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1 **Motivating Factors for Participating in the Geriatric Emergency Medicine Guidelines 2.0**

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84 **Abstract**

85 **Background:** One in five emergency department (ED) visits is by older adults aged 65+.
86 Clinical practice guidelines are needed to optimize patient care by translating the best available
87 evidence into actionable recommendations to guide person-centered management for this
88 medically complex and growing patient population. Our objective was to understand
89 contributors' experiences and share best practices to inform other guideline working groups.

90 **Methods:** We conducted a qualitative study based on thematic analysis with an interpretivist
91 paradigm in June-July 2025, using semi-structured interviews of Geriatric Emergency
92 Department (GED) Guidelines 2.0 contributors to understand their experiences. Interviews were
93 transcribed, independently reviewed by team members, and reflexively coded to identify themes.

94 **Results:** We interviewed 18 participants. Four main themes emerged: 1) motivations for
95 participation, 2) varying opportunities to be involved, 3) personal benefits, and 4) challenges for
96 improvement. Participants contrasted the strengths of shared learning and development with the
97 burdens of organization and coordination.

98 **Conclusion:** Contributors to the GED Guidelines 2.0 reported a positive experience. They joined
99 because they wanted to contribute to better care of older patients and to achieve personal and
100 professional goals. Many cited that their roles aligned with their strengths and expertise. They
101 also gained skills and knowledge on systematic reviews and benefited from networking. Future
102 groups planning a similar process should consider having multiple levels of leadership, experts in
103 systematic reviews, regular reminders, and creative incentives to improve the process and foster
104 improved networking opportunities within their disciplines.

105 **Key words:** geriatric, clinical practice guidelines, scholarly volunteering, community of practice,
106 best practices

107

108 **Introduction**

109 Older people, ages 65 years and above, accounted for 21.2% of Emergency Department
110 (ED) visits at a rate of 58.4 visits per 100 people in the United States in 2022.¹ Older patients
111 typically have greater socioeconomic, functional, cognitive, and caregiving needs than younger
112 patients and require tailored care. Applying practices and guidelines developed from evidence
113 for younger patients to this group can be potentially harmful.^{2,3} Even more so, management of
114 older adults who often have non-specific presentations, multiple comorbidities, and multilevel
115 needs is complex to deliver appropriately in EDs.⁴ Factors contributing to this challenge include
116 the lack of relevant guidelines and resources for their implementation, workflow implementation
117 challenges, and differing priorities among ED staff.⁵ Early, summary level guidelines for
118 Geriatric Emergency Medicine (GEM) were designed to assist in the care of older adults by
119 advocating for a more person-centered and holistic approach, but these are now dated.⁶

120 Clinical practice guidelines (CPGs) optimize patient care by translating the best available
121 evidence into actionable recommendations that help clinicians and patients make informed
122 decisions. CPGs are developed through systematic reviews of the literature, weighing the
123 benefits and harms of interventions, and considering patient values, preferences, and resource
124 implications. Guidelines establish recommendations that, if supported by substantial evidence,
125 become standards of care and guide medical professionals' decision-making.⁷ These tools have
126 been part of clinical practice at multiple levels, from bedside to global-scale decisions.⁸ CPGs
127 also help bring attention to potentially harmful interventions, improve consistency of care, and
128 influence public policy.⁹ A systematic review on the implementation of CPGs reported
129 improvements in the structure and process of care in 17 of 19 studies and in patients' health
130 outcomes in 6 of 9 studies.¹⁰ Hughes et al. reported an overall positive effect of ED interventions
131 on older patients' functional status when guidelines were followed.¹¹

132 The Grading of Recommendations Assessment, Development and Evaluation (GRADE)
133 approach has often been used to guide the creation of CPGs providing a transparent, standardized
134 framework for assessing both the quality of evidence and the strength of recommendations. This
135 approach enhances the clarity, reliability, and applicability of guidelines, and facilitates shared
136 decision-making when evidence is uncertain or patient preferences vary.¹² Developing effective
137 CPGs also relies on having a multidisciplinary group of experts, including patients with lived
138 experiences when appropriate, with varying expertise and perspectives.¹³

139 The first Geriatric ED guidelines were published in 2014. To update these initial best
140 practices the Geriatric Emergency Department (GED) Guidelines 2.0 group was created.¹⁴ The
141 initiative for this group started in 2019, has grown to over 60 members, and followed the
142 GRADE methodology. A first-of-its-kind, the GED Guidelines 2.0 group is composed of largely
143 volunteer emergency physicians, geriatricians, nurses, and allied health professionals from all
144 over the world. This collaborative has already published 11 related articles providing evidence
145 syntheses on medication safety, imaging, frailty, dementia, and delirium for the CPGs.¹⁴⁻²⁴ An
146 annotated bibliography of these publications is available in Supplement 1.

147 Given that the GED Guidelines 2.0 is the first emergency medicine (EM) specialty group
148 to create GRADE guidelines, there is a lack of knowledge of why participants volunteer their
149 time to this lengthy and time-consuming endeavor. Hence, the objective of this study was to
150 better understand the experiences of those contributors to ultimately help guide other EM
151 specialties who are considering creating their own guidelines.

152 **Methods**

153 **Study Design**

154 We conducted a qualitative study based on thematic analysis and informed by an
155 interpretivist paradigm, using virtual semi-structured interviews in June and July of 2025.²⁵⁻²⁷
156 Participants included members of GED Guidelines 2.0 from various institutions worldwide. The

157 study was approved by our hospital Institutional Review Board. The methodology and reporting
158 of this study fulfilled the Consolidated Criteria for Reporting Qualitative Research (COREQ) and
159 the Standards for Reporting Qualitative Research (SRQR) checklists [Supplements 2 and 3].

