

## Supplemental file 1

### Search strategy for MEDLINE via PubMed, CINAHL, Cochrane, and Embase.

A preliminary search was conducted 21. of September 2020 according to the PCC-grid in table 1. This search resulted in 1273 hits.

A second search was conducted 15. of December 2020 as shown in tables 2-5. This time adding terms concerning safety and cost-benefit and removing the terms Mobile health units, Quality of life and Quadruple aim. This search resulted in 1495 hits.

The total results of both searches was 2309 hits when duplicates were removed.

Limits: English language.

**Table 1. PCC-grid.**

	Participants	Concept	Context
Definition	Community paramedic	Cost-benefit analysis Safety	Rural area
MeSH-terms	Emergency Medical Technician Allied Health Personnel Emergency Medical Services Mobile Health Units	Analysis, cost benefit Cost-savings Health care cost Costs and cost analysis Safety Quality of Life	Rural Health Rural Health Services Rural Population
Text words in T/A	Emergency Medical Technician Emergency Medical Services Paramedic* Community Paramedicine Paramedic Practitioner	Analysis, cost benefit Cost-savings Health care cost Costs and cost analysis Safety Quadruple Aim	Rural health Rural population Rural health services

**Table 2. Search strategy in Medline via PubMed.**

<i>Community paramedic MeSH</i> [Medical Subject Headings]
1. Emergency Medical Technician (5737)
2. Allied Health Personnel (50177)
<i>Community paramedic</i> [Text words]
3. Emergency Medical Technician (379)
4. Allied Health Personnel (12015)
5. Community health workers (7640)
6. Emergency Medical Services (46758)
7. Paramedic (2624)
8. Paramedics (3917)
9. <b>or/1-8</b> [Community paramedic MeSH and Text words] <b>(97,679)</b>
<i>Cost-benefit analysis MeSH</i> [Medical Subject Headings]
10. Costs and cost analysis (240612)
<i>Cost-benefit analysis</i> [Text words]
11. Cost benefit analysis (84551)
12. Cost-savings (23279)
13. Health care cost (2232)
14. Costs 52787
15. Cost comparison (1017)
16. Health expenditures (21801)
17. Cost Measures (206)
18. <b>or/10-17</b> [Cost-benefit analysis MeSH and Text words] <b>(251,949)</b>
<i>Safety MeSH</i> [Medical Subject Headings]
19. Safety (81927)
20. Risc (1233809)
21. Medical errors (114406)
<i>Safety</i> [Text words]
22. Safety (587104)
23. Risk (2623006)
24. Adverse effect (31522)
25. Adverse effects (1852636)
26. Medical error (1749)
27. Medical errors (18914)
28. Patient harm (1741)
29. Patient Safety (46114)
30. <b>or/19-29</b> [Safety MeSH and Text words] <b>(4,526,513)</b>
31. <b>18 or 30</b> [Safety or Cost-benefit MeSH and Text words] <b>(4,723,505)</b>
<i>Rural area MeSH</i> [Medical Subject Headings]
32. Rural Health (23484)
33. Rural Health Services (13049)
34. Rural Population (60711)
<i>Rural area</i> [Text words]
35. Rural health (38996)
36. Rural population (64565)
37. Rural health services (13369)
38. Rural Communities (7359)
39. Rural Community (5241)
40. <b>or/32-39</b> [Rural area MeSH and Text words] <b>(101353)</b>
41. <b>9 and 31 and 40</b> [Community paramedic and (Safety or Cost-benefit) and Rural area MeSH and text words] <b>(669)</b>
42. <b>Filter:</b> English language <b>(653)</b>

**Table 3. Search strategy in Cinahl.**

MM=major headings, AB=abstract

<i>Community paramedic MM</i> [Subject Headings]
1. Allied health personnel (2533)
2. Rural health personnel (395)
<i>Community paramedic AB</i> [Text words in abstract]
3. "Emergency Medical Technician*" (655)
4. "Allied Health Personnel*" (58)
5. "Community health workers*" (1850)
6. "Emergency Medical Service*" (4033)
7. Paramedic* (4005)
8. <b>or/1-7</b> [Community paramedic MM and AB] <b>(12,304)</b>
<i>Cost-benefit analysis MM</i> [Subject Headings]
9. Costs and cost analysis (4067)
<i>Cost-benefit analysis AB</i> [Text words in abstract]
10. "Cost benefit analysis" (724)
11. Cost-savings (7613)
12. "Health care cost*" (5792)
13. Cost* (152912)
14. "Cost* comparison*" (274)
15. "Health expenditure*" (1454)
16. "Cost Measure*" (157)
17. <b>or/9-16</b> [Cost-benefit analysis MM and AB] <b>(156,017)</b>
<i>Safety MM</i> [Subject Headings]
18. Patient Safety (30654)
19. Health Care Errors (2226)
<i>Safety AB</i> [Text words in abstract]
20. Safety (143288)
21. Risk (632025)
22. "Adverse effect*" (32598)
23. "Medical error*" (2251)
24. "Patient harm" (978)
25. "Patient Safety" (16310)
26. <b>or/18-25</b> [Safety MM and AB] <b>(781,678)</b>
27. <b>17 or 26</b> [Safety or Cost-benefit MM and AB] <b>(897,447)</b>
<i>Rural area MM</i> [Subject Headings]
28. Rural Health (3735)
29. Rural Health Services (4739)
30. Rural Population (4196)
<i>Rural area AB</i> [Text words in abstract]
31. "Rural health" (1948)
32. "Rural population" (912)
33. "Rural health services" (123)
34. "Rural Communit*" (4413)
35. <b>or/28-34</b> [Rural area MM and AB] <b>(17,398)</b>
36. <b>9 and 27 and 35</b> [Community paramedic and (Safety or Cost-benefit) and Rural area MM and AB] <b>(90)</b>
37. <b>Filters:</b> English language, humans, <b>Exclude:</b> medline records <b>(17)</b>

