Published in final edited form as:

J Appl Gerontol. 2025 December ; 44(12): 2006–2014. doi:10.1177/07334648251323688.

A Pilot Trial Evaluating Collaborative Healthcare Encounters with Caregivers: A Checklist-based Intervention for Primary Care

Catherine Riffin[1], **Lilla Brody**[2], **Jennifer L. Wolff**[3], **Karl A. Pillemer**[1,4]

[1]Department of Medicine, Weill Cornell Medicine, New York, NY, United States

[2]Department of Psychology, University of Nevada, Las Vegas, NY United States

[3]Department of Health Policy & Management, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, United States

[4]College of Human Ecology, Cornell University, Ithaca, NY, United States

Abstract

This pilot trial aimed to evaluate the feasibility, acceptability, and preliminary efficacy of Collaborative Healthcare Encounters with Caregivers (CHEC), a checklist-based intervention designed to enhance caregiver participation in older adults' primary care visits. N=52 older patient-caregiver dyads were randomized to CHEC (n=28) or usual care (n=24). Visits were audio-recorded and analyzed according to a standardized coding procedure. Post-visit questionnaires assessed caregivers' perceptions of the checklist, efficacy in primary care interactions and knowledge of relevant resources. CHEC caregivers perceived the checklist to be useful and easy to complete. Visit duration was comparable in CHEC and usual care visits (M=31.4 minutes vs. M=31.8 minutes; p=.55), but CHEC visits allocated a greater proportion of time to discussing caregivers' concerns about the patient (32.9% vs. 18.9%; p=.04). CHEC caregivers reported slightly higher post-visit self-efficacy and significantly greater knowledge of relevant resources. Findings suggest CHEC's potential as a clinically feasible intervention for primary care.

Clinical Trials Identifier: NCT04946942

Keywords

family; caregiving; communication; person-centered care

Correspondence: Catherine Riffin, PhD, Division of Geriatrics & Palliative Medicine, Weill Cornell Medicine, 420 East 70th Street, New York, NY 10021, acr2213@med.cornell.edu.

Author Contributions.

The authors meet the criteria for authorship in the following ways: (1) Conception and design of the study: CR, KAP. (2) Data acquisition: CR, LB. (3) Analysis and interpretation of data: All authors. (4) Preparation of the manuscript: CR. (5) Critical review and revision of the manuscript for important intellectual content: All authors. (6) Approval of the version of the manuscript to be published: All authors.

Conflict of Interest.

None declared.

IRB Approval.

The Weill Cornell Medicine (WCM) Institutional Review Board (IRB) approved the protocol used for the survey as an exempt study (#1709018564).

Introduction

Person-centered care (PCC) has been embraced as a partnership approach to health care planning and delivery that is responsive to patients' preferences and emphasizes transparent, respectful communication among clinicians, patients, and their families (Nickel et al., 2018). Although the traditional paradigm of PCC focused on the patient-clinician partnership, there has been growing clinical recognition and empirical evidence of family caregivers' contributions and roles in improving patients' care experiences and outcomes (Nickel et al., 2018), particularly among older adults who rely on caregiver support.

Research over the past decade has demonstrated that family partnerships positively affect clinically meaningful outcomes, including patients' satisfaction with care, treatment adherence, and health service use (Amjad et al., 2021; Cussen et al., 2024; Dunbar et al., 2013; Khan et al., 2022; Svendsen et al., 2021; Umberson & Thomeer, 2020). Such findings have laid the groundwork for national calls from policy and practice groups urging clinicians and health systems to systematize family caregiver engagement and participation in care processes. The American College of Physicians (ACP), for example, recently issued a set of practice principles that underscores the importance of partnering with patients and their families in all aspects of care, including the development of treatment goals, setting visit agendas, and enacting care plans (Nickel et al., 2018).