160 **Subject Selection/Enrollment**

161 We recruited 23 out of 64 members from the GED Guidelines 2.0 group, which consists
162 of an international cohort of participants. Given that the creation of the GED Guidelines 2.0
163 group originated from GEM interest groups emails, the GED Guidelines 2.0 group overall
164 primarily consists of ED physicians. Nurses, pharmacists, occupational and physical therapists,
165 and medical trainees joined largely by word of mouth. We recruited participants based on
166 convenience sampling. The PI and co-leader of the GED Guidelines group (SWL) provided a
167 comprehensive list of emails of participating members. Interested members responded to the
168 recruitment email and completed a pre-interview survey to collect demographic variables using
169 REDCap electronic data capture tools hosted at our hospital. Participants were recruited until
170 data saturation was reached.

171 **Instrument Development**

172 Interviews used a topic guide of 16 open-ended questions [Supplement 4], developed
173 based on the instrument used by Krczal, E, 2024.²⁸ The questions were modified, and additional
174 probing questions were added to better fit the context of clinical research collaborative groups
175 and, specifically, the GED Guidelines 2.0 group based on co-authors' extensive experience
176 conducting qualitative research. We piloted our interview guide with a similar cohort who was
177 not eligible to participate in this study and adjusted the questions and probing questions for
178 clarity and to better fit the allotted interview time of 30 minutes. The final version of our
179 instrument was divided in 4 themes: (1) Experience in the GED Guidelines group, (2)
180 Organization, (3) Communication, and (4) Leadership.

181 **Data Collection**

182 Upon responding to a recruitment email and consenting, participants were prompted to
183 complete a 10-question online survey (using REDCap) which served to collect demographic
184 variables such as gender, age, race/ethnicity, country of birth and residency, professional role,
185 and involvement in the GED Guidelines 2.0.²⁹ Interviews lasted approximately 30 minutes each
186 and were conducted virtually by a trained member of the research team, CDH, a female
187 physician (MD) and emergency medicine resident with no prior relationship to the participants.
188 CDH is the only member who knows the identity of the final participants. The participants were
189 informed that the interviewer was a clinician-researcher interested in Geriatric Emergency
190 Medicine. The interviews were conducted and recorded over the software Zoom, then transcribed
191 by TranscribeMe, an online transcription service. Member checking included the constant
192 comparative method and an opportunity for interviewees to review their transcripts to resolve

193 inconsistencies. Each transcript was de-identified prior to analysis. No demographic information
194 remained attached.

195 **Analysis**

196 Data were analyzed using thematic analysis, following both inductive and deductive
197 coding processes.³⁰ Transcripts of interviews were independently reviewed and coded by two
198 study members (GW, CDH) using an inductive approach, and themes emerged during group
199 discussion. We conducted interim analysis, and interviews ended upon reaching thematic
200 saturation when no new themes emerged.

201 **Results**

202 Out of 64 GED Guidelines 2.0 members, 18 (28%) participants were interviewed. Fifty-
203 six percent of the participants were men and the age range was wide (Table 1). Thirteen
204 participants (72%) self-identified as White, 2 (11%) as Asian, and 1 (6%) as Middle Eastern.
205 Fourteen (78%) were attending physicians, 1 (6%) was nurse, 2 (11%) were resident physicians,
206 and 1 (6%) was a student. Eleven (61%) reported being involved in 1 GED Guideline 2.0 group,
207 6 (33%) in 2 groups, and 1 (6%) in 3 groups. Four (22%) were not involved in any other research
208 collaborative groups while 14 (78%) were. In terms of when participants joined the GED
209 Guidelines 2.0 group, 4 (22%) joined in 2020, 5 (28%) in 2021, 2 (11%) in 2022, 2 (11%) in
210 2023, and 5 (28%) in 2024.

211

212 **Table 1. Participant Characteristics**

	Total (n=18) n (%)
Gender	
Female	8 (44)
Male	10 (56)
Age Group (years)	
Under 25	0 (0)
25-34	4 (22)
35-44	5 (28)
45-54	4 (22)
55-64	3 (17)
65 and above	1 (6)
N/A	1 (6)
Race/ethnicity	
Asian	2 (11)
Middle Eastern	1 (6)
White	13 (72)
Prefer not to answer	2 (11)
Country of Residence	

Canada	2 (11)
Switzerland	2 (11)
United Kingdom	1 (6)
United States	13 (72)
Professional Role	
Attending Physician	14 (78)
Nurse	1 (6)
Resident Physician	2 (11)
Student	1 (6)
Number of GED* Guidelines 2.0 groups involved	
1	11 (61)
2	6 (33)
3	1 (6)
Involved in other research collaborative groups	
No	4 (22)
Yes	14 (78)
Year joined GED Guidelines 2.0	
2020	4 (22)
2021	5 (28)
2022	2 (11)
2023	2 (11)
2024	5 (28)

213 *GED= Geriatric Emergency Department

214

215 **Theme 1: Motivations for participation - improving geriatric ED care**

216 Participants largely reported wanting to improve the care of geriatric patients as the
217 motivation for participating in the GED Guidelines. Specifically, they reported a passion and
218 interest in geriatric ED care and a desire to improve care for older adults. Many participants
219 joined because the topics aligned with their work and interest in the care of older adults in EDs.
220 One mentioned:

221 *that [geriatric] group in particular needs a lens focused on it to make sure that the care*
222 *we're providing fits with what the patient would actually want, that the risks and benefits*
223 *of the interventions we do is understood so that we're not doing interventions that people*
224 *may think are going to be helpful that aren't as likely to be helpful. -IV4*

225 Many others also mentioned joining the GED Guidelines 2.0 group because they wanted
226 to contribute by sharing their expertise and improve care for their geriatric patients because

227 ... at the end of the day, one of my goals as an emergency physician is not just to provide
228 good care to the patients I see, but... help shape the way we provide care to patients at
229 large in US emergency medicine (IV4).

