

INPLASY

INPLASY202670083

doi: 10.37766/inplasy2026.7.0083

Received: 21 July 2026

Published: 21 July 2026

Corresponding author:

Halinder Mangat

hmangat@kumc.edu

Author Affiliation:

Kansas University Medical Center.

Traumatic Brain Injury (TBI) Management in Sub-Saharan Africa: A Scoping Review of Reported Acute Care Components and Outcomes

Bokova, E; Joseph, R; Wharton-Smith, A; Gulek, B; Ikwuegbuenyi, A; Mangat, HS.

ADMINISTRATIVE INFORMATION**Support** - No support.**Review Stage at time of this submission** - The review has not yet started.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202670083**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 21 July 2026 and was last updated on 21 July 2026.**INTRODUCTION**

Review question / Objective In patients with moderate-severe traumatic brain injury publications from Sub-Saharan Africa, how often are basic acute care treatment elements compared to advanced neurosurgical related elements described as indicators of outcome.

Rationale With numerous capacity building efforts related to traumatic brain injury ongoing globally, especially in Sub-Saharan Africa as a model, all efforts are implemented top-down by neurosurgical groups with neglect of basic acute care along the chain of trauma care. We performed this scoping review to examine scientific publication from sub-Saharan africa to determine how often basic acute care is examined as determined of outcomes compared to neurosurgical interventions.

Condition being studied Moderate-severe traumatic brain injury.

METHODS

Search strategy 1 exp Brain Injuries/ (28993)
 2 exp Craniocerebral Trauma/ (188529)
 3 exp Head Injuries, Closed/ (16795)
 4 exp Head Injuries, Penetrating/ (1203)
 5 exp Skull Fractures/ (23899)
 6 exp Intracranial Hemorrhage, Traumatic/ (14403)
 7 Coma, Post-Head Injury/ (130)
 8 Brain Concussion/ (12963)
 9 ((brain or skull or head or cranial or intracranial) adj3 (injur* or trauma* or damag* or fracture* or contusion*)).ti,ab. (151663)
 10 or/1-9 (259507)
 11 Angola/ (1212)
 12 (angola or reino de angola).ti,ab. (1638)
 13 Benin/ (2085)
 14 (Benin or Dahomey).ti,ab. (3786)
 15 Botswana/ (2331)
 16 (botswana or bechuana* or batswana).ti,ab. (2745)
 17 Burkina Faso/ (4350)
 18 (Burkina Faso or Burkina Fasso or Upper Volta).ti,ab. (5090)