**Table 4. Search strategy in Cochrane.**

ti = title, ab = abstract, kw = keyword

<i>Community paramedic MeSH</i> [Medical Subject Headings descriptor]
1. Allied Health Personnel (1179)
2. Emergency Medical Services (3894)
3. Mobile health units (66)
<i>Community paramedic</i> [Text words in (ti,ab,kw)*]
4. Emergency Medical Technician (335)
5. Allied Health Personnel (372)
6. Community health workers (2951)
7. Emergency Medical Services (4288)
8. Mobile health units (1261)
9. Paramedic* (1158)
10. <b>or/1-9</b> [Community paramedic MeSH and Text words] <b>(12,708)</b>
<i>Cost-benefit analysis MeSH</i> [Medical Subject Headings descriptor]
11. Costs and cost analysis (10573)
<i>Cost-benefit analysis</i> [Text words in (ti,ab,kw)*]
12. Costs and cost analysis (37726)
13. Cost benefit analysis (12223)
14. Cost-savings (2412)
15. Health care cost (20304)
16. Costs (30108)
17. Cost comparison (8554)
18. Health expenditures (804)
19. Cost Measures (9080)
20. <b>or/11-19</b> [Cost-benefit analysis MeSH and Text words] <b>(57,855)</b>
<i>Safety MeSH</i> [Medical Subject Headings descriptor]
21. Safety (3935)
<i>Safety</i> [Text words in (ti,ab,kw)*]
22. Safety (235889)
23. Risk (231552)
24. Adverse effect* (253130)
25. Medical error* (3085)
26. Patient harm (1785)
27. Patient safety (73630)
28. <b>or/21-27</b> [Safety MeSH and Text words] <b>(565,707)</b>
29. <b>20 or 28</b> [Safety or Cost-benefit MeSH and Text words] <b>(599,070)</b>
<i>Rural MeSH</i> [Medical Subject Headings descriptor]
30. Rural Health (524)
31. Rural Health Services (340)
32. Rural population (1694)
<i>Rural area</i> [Text words in (ti,ab,kw)*]
33. Rural health (5970)
34. Rural health service* (2008)
35. Rural population (3799)
36. Rural Communit* (3554)
37. <b>or/30-36</b> [Rural area MeSH and Text words] <b>(7,689)</b>
38. <b>10 and 29 and 37</b> [Community paramedic and (Safety or Cost-benefit) and Rural area MeSH and Text words] <b>(434)</b>

**Table 5. Search strategy in Embase.**

mp = title, abstract, subject headings, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword

<i>Community paramedic</i> [Emtree-term] 1. Rescue personnel (3,917) 2. Paramedical personnel (6,627)
<i>Community paramedic</i> [Keyword .mp] 3. "Emergency Medical Technician" (511) 4. "Allied Health Personnel" (360) 5. "Community health worker*" (5,763) 6. "Emergency Medical Service*" (14,686) 7. Paramedic* (27,665)
<b>8. or/1-7 [Community paramedic Emtree-term and Keyword] (48,751)</b>
<i>Cost-benefit analysis</i> [Emtree-term] 9. Cost benefit analysis (11,812)
<i>Cost-benefit analysis</i> [Keyword .mp] 10. "Cost benefit analysis" (11812) 11. Cost-savings (7613) 12. "Health care cost*" (23332) 13. Cost* (1110639) 14. "Cost* comparison*" (2274) 15. "Health expenditure*" (5221) 16. "Cost Measure*" (662)
<b>17. or/9-16 [Cost-benefit analysis Emtree-term and Keyword] (1,111,562)</b>
<i>Safety</i> [Emtree-term] 18. Safety (56780) 19. Risk (61887) 20. Medical error (8021)
<i>Safety</i> [Keyword .mp] 21. Safety (1178221) 22. Risk (3988547) 23. "Medical error*" (22105) 24. "Adverse effect*" (253851) 25. "Patient harm" (3628) 26. "Patient Safety" (138723)
<b>27. or/18-26 [Safety Emtree-term and Keyword] (5,026,586)</b>
<b>28. 20 or 28 [Safety or Cost-benefit Emtree-term and Keyword] (5,862,751)</b>
<i>Rural</i> [Emtree-term] 29. Rural health care/ or rural health/ or rural population/ (60048)
<i>Rural area</i> [Keyword .mp] 30. "Rural health" (19283) 31. "Rural population" (50269) 32. "Rural health service*" (717) 33. "Rural Communit*" (14502)
<b>34. or/29-33 [Rural area Emtree-term and Keyword] (71,212)</b>
<b>35. 8 and 28 and 34 [Community paramedic and (Safety or Cost-benefit) and Rural area Emtree-term and Keyword] (391)</b>