230 Others expressed the importance of these guidelines in their line of work and de-
231 implementation:

232 *My goals for the project are the same goals as everybody, which are to ensure that the*
233 *guidance that we provide about older adult patients and their management in the ED is*
234 *consistent with best available evidence... I've been a part for many years in advocating*
235 *for improving care for older adults in the ED... just because certain things we think help*
236 *older adults doesn't mean that they necessarily do. -IV13*

237 Another mentioned needing guidelines for geriatric patient care, especially in EDs:

238 *... is long overdue. We see a lot of geriatric patients. They need a lot of specialized care.*
239 *And we really don't know how to do that, and we don't have anything to guide us.*
240 *General emergency medicine guidelines don't really always apply to older adults. And*
241 *any geriatric guidelines don't also apply because they're talking about a different setting.*
242 *We have a very unique setting. We have a lot of unique challenges. -IV19*

243

244 **Theme 2: Varying opportunities to be involved**

245 The GED Guidelines 2.0 group had varying opportunities to be involved, not only by
246 training level and experience as a student, nurse, attending, or resident but also by project role.
247 Because this was largely a volunteer group, there were no barriers to anyone joining and
248 contributing to any group or subcommittee.

249 The process of assigning specific roles to each subgroup varied. One assumed a
250 leadership role “because I had written one scoping review and taken one class on systematic
251 reviews, I had the most experience in the group and so have been leading the group” (IV3).
252 Another shared:

253 *It was a good opportunity to influence policy and practice using my background as a*
254 *researcher. I'm a research methodologist. [I have] a unique perspective, an*
255 *interdisciplinary perspective, to contribute to guidelines that support not only clinical*
256 *practice and policy, but accreditation moving forward. -IV5*

257 Many reported that their contributions played to their strengths. One mentioned that “I'm
258 like the citation and figure guy. So I'm more on the artsy side. So I like to make nice-looking
259 figures and pull data in a way that's ... like layman's terms so anybody can understand it. And
260 citations. I'm very good at organizing things. And I'll read something and I'll be able to pull a
261 citation out” (IV1). Many also had their roles change as projects further developed:

262 *I suppose, methodological input firstly, and then a specific expertise on outcomes, and*
263 *then a collaborator on the systematic reviews in terms of article selection and paper*
264 *writing. -IV10*

265 Participants' roles also varied. Leaders of subcommittees were involved with:

266 *I am the leader of ... subcommittee... So far, what that's entailed is I've organized the*
267 *group, recruited the participants for the group, and I lead the monthly meetings ... with*
268 *the assistance of several colleagues have helped to divide the various tasks -IV13*

269 A participant reported performing more administrative tasks by “*scheduling members of*
270 *the group and organizing meetings and all that*” (IV6). Many helped with coming up with
271 Patient/Problem, Intervention, Comparison, and Outcome (PICO) questions, data collection, risk
272 of bias analysis, data analysis and/or drafting manuscripts.³¹

273

274 **Theme 3: Personal Benefits from participating in the GED Guidelines 2.0 group**

275 Participants reported multiple personal benefits from participating in the GED Guidelines
276 2.0 group, such as 1) networking, 2) learning about systematic reviews, 3) methodology, and 4)
277 academic growth and professional goals. Many expressed gratitude and excitement regarding
278 networking “*with a lot of people*” (IV5) and helping “*me connect with a lot of other geriatric*
279 *researchers across the country*” (IV2). Another mentioned that:

280 *It's been amazing to be a part of this for there to be so many collaborators from*
281 *all over the world. And they're such experts in this field. And so I just feel really grateful*
282 *that as a student and then as a young resident to get to see what this is like has been*
283 *really incredible. -IV18*

284 *I've had the pleasure and luxury of working with some of the smartest people in*
285 *geriatric emergency medicine... It's great to not just understand more about their thought*
286 *processes and their research in these specific topics, but also understand how to place*
287 *that in the bigger context of fame. -IV19*

288 Many also expressed that with this unique group being multidisciplinary and including
289 researchers from all over the world, they have learned a lot more about teamwork and
290 “*communicating with a lot of authors, trying to juggle all the different personalities and what*
291 *different people like*” (IV1). Participants also benefited from joining the GED Guidelines 2.0
292 group and developed methodological skills. One mentioned that “*I think getting to lead the*
293 *group was a good professional growth experience. I think learning about systematic reviews was*
294 *great*” (IV2). Another mentioned:

295 *I've also learned a lot just on how to run a systematic review through being*
296 *involved in that team... So developing a protocol, doing the literature review, doing the*
297 *data collection, all that's been new. -IV4*

298 Most participants also wanted to learn more about certain parts of clinical research, such
299 as the GRADE approach, conducting systematic reviews and meta-analyses, implementing
300 clinical policy-making, and guideline development. Many had taken courses surrounding such
301 topics, "*But taking the classes is not the same as doing it in real life. So I feel like I am*
302 *continuously learning*" (IV3).

303 Participants in our study also reported they were looking for academic growth or
304 demonstrating academic contribution for advancement purposes and obtaining academic credit in
305 the form of publications and involvement in national organizations. A few were invited to join by
306 their mentor or advisor:

307 *I was part of the GEAR Research Network. And as part of that, they had different*
308 *research priorities and different domains that aligned with the GED guidelines work...*
309 *When I started my fellowship and started networking and getting involved in various*
310 *networks, like GEAR, the GED Guidelines 2.0 started. I was invited to participate by my*
311 *mentor who encouraged me based on my research interest to lead the... group. -IV17*

312 A few sought academic advancement or credit through the GED guidelines:

313 *Another reason that I joined is because our promotion, academic promotion, and*
314 *in our case, our salary is linked to academic promotion. Promotion is made easier or is*
315 *granted when you are involved in national organizations that allow you to share your*
316 *expertise, disseminate your knowledge. And so it is part of the game in academic*
317 *medicine to get involved on a national level with groups around areas of interest. -IV9*

318

319 **Theme 4: Challenges for Improvement/Lessons learned**

320 When asked about lessons learned, participants agreed on a few things. The
321 overwhelming majority said that though the projects lasted a lot longer than expected,
322 organization was key to success not just in producing deliverables but also in having a good
323 experience. They appreciated "*breaking the whole project down into subgroups and having each*
324 *subgroup have different leaders*" (IV3) and having "*one central communicator, communicating*
325 *with multiple different groups, and then bringing them together as a whole*" (IV1). Another
326 mentioned:

327 *For a group doing systematic reviews, you need a leader to keep everyone in line. You*
328 *need someone who has experience doing the statistical analyses and the meta-analyses*
329 *and making all the tables. You need enough people to do the data abstraction, the risk of*
330 *bias... And we're all working other lives. This is not paid work, so we're doing it in our*
331 *spare time, amongst other things. -IV3*

332 Another crucial factor that participants mentioned helped tremendously and would like
333 more of during the 5 years of work was the amount of expertise in group members:

334 *I would make sure that I invite people who have done this previously. I think that*
335 *experience and expertise is really critical in making this work. So I would want to make*
336 *sure that we had people who could be the expert mentors and then also people who were*
337 *leading the groups that had some familiarity with kind of where we were hoping to get*
338 *towards at the end. -IV18*

339 Many participants shared that communication was challenging due to collaborators
340 coming from different time zones, and a lot of this work started around the time the COVID-19
341 pandemic started. Many recommended an alternative inclusive channel for communication like
342 Slack. Many also requested having more reminders and updates, especially because members
343 joined and left the group throughout the years:

344 *I think more reminders about timelines and such could have been helpful. But at the end*
345 *of the day, they're busy emergency clinicians, and they have their own grants and*
346 *projects to get done themselves. So it's free work. That's the thing we forget is that these*
347 *clinicians and doctors who get paid quite well are doing free work for a good cause. And*
348 *so I think we need to sometimes offer some leniency on that. -IV5*

349 Another participant mentioned what would have been more helpful would be an
350 organized document such that:

351 *I would give everybody a one sheet page of start date, end date, writing time here,*
352 *abstraction here, deciding on the question here. You know I would have just said I would*
353 *have just said mid-April, we got to have this done. Got to have the first draft by here,*
354 *second draft by here. That's the one thing I would do next time.... -IV8*

355 Finally, a few participants recommended having a way to motivate as well as thank
356 people for volunteering their time:

357 *I think members need some kind of incentive other than goodwill. And money is not really*
358 *too much of an incentive for us... We offer manuscript authorship, but we're doing two*
359 *PICO questions, and there's only potentially four manuscripts... maybe the guideline*
360 *leadership can send a certificate of appreciation... Those are free, and it just takes time*
361 *to make it nice. But it could be a motivator for somebody. -IV7*

362 With regards to giving credit to anybody involved in the projects, another participant
363 mentioned:

364 *With a group this large... you can't have 500 people on one manuscript... everyone*
365 *should get recognition. [It is] hard to tease out who should get recognized and who*
366 *doesn't... But then you only have one first author, usually, and one senior author... [It*
367 *would be good] for the people who put in above and beyond who have really been*
368 *invested but didn't get first or senior authorship had other opportunities to really get*
369 *recognized. -IV17*

370 Ultimately, many agreed that keeping people engaged over such a long period is
371 challenging:

372 *This is a really big undertaking with lots of enthusiastic people. And it's a process that's*
373 *taking a very, very long time. And thinking about how to keep people engaged and to*
374 *ensure that people's effort is recognized gets increasingly challenging in a large project*
375 *with a long timeframe. -IV13*

376

377 **Discussion**

378 We found that despite having to balance clinical, administrative, academic, and other
379 responsibilities, GED Guidelines 2.0 members reported participating because they desired to
380 contribute to better care for their geriatric patients and to achieve personal and academic goals.
381 Further, participants reported that despite limited experience with systematic reviews, there were
382 multiple opportunities to be involved. Future projects though should ensure adequate
383 participation by more experienced participants.

384 Participants in this study largely reported joining the GED Guidelines 2.0 group because
385 of their work and interests caring for geriatric patients in the ED, wanting to improve their care,
386 and recognizing that current ED guidelines are insufficient for guiding care for older adults.
387 There is a paucity of literature on why people join large, international, primarily voluntary,
388 especially in the field of emergency medicine. Our overall findings match those of Spence et al.,
389 who interviewed early- and mid-career researchers and found 6 main categories of involvement
390 in interdisciplinary research: 1) pursuing multiple disciplines because of many interests, 2) being
391 sought after due to niche expertise 3) pursuing complex problems that require multidisciplinary
392 input, 4) being a leader who connects all kinds of members of a group, 5) being exposed to
393 colleagues' of leaders' interdisciplinary research activities, and/or 6) seeking research jobs that
394 might better fit personal priorities.³² However, due to the nature of the GED Guidelines 2.0
395 largely being of voluntary nature, none of our participants mentioned joining specifically to
396 obtain a paid long term research position. However, as a nascent subspecialty area, EM
397 guidelines work, in the future, may develop to a level that could include full-time research
398 opportunities.

399 Our study also found that many participants joined for perceived benefits including
400 professional and personal growth and achievement of goals. Our findings were consistent with
401 those reported by McKinnon et al., who interviewed medical students who participated in
402 COVID-19 urgent public health research studies through the Volunteers in Research program.
403 They found that the primary motivators for students' participation were the desire to contribute
404 to the response to COVID-19, make a difference and gain unique insight during the pandemic,
405 gain hands-on experience in clinical research, utilize research networking opportunities, add to
406 their resumes, and explore a potential career in research.³³ Furthermore, Dusdal and Powell
407 performed a retrospective case study and found that participating in international research

408 collaboration leads to increased high-quality papers and greater research impact. They also found
409 that motivations for collaborating internationally included “research organization and researcher
410 reputation, higher visibility, opportunities for multidisciplinary research, access to research
411 funds... mentoring younger researchers... development of new methods and sharing
412 knowledge... extending their networks.” They also found that personal motivations included
413 making friendships and maximizing scientific output.³⁴ These findings are consistent with our
414 participants’ benefiting from networking, learning about systematic review and team dynamics,
415 methodology, and academic achievement. Future study could include an analysis of collaborative
416 projects undertaken by members of the network we created during the Guidelines 2.0 process.