- 19 Burundi/ (750)
- 20 Burundi.ti.ab. (972)
- 21 Cabo Verde/ (282)
- 22 (cabo verde or cape verde or kabu verdi).ti.ab. (694)
- 23 Cameroon/ (7091)
- 24 (cameroon or cameroun or kamerun).ti.ab. (7887)
- 25 Central African Republic/ (875)
- 26 (Central African Republic or Ubangi-Shari).ti.ab. (1118)
- 27 Chad/ (883)
- 28 Chad.ti.ab. (1456)
- 29 Comoros/ (399)
- 30 (Comoros or Comoro Islands or Mayotte or Iles Comores).ti.ab. (712)
- 31 "Democratic Republic of the Congo"/ (5468)
- 32 ((democratic republic adj2 congo) or belgian congo or zaire).ti.ab. (4867)
- 33 "Republic of the Congo"/ (2088)
- 34 ((republic adj2 congo) or congo-brazzaville or "middle congo" or "moyen- congo").ti.ab. (2852)
- 35 Cote d'Ivoire/ (3772)
- 36 (cote d'ivoire or ivory coast or (cote adj2 ivoire) or "Costa do Marfim").ti.ab. (4317)
- 37 Equatorial Guinea/ (341)
- 38 (equatorial guinea or spanish guinea or fernando po or rio muni or bioko).ti.ab. (558)
- 39 Eritrea/ (459)
- 40 Eritrea.ti.ab. (643)
- 41 Eswatini/ (820)
- 42 (eswatini or swaziland or (kingdom adj2 eswatini) or (kingdom adj2 swaziland) or swazi* or umbuso weswatini).ti.ab. (1153)
- 43 Ethiopia/ (23498)
- 44 Ethiopia.ti.ab. (23170)
- 45 Gabon/ (1728)
- 46 (gabon or gabun).ti.ab. (1967)
- 47 Gambia/ (2837)
- 48 Gambia.ti.ab. (2689)
- 49 Ghana/ (12873)
- 50 (ghana or gold coast).ti.ab. (13841)
- 51 Guinea/ (1407)
- 52 (Guinea not (New Guinea or Guinea Pig* or Guinea Fowl)).ti.ab. (4578)
- 53 Guinea-Bissau/ (1072)
- 54 (Guinea-Bissau or Portuguese Guinea).ti.ab. (1141)
- 55 Kenya/ (21116)
- 56 (kenya or british east africa).ti.ab. (21012)
- 57 Lesotho/ (599)
- 58 (lesotho or basutoland or basuto).ti.ab. (912)
- 59 Liberia/ (1477)
- 60 Liberia.ti.ab. (1789)
- 61 Madagascar/ (4153)
- 62 (Madagascar or Malagasy Republic).ti.ab. (5246)
- 63 Malawi/ (7340)
- 64 (Malawi or Nyasaland).ti.ab. (8416)
- 65 Mali/ (2903)
- 66 Mali.ti.ab. (4086)
- 67 Mauritania/ (533)
- 68 mauritania.ti.ab. (712)
- 69 Mauritius/ (648)
- 70 (mauritius or isle de france).ti.ab. (1006)
- 71 Mozambique/ (3353)
- 72 (Mozambique or Mocambique or Portuguese East Africa).ti.ab. (4403)
- 73 Namibia/ (1433)
- 74 (namibia or south west africa or deutsch-sudwestafrika).ti.ab. (1923)
- 75 Niger/ (1532)
- 76 (Niger not (Aspergillus or Peptococcus or Schizothorax or Cruciferae or Gobius or Lasius or Agelastes or Melanosuchus or radish or Parastromateus or Orius or Apergillus or Parastromateus or Stomoxys)).ti.ab. (3650)
- 77 Nigeria/ (36731)
- 78 nigeria.ti.ab. (31665)
- 79 Rwanda/ (3555)
- 80 (Rwanda or Ruanda).ti.ab. (3973)
- 81 "Sao Tome and Principe"/ (38)
- 82 ("sao tome and principe" or "são tomé and príncipe" or "st thomas and prince" or "saint thomas and prince").ti.ab. (178)
- 83 Senegal/ (6501)
- 84 senegal.ti.ab. (6240)
- 85 Seychelles/ (476)
- 86 seychelles.ti.ab. (812)
- 87 Sierra Leone/ (2126)
- 88 Sierra Leone.ti.ab. (2651)
- 89 Somalia/ (2060)
- 90 Somalia.ti.ab. (1659)
- 91 South Africa/ (52807)
- 92 ("south africa" or "union of south africa" or "Republic of South Africa").ti.ab. (39458)
- 93 South Sudan/ (339)
- 94 south sudan.ti.ab. (745)
- 95 Sudan/ (5470)
- 96 (sudan or anglo-egyptian sudan).ti.ab. (8521)
- 97 Tanzania/ (15196)
- 98 (Tanzania or Tanganyika or Zanzibar).ti.ab. (16044)
- 99 Togo/ (1357)
- 100 (Togo or Togolese Republic).ti.ab. (1696)
- 101 Uganda/ (17129)
- 102 Uganda.ti.ab. (17725)
- 103 Zambia/ (5978)
- 104 (zambia or "northern Rhodesia").ti.ab. (6370)
- 105 Zimbabwe/ (6914)
- 106 (Zimbabwe or Rhodesia).ti.ab. (6836)
- 107 subsaharan africa.mp. [mp=title, book title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept

word, rare disease supplementary concept word, unique identifier, synonyms, population supplementary concept word, anatomy supplementary concept word] (157)
 108 Africa South of the Sahara.mp. [mp=title, book title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms, population supplementary concept word, anatomy supplementary concept word] (18099)
 109 ("sub-Saharan Africa" or "sub Saharan Africa" or "subsaharan Africa" or "Africa south of the Sahara").ti,ab. (27267)
 110 /or 11-109
 111. (systematic adj (review\$1 or overview\$1)).tw.
 112. exp Review Literature as Topic/
 113. or/111-112
 114. cochrane.mp.
 115. embase. mp.
 116. (psychlit or psyclit).mp.
 117. (psychinfo or psycinfo).mp.
 118. (cinahl or cinhal).mp.
 119. science citation index.mp.
 120. bids.mp.
 121. cancerlit.mp.
 122. or/114-121
 123. Comment/
 124. Letter/
 125. Editorial/
 126. 123 or 124 or 125
 127. 113 or 122
 128. 127 not 126
 131. Randomized Controlled Trials as Topic/
 132. randomized controlled trial/
 133. Random Allocation/
 134. Double Blind Method/
 135. Single Blind Method/
 136. clinical trial/
 137. clinical trial, phase i.pt
 138. clinical trial, phase ii.pt
 139. clinical trial, phase iii.pt
 140. clinical trial, phase iv.pt
 141. controlled clinical trial.pt
 142. randomized controlled trial.pt
 143. multicenter study.pt
 144. clinical trial.pt
 145. exp Clinical Trials as topic/
 146. or/131-145
 147. (clinical adj trial\$.tw
 148. ((singl\$ or doubl\$ or treb\$ or tripl\$) adj (blind\$3 or mask\$3)).tw
 149. PLACEBOS/
 150. placebo\$.tw
 151. randomly allocated.tw

152. (allocated adj2 random\$.tw
 153. or/147-152
 154 146 or 153
 155 case report.tw
 156 letter/
 157 historical article/
 158 or/155-177
 159 154 not 158
 161 Epidemiologic studies/
 162 Exp case control studies/
 163 Exp cohort studies/
 164 Case control.tw.
 165 (cohort adj (study or studies)).tw.
 166 Cohort analy\$.tw.
 167 (Follow up adj (study or studies)).tw.
 168 (observational adj (study or studies)).tw.
 169 Longitudinal.tw.
 170 Retrospective.tw.
 171 Cross sectional.tw.
 172 Cross-sectional studies/
 173 or/161-172
 174. or/10,110,128,159,173
 181. animal
 182. human/
 183. 181 not (181 and 182)
 184. 174 not 183.

Participant or population Moderate-severe traumatic brain injury.

Intervention Basic Acute care diagnostic and interventions: airway, breathing, circulation, hypotension, hypoxia, neurological impairment.

Comparator Compared to Computed tomography, neurosurgical intervention.

Study designs to be included Observational Cohort; randomized clinical trials, systematic reviews.

Eligibility criteria Human, Moderate-severe traumatic brain injury, published on cohorts from sub-saharan africa.

Information sources Ovid Medline
 Embase
 CINAHL
 Cochrane systematic reviews.

Main outcome(s) Inclusion of acute basic care (ABCD) and CT scanning and neurosurgical interventions elements as determinants of outcomes.

Data management Using Microsoft Excel.

Quality assessment / Risk of bias analysis Not applicable.

Strategy of data synthesis Only counts.

Subgroup analysis Not applicable.

Sensitivity analysis Not applicable.

Language restriction English.

Country(ies) involved United States - Kansas University Medical Center.

Keywords Traumatic brain injury, basic acute care, neurosurgical interventions, computed tomography.

Dissemination plans Publication in scientific journal, social media, global health outlets and social media platforms, scientific conferences.

Contributions of each author

Author 1 - Elizaveta Bokova - Literature search, snowball searching, filtering and study selections, data extraction, data analysis, manuscript writing.

Email: eobokova@gmail.com

Author 2 - Rohan Joseph - Literature search, snowball searching, filtering and study selections, data extraction, manuscript editing.

Email: rohanjoseph621@gmail.com

Author 3 - Alexandra Wharton-Smith - Literature search, snowball searching, filtering and study selections, data extraction, manuscript drafting.

Email: alexa.international@gmail.com

Author 4 - Bernice Gulek - Literature search, snowball searching, filtering and study selections, data extraction, manuscript drafting.

Email: ggulek@gmail.com

Author 5 - Anthony Ikwuegbuenyi - Filtering and study selections, data extraction, manuscript drafting.

Email: cai4001@med.cornell.edu

Author 6 - Halinder Mangat - Study design, search strategy, literature search, resolving conflicting data selection, data extraction, manuscript drafting.

Email: hmangat@kumc.edu