension (pharmacological or lifestyle-based)
Outcomes	<ul style="list-style-type: none"> ▪ Cardiovascular and cerebrovascular outcomes ▪ Blood pressure control
Study Design	Randomized or nonrandomized studies with original data

Exhibit B–4. PICOS Approach for Acute and Chronic Complications Chapters

Patients	Patients With SCD and Chronic or Acute Complications
Intervention/ Comparison	Alternative management and diagnosis strategies
Outcomes	<p>Complication-specific outcomes including resolution of complication:</p> <ul style="list-style-type: none"> ▪ General SCD outcomes if relevant (death, stroke, pain crises, need for transfusion, hemoglobin and hemoglobin F levels) ▪ Outcomes of diagnostic studies: Accuracy of diagnosis if reported
Study Design	Randomized or nonrandomized studies include case reports of rare complications

Exhibit B–5. PICOS Approach for Hydroxyurea Chapter

Patients	Patients With SCD (for Hydroxyurea Harms, Studies in Non-SCD Patients Were Included)
Intervention	Hydroxyurea
Comparison	Usual care without hydroxyurea
Outcomes	<ul style="list-style-type: none"> ▪ Benefits of hydroxyurea: <ul style="list-style-type: none"> – Death – Stroke – Pain crises – Need for transfusion – Hemoglobin – Hemoglobin F levels ▪ Harms of hydroxyurea (adverse effects) ▪ Barriers to implementation of hydroxyurea treatment and interventions to overcome barriers ▪ Treatment protocols and monitoring parameters
Study Design	Randomized or nonrandomized design including case reports of rare complications

Exhibit B–6. PICOS Approach for Transfusion Chapter

Patients	Patients With SCD
Intervention	Acute or chronic transfusion
Comparison	Alternative transfusion strategies or alternative management other than transfusion
Outcomes	<ul style="list-style-type: none"> ▪ Complication-specific outcomes including resolution of complication ▪ General SCD outcomes if relevant: <ul style="list-style-type: none"> – Death – Stroke – Pain crises – Need for transfusion – Hemoglobin and hemoglobin F levels – Hemoglobin S concentration ▪ Outcomes of diagnostic studies: Accuracy of diagnosis if reported
Study Design	Randomized or nonrandomized including case reports of rare complications