417 In terms of lessons learned, we identified several ways to improve the participant
418 experience. While many seemed willing to participate because of goodwill, increasing academic
419 credit or recognition would help motivate involvement in such a long project. This makes sense,
420 as Tiessen et al. collected survey data and similarly found that having shared goals and
421 objectives, reward structures, funding mechanisms, shared ownership, mutuality, complementary
422 expertise, appropriate communication, and balanced power dynamics were motivating factors to
423 consider for international scholar/practitioner volunteering research groups.³⁵ It is likely that
424 deliberately planning future groups with both junior and senior researchers across the different
425 areas of expertise could incorporate an inherent mentorship structure. This would ensure the
426 continued development of experts in geriatric emergency medicine and set the stage for a robust
427 research and clinical network that could advance care for older patients who present to EDs
428 worldwide.

429 Thus, for future renditions, while most participants shared that participating in the
430 guidelines was largely motivated by improving the care of geriatric ED patients, clinicians and
431 researchers involved in groups like this can personally benefit from networking opportunities,
432 gaining and utilizing skills in systematic reviews and scientific methods, and earning academic
433 credit. Making such benefits explicit will encourage more junior and senior members to become
434 involved in other EM guideline groups to ultimately improve the care of ED patients.

435

436 **Limitations**

437 Limitations of this study include the potential for sample bias and social desirability.
438 Participants who agreed to be interviewed might have been more passionate about GEM or
439 working research groups and perhaps had a more positive experience. Though interviews were
440 conducted virtually with a research assistant who was the only person who knew subject
441 identities, participants’ responses might not have fully disclosed certain details that would have
442 represented their thoughts. Given that most of the GED Guidelines 2.0 members are physicians,
443 our study largely represents the views of physicians, and their motivations, experiences, and
444 benefits from participating in the GED Guidelines 2.0 might differ from that of other healthcare
445 workers and researchers.

446

447 **Conclusion**

448 The Geriatric ED Guidelines 2.0 working group members participated because they
449 wanted to contribute to better care for older patients and achieve personal and professional goals.
450 Future guideline working groups can improve participants' experiences by setting forth clear
451 expectations for the working group processes and timelines, deliberate selection of members
452 with specific areas of expertise, and the creation of inherent mentorship structures. Our findings
453 enhance understanding of their motivations, providing necessary leadership and expertise,
454 ensuring academic rewards, and coordinating a streamlined development process.

455 **References**

- 456 1. Cairns C, Ashman J, Kang K. *Emergency Department Visit Rates by Selected*
457 *Characteristics: United States, 2022*. National Center for Health Statistics (U.S.); 2024.
458 doi:10.15620/cdc/159284
- 459 2. McNabney MK, Green AR, Burke M, et al. Complexities of care: Common components
460 of models of care in geriatrics. *J American Geriatrics Society*. 2022;70(7):1960-1972.
461 doi:10.1111/jgs.17811
- 462 3. Onder G, Vetrano DL. The Complexity of the Geriatric Patient. In: Roller-Wirnsberger
463 R, Singler K, Polidori MC, eds. *Learning Geriatric Medicine*. Practical Issues in Geriatrics.
464 Springer International Publishing; 2018:57-64. doi:10.1007/978-3-319-61997-2_6
- 465 4. Van Oppen JD, Coats T, Conroy S, et al. Person-centred decisions in emergency care for
466 older people living with frailty: principles and practice. *Emerg Med J*. 2024;41(11):694-699.
467 doi:10.1136/emered-2024-213898
- 468 5. Kirk JW, Nilsen P. Implementing evidence-based practices in an emergency department:
469 contradictions exposed when prioritising a flow culture. *Journal of Clinical Nursing*. 2016;25(3-
470 4):555-565. doi:10.1111/jocn.13092
- 471 6. Van Oppen JD, Heeren P. Do guidelines improve geriatric emergency care? *Eur Geriatr*
472 *Med*. 2024;15(5):1277-1279. doi:10.1007/s41999-024-01050-6
- 473 7. Institute of Medicine (U.S.). *Clinical Practice Guidelines We Can Trust*. National
474 Academies Press; 2011.
- 475 8. Woolf SH, Grol R, Hutchinson A, Eccles M, Grimshaw J. Clinical guidelines: Potential
476 benefits, limitations, and harms of clinical guidelines. *BMJ*. 1999;318(7182):527-530.
477 doi:10.1136/bmj.318.7182.527
- 478 9. Guerra-Farfan E, Garcia-Sanchez Y, Jornet-Gibert M, Nuñez JH, Balaguer-Castro M,
479 Madden K. Clinical practice guidelines: The good, the bad, and the ugly. *Injury*. 2023;54:S26-
480 S29. doi:10.1016/j.injury.2022.01.047
- 481 10. Lugtenberg M, Burgers JS, Westert GP. Effects of evidence-based clinical practice
482 guidelines on quality of care: a systematic review. *Qual Saf Health Care*. 2009;18(5):385.
483 doi:10.1136/qshc.2008.028043
- 484 11. Hughes JM, Freiermuth CE, Shepherd-Banigan M, et al. Emergency Department
485 Interventions for Older Adults: A Systematic Review. *J American Geriatrics Society*.
486 2019;67(7):1516-1525. doi:10.1111/jgs.15854

- 487 12. Guyatt G, Vandvik PO, Iorio A, et al. Core GRADE 7: principles for moving from
488 evidence to recommendations and decisions. *BMJ*. 2025;389:e083867. doi:10.1136/bmj-2024-
489 083867
- 490 13. Dixon DL, Harris IM, Aljadeed R, et al. Overview of clinical practice guideline
491 development, application to pharmacy practice, and roles for pharmacists. *J Am Coll Clin*
492 *Pharm*. 2023;6(1):73-84. doi:10.1002/jac5.1743
- 493 14. Gunaga S, Carpenter CR, Kennedy M, et al. A Model for Developing Subspecialty
494 Clinical Practice Guidelines: The Geriatric Emergency Department Guidelines 2.0. *JACEP*
495 *Open*. 2025;6(6):100247. doi:10.1016/j.acepjo.2025.100247
- 496 15. Casey MF, Elder NM, Fenn A, et al. Comparative Safety of Medications for Severe
497 Agitation: A Geriatric Emergency Department Guidelines 2.0 Systematic Review. *J Am Geriatr*
498 *Soc*. 2025;73(9):2893-2904. doi:10.1111/jgs.19485
- 499 16. Skains RM, Hayes JM, Selman K, et al. Emergency Department Programs to Support
500 Medication Safety in Older Adults: A Systematic Review and Meta-Analysis. *JAMA Netw Open*.
501 2025;8(3):e250814. doi:10.1001/jamanetworkopen.2025.0814
- 502 17. Lee S, Cavalier FR, Hayes JM, et al. Delirium, confusion, or altered mental status as a
503 risk for abnormal head CT in older adults in the emergency department: A systematic review and
504 meta-analysis. *The American Journal of Emergency Medicine*. 2023;71:190-194.
505 doi:10.1016/j.ajem.2023.06.034
- 506 18. Liu SW, Lee S, Hayes JM, et al. Head computed tomography findings in geriatric
507 emergency department patients with delirium, altered mental status, and confusion: A systematic
508 review. *Academic Emergency Medicine*. 2023;30(6):616-625. doi:10.1111/acem.14622
- 509 19. Lee S, Suh M, Ragsdale L, et al. A systematic review of interventions for persons living
510 with dementia: The Geriatric ED Guidelines 2.0. *Academic Emergency Medicine*. Published
511 online June 19, 2025:acem.70074. doi:10.1111/acem.70074
- 512 20. Wolf LA, Lo AX, Serina P, et al. Frailty assessment tools in the emergency department:
513 A geriatric emergency department guidelines 2.0 scoping review. *J Am Coll Emerg Physicians*
514 *Open*. 2024;5(1):e13084. doi:10.1002/emp2.13084
- 515 21. Seidenfeld J, Lee S, Ragsdale L, Nickel CH, Liu SW, Kennedy M. Risk factors and risk
516 stratification approaches for delirium screening: A GERIATRIC EMERGENCY DEPARTMENT
517 GUIDELINES 2.0 systematic review. *Academic Emergency Medicine*. 2024;31(10):969-984.
518 doi:10.1111/acem.14939
- 519 22. Carpenter CR, Lee S, Kennedy M, et al. Delirium detection in the emergency department:
520 A diagnostic accuracy meta-analysis of history, physical examination, laboratory tests, and
521 screening instruments. *Academic Emergency Medicine*. 2024;31(10):1014-1036.
522 doi:10.1111/acem.14935
- 523 23. Lee S, Khoujah D, Eagles D, et al. GRADE-Based Clinical Practice Guidelines for
524 Emergency Department Delirium Risk Stratification, Screening, and Brain Imaging in Older
525 Patients With Suspected Delirium. *Academic Emergency Medicine*. Published online October 27,
526 2025:acem.70167. doi:10.1111/acem.70167
- 527 24. Lin DE, Gunaga S, Mowbray FI, et al. Emergency department-initiated palliative care
528 screening among older adults: a systematic review and meta-analysis protocol. *BMJ Open*.
529 2025;15(10):e095894. doi:10.1136/bmjopen-2024-095894
- 530 25. Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative Research in*
531 *Psychology*. 2006;3(2):77-101. doi:10.1191/1478088706qp063oa

532 26. Bradley EH, Curry LA, Devers KJ. Qualitative Data Analysis for Health Services
533 Research: Developing Taxonomy, Themes, and Theory. *Health Services Research*.
534 2007;42(4):1758-1772. doi:10.1111/j.1475-6773.2006.00684.x

535 27. Pervin N, Mokhtar M. The Interpretivist Research Paradigm: A Subjective Notion of a
536 Social Context. *IJARPED*. 2022;11(2):Pages 419-428. doi:10.6007/IJARPED/v11-i2/12938

537 28. Behrens D, Hyll W, Krczal E. *The Gwent Test Trace Protect Service (GTTPS)*
538 *Evaluation*. GTTPS Leadership Group & University for Continuing Education Krems; 2023.
539 doi:10.48341/TPBV-C552

540 29. Harris PA, Taylor R, Thielke R, Payne J, Gonzalez N, Conde JG. Research electronic
541 data capture (REDCap)--a metadata-driven methodology and workflow process for providing
542 translational research informatics support. *J Biomed Inform*. 2009;42(2):377-381.
543 doi:10.1016/j.jbi.2008.08.010

544 30. Coates WC, Jordan J, Clarke SO. A practical guide for conducting qualitative research in
545 medical education: Part 2—Coding and thematic analysis. *AEM Education and Training*.
546 2021;5(4):e10645. doi:10.1002/aet2.10645

547 31. Richardson WS, Wilson MC, Nishikawa J, Hayward RS. The well-built clinical question:
548 a key to evidence-based decisions. *ACP J Club*. 1995;123(3):A12-13.

549 32. Spence N, Markauskaite L, McEwen C. Why and how academics become
550 interdisciplinary researchers early in their careers. *Higher Education Research & Development*.
551 2024;43(6):1383-1398. doi:10.1080/07294360.2024.2332255

552 33. McKinnon T, Watson A, Richards L, Sears J, Brookes MJ, Green CA. The Volunteers in
553 Research programme: supporting COVID-19 research and improving medical training in
554 parallel. *Clin Med (Lond)*. 2021;21(3):182-188. doi:10.7861/clinmed.2020-1072

555 34. Dusdal J, Powell JJW. Benefits, Motivations, and Challenges of International
556 Collaborative Research: A Sociology of Science Case Study. *Science and Public Policy*.
557 2021;48(2):235-245. doi:10.1093/scipol/scab010

558 35. Tiessen R, Cadesky J, Lough BJ, Delaney J. Scholar/practitioner research in international
559 development volunteering: benefits, challenges and future opportunities. *Canadian Journal of*
560 *Development Studies / Revue canadienne d'études du développement*. 2021;42(3):394-415.
561 doi:10.1080/02255189.2020.1841606

562

563 **Supplement 1**

564 **Annotated Bibliography of the publications of the [GED Guidelines 2.0 group]**

Article	Type of Publication	Summary
A Model for Developing Subspecialty Clinical Practice Guidelines: The Geriatric Emergency Department Guidelines 2.0. https://pubmed.ncbi.nlm.nih.gov/41019914/	Concept paper	The GED Guidelines 2.0 is the first EM subspecialty guideline effort to fully adopt the GRADE approach and offers a novel blueprint for future EM guideline development.

<p>Comparative Safety of Medications for Severe Agitation: A Geriatric Emergency Department Guidelines 2.0 Systematic Review. https://pubmed.ncbi.nlm.nih.gov/40275439/</p>	<p>Systematic Review</p>	<p>Adverse drug events are common amongst older adults receiving antipsychotic/anxiolytic medications for severe agitation. Of particularly high risk are benzodiazepines, particularly midazolam.</p>
<p>Emergency Department Programs to Support Medication Safety in Older Adults: A Systematic Review and Meta-Analysis. https://pubmed.ncbi.nlm.nih.gov/40067297/</p>	<p>Systematic Review and Meta-Analysis</p>	<p>Involving clinical pharmacists and/or geriatricians in a multidisciplinary team improved potentially inappropriate medications deprescribing. Computerized clinical decision support systems, alone or with ED clinician education, were associated with enhanced geriatric ordering and prescribing practices.</p>
<p>Delirium, confusion, or altered mental status as a risk for abnormal head CT in older adults in the emergency department: A systematic review and meta-analysis. https://pubmed.ncbi.nlm.nih.gov/37423026/</p>	<p>Systematic Review and Meta-Analysis</p>	<p>There is limited research that looks into whether delirium, confusion, or altered mental status is associated with abnormal acute findings on head imaging in the ED.</p>
<p>Head computed tomography findings in geriatric emergency department patients with delirium, altered mental status, and confusion: A systematic review. https://pubmed.ncbi.nlm.nih.gov/36330667/</p>	<p>Systematic Review</p>	<p>15.6% of older ED patients with altered mental status or confusion were found to have abnormal head computed tomography. Presence of a focal neurological deficit was a strong predictor. Anticoagulation was not.</p>
<p>A systematic review of interventions for persons living with dementia: The Geriatric ED Guidelines 2.0. https://pubmed.ncbi.nlm.nih.gov/40093231/</p>	<p>Systematic Review</p>	<p>Due to the limited literature on interventions in ED settings for people living with dementia, there is need for research to improve experience, process, and outcomes.</p>
<p>Frailty assessment tools in the emergency department: A geriatric emergency department guidelines 2.0 scoping review. https://pubmed.ncbi.nlm.nih.gov/38162531/</p>	<p>Scoping Review</p>	<p>There are plenty of tools, scales, and instruments for identifying frailty in older patients at ED triage with varying levels of utilization, though there were few regarding identification, interventions, and educational initiatives in the ED.</p>

<p>Risk factors and risk stratification approaches for delirium screening: A Geriatric Emergency Department Guidelines 2.0 systematic review. https://pubmed.ncbi.nlm.nih.gov/38847070/</p>	<p>Systematic Review</p>	<p>Few studies examine delirium risk factors and risk scores for delirium amongst ED patients and with such heterogeneity, but we found that neurological conditions like stroke and dementia, age, certain medications, and functional impairments seemed to increase risk of delirium.</p>
<p>Delirium detection in the emergency department: A diagnostic accuracy meta-analysis of history, physical examination, laboratory tests, and screening instruments. https://pubmed.ncbi.nlm.nih.gov/38757369/</p>	<p>Meta-analysis</p>	<p>There is scarce literature on identifying patients with delirium in the ED. We found that versions of the Confusion Assessment Method are best for ruling in delirium, and the Delirium Triage Screen is best for ruling out delirium, both based on single-center studies.</p>
<p>GRADE-Based Clinical Practice Guidelines for Emergency Department Delirium Risk Stratification, Screening, and Brain Imaging in Older Patients With Suspected Delirium. https://onlinelibrary.wiley.com/doi/10.1111/acem.70167</p>	<p>Guideline</p>	<p>The GED Guidelines 2.0 Delirium Work Group applied the GRADE approach to assess certainty of evidence on and derive six evidence-based recommendations for risk stratification, diagnosis, and brain imaging for older ED patients with possible delirium.</p>
<p>Emergency department-initiated palliative care screening among older adults: a systematic review and meta-analysis protocol. https://pubmed.ncbi.nlm.nih.gov/41125269/</p>	<p>Protocol</p>	<p>This outlines the palliative care screening protocol.</p>

565

566 **Supplement 2**

567 **Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist**

568 Developed from:

569 Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ):
 570 a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health*
 571 *Care*. 2007. Volume 19, Number 6: pp. 349 – 357

No. Item	Guide questions/description	Reported on Page #
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Domain 1: Research team and reflexivity		
<i>Personal Characteristics</i>		
1. Interviewer/facilitator	Which author/s conducted the interview or focus group?	P.6
2. Credentials	What were the researcher's credentials? E.g. PhD, MD	P.6
3. Occupation	What was their occupation at the time of the study?	P.6
4. Gender	Was the researcher male or female?	P.6
5. Experience and training	What experience or training did the researcher have?	P.6
<i>Relationship with participants</i>		
6. Relationship established	Was a relationship established prior to study commencement?	P.6
7. Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	P.6
8. Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	P.6
Domain 2: study design		
<i>Theoretical framework</i>		
9. Methodological orientation and Theory	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	P.5

<i>Participant selection</i>		
10. Sampling	How were participants selected? e.g. purposive, convenience, consecutive, snowball	P.5
11. Method of approach	How were participants approached? e.g. face-to-face, telephone, mail, email	P.5
12. Sample size	How many participants were in the study?	P.5
13. Non-participation	How many people refused to participate or dropped out? Reasons?	N/A

572

<i>Setting</i>		
14. Setting of data collection	Where was the data collected? e.g. home, clinic, workplace	P.6
15. Presence of non-participants	Was anyone else present besides the participants and researchers?	P.6
16. Description of sample	What are the important characteristics of the sample? e.g. demographic data, date	P.7
<i>Data collection</i>		
17. Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	P.6
18. Repeat interviews	Were repeat interviews carried out? If yes, how many?	N/A
19. Audio/visual recording	Did the research use audio or visual recording to collect the data?	P.6
20. Field notes	Were field notes made during and/or after the interview or focus group?	N/A
21. Duration	What was the duration of the interviews or focus group?	P.6

22. Data saturation	Was data saturation discussed?	P.6
23. Transcripts returned	Were transcripts returned to participants for comment and/or correction?	P.6
Domain 3: analysis and findings		
<i>Data analysis</i>		
24. Number of data coders	How many data coders coded the data?	P.6
25. Description of the coding tree	Did authors provide a description of the coding tree?	N/A
26. Derivation of themes	Were themes identified in advance or derived from the data?	P.6
27. Software	What software, if applicable, was used to manage the data?	N/A
28. Participant checking	Did participants provide feedback on the findings?	N/A
<i>Reporting</i>		
29. Quotations presented	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	P.8-12
30. Data and findings consistent	Was there consistency between the data presented and the findings?	P.13
31. Clarity of major themes	Were major themes clearly presented in the findings?	P.13
32. Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	N/A

573

574 **Supplement 3**

575 **Standards for Reporting Qualitative Research (SRQR)**

Title and abstract	Page/line no(s).
Title - Concise description of the nature and topic of the study Identifying the study as qualitative or indicating the approach (e.g., ethnography, grounded theory) or data collection methods (e.g., interview, focus group) is recommended	P.1/1
Abstract - Summary of key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results, and conclusions	P.3/1

Introduction

Problem formulation - Description and significance of the problem/phenomenon studied; review of relevant theory and empirical work; problem statement	P.3/30
Purpose or research question - Purpose of the study and specific objectives or questions	P.5/1

Methods

Qualitative approach and research paradigm - Qualitative approach (e.g., ethnography, grounded theory, case study, phenomenology, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g., postpositivist, constructivist/ interpretivist) is also recommended; rationale**	P.5/6
Researcher characteristics and reflexivity - Researchers' characteristics that may influence the research, including personal attributes, qualifications/experience, relationship with participants, assumptions, and/or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results, and/or transferability	P.6/6
Context - Setting/site and salient contextual factors; rationale**	P.6/10
Sampling strategy - How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g., sampling saturation); rationale**	P.5/17 P.6/18
Ethical issues pertaining to human subjects - Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	P.5/9
Data collection methods - Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources/methods, and modification of procedures in response to evolving study findings; rationale**	P.5/7

Data collection instruments and technologies - Description of instruments (e.g., interview guides, questionnaires) and devices (e.g., audio recorders) used for data collection; if/how the instrument(s) changed over the course of the study	P.5/24 P.6/10
Units of study - Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	P.6/21
Data processing - Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymization/de-identification of excerpts	P.6/10 P.6/12
Data analysis - Process by which inferences, themes, etc., were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale**	P.6/15
Techniques to enhance trustworthiness - Techniques to enhance trustworthiness and credibility of data analysis (e.g., member checking, audit trail, triangulation); rationale**	P.6/11

Results/findings

Synthesis and interpretation - Main findings (e.g., interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	P.8-12
Links to empirical data - Evidence (e.g., quotes, field notes, text excerpts, photographs) to substantiate analytic findings	P.8-12

Discussion

Integration with prior work, implications, transferability, and contribution(s) to the field - Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application/generalizability; identification of unique contribution(s) to scholarship in a discipline or field	P.14/22
Limitations - Trustworthiness and limitations of findings	P.14/10

Other

Conflicts of interest - Potential sources of influence or perceived influence on study conduct and conclusions; how these were managed	Title page
Funding - Sources of funding and other support; role of funders in data collection, interpretation, and reporting	Title page

*The authors created the SRQR by searching the literature to identify guidelines, reporting standards, and critical appraisal criteria for qualitative research; reviewing the reference lists of retrieved sources; and contacting experts to gain feedback. The SRQR aims to improve the transparency of all aspects of qualitative research by providing clear standards for reporting qualitative research.

**The rationale should briefly discuss the justification for choosing that theory, approach, method, or technique rather than other options available, the assumptions and limitations implicit in those choices, and how those choices influence study conclusions and transferability. As appropriate, the rationale for several items might be discussed together.

Reference:

O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. *Academic Medicine*, Vol. 89, No. 9 / Sept 2014
DOI: 10.1097/ACM.0000000000000388

576 **Supplement 4**

577 **Interview Guide**

578

Questions	Probing questions
<i>Experience in the GED Guidelines group</i>	
1. Why did you join this group?	What are your hopes/ goals for this project?
	Have these benefits come to fruition in your opinion?
2. Tell me about your work in the GED guidelines?	
3. How does this group compare to other groups you are in?	For example: organization, leadership, communication, conflict resolution
<i>Organization</i>	

4. In your experience, what are the elements that make these groups successful?	How do you define success within writing groups?
5. Think of the organizational structure of the main GED group you are working on. What is working well within the group?	Why did it work well?
6. What do you think is the optimal size of a working group?	
7. Tell me about moments when the group did not work so well.	What are the challenges involved in being part of academic writing groups?
	How did group members overcome it?
8. How has the group adapted? If so, what were the reasons?	
<i>Communication</i>	
9. How would you describe the communication structure within the group?	Was this effective? How could it have been better?
10. Please describe the process for developing consensus in the GED guidelines group	
<i>Leadership</i>	
11. How would you describe leadership within the working group?	
12. To what extent have you been able to bring in your ideas and opinions?	
13. How did you feel when discussing challenges within the team?	
14. When it came to generating the final product (e.g. a manuscript) what went well/not so well about this step?	
15. When establishing a similar research group in a similar situation, what would you do the same way the next time?	Why does doing this feel so important to you?
16. What would you do differently within the working group?	What are the reasons behind this?

What do you hope to achieve when having changed this issue?