Despite clinical guidelines and policy efforts that advocate for better inclusion of family caregivers in care delivery, the extent to which caregivers are regularly and meaningfully incorporated into the care team is variable (Riffin et al., 2021; Riffin et al., 2020). Pragmatic, evidence-based tools are necessary to aid clinicians in effectively engaging family caregivers in PCC and to ameliorate the ambiguity they experience about when and how to involve families in patient-centered discussion (Riffin et al., 2021). Such tools are especially relevant in primary care, in which nearly 2 in 5 older adults are accompanied by a caregiver to their routine medical appointments (Wolff & Boyd, 2015).

Collaborative Healthcare Encounters with Caregivers (CHEC) is a pragmatic checklist-based intervention aimed at promoting meaningful and effective caregiver participation patient-centered discussions. CHEC uses a prioritization-based approach to identify caregivers' chief concerns that can be readily addressed during a clinical visit (e.g., understanding the patient's health conditions) or through a referral process (e.g., accessing home care services). Its domains pertain to managing the patient's health conditions (e.g., managing medications, providing personal care), navigating health system logistics (e.g., communicating with providers, arranging health-related services), and supporting the caregiver's own well-being (e.g., finding ways to cope). Designed to be an efficient strategy for enhancing primary care visit communication, the intervention was developed with extensive input from potential end-users (clinicians, caregivers, older adults) and has undergone rigorous validation testing (Riffin et al., 2024), thereby establishing the evidence base necessary to support its evaluation in real world clinical practice.

This paper presents the results of a pilot randomized trial evaluating the feasibility and acceptability of CHEC as well as its potential impact on primary care visit discussions and

caregiver-reported outcomes. We hypothesized that CHEC would be feasible to implement and acceptable to caregivers. We further hypothesized that CHEC would have no impact on visit duration, but that CHEC visits would promote greater caregiver participation in patient-centered visit discussions than usual care. Finally, we expected that CHEC caregivers would report higher self-efficacy in primary care interactions and greater knowledge of resources compared to caregivers in the usual care group.

Methods

CHEC Intervention

CHEC is grounded in the tenets of relational coordination theory, which acknowledges the reciprocal influence of accurate, timely communication and relationships of mutual respect and shared knowledge in achieving enhanced care quality and efficiency (Bolton et al., 2021; House et al., 2022). As a systems-oriented framework, relational coordination calls for the redesign of work structures (e.g., checklists, shared protocols) that can reinforce high-quality communication within teams. In the present research, CHEC is conceptualized as a work structure that is informed by the literature on communication checklists. Consistent with relational coordination theory, checklists have been shown to enhance collaboration within medical teams and improve patients' treatment satisfaction and outcomes (Gautreau et al., 2019; Lingard et al., 2008; Van Os et al., 2004). Checklists are commonly used to assure consistency in care delivery, reduce the potential for missed information, and maximize the integration of evidence-based guidelines into clinical care pathways. They hold particular utility in complex scenarios where time and attentional resources are constrained.

CHEC is comprised of two components: 1) a brief (7-item) paper-and-pencil checklist for completion by the caregiver prior to the patient's appointment, and 2) a tip sheet for primary care clinicians with ways to address each item on the checklist during the visit. Caregivers receive the checklist in advance of the patient's medical appointment with instructions to select the item(s) that best represent their main concerns or priorities to discuss during the visit. The checklist items, developed and revised with user input (Riffin et al., 2020), pertain to understanding the patient's health conditions and treatments, managing medications, providing personal care, finding ways to cope with caregiving stress, understanding health care finances, communicating with providers, and arranging health-related services (Riffin et al., 2024). The content reads at the 7th grade level (determined by the Flesch-Kincaid Grade Level metric) and takes less than 5 minutes to complete.

The accompanying clinician tip sheet contains actionable strategies for addressing each item on the checklist, including a list of relevant national (e.g., AARP home care guides; ElderCare Locator) and local (e.g., Area Agencies on Aging; CityMeals) resources along contact information.

Study Setting and Participants

The trial was conducted at an academic affiliated geriatrics practice in New York City. Participants included primary care physicians, patients, and their accompanying family caregivers. Participating physicians were board certified in internal medicine (geriatrics) and

had completed their fellowship training. Patients were eligible if they received care from a participating physician, were English-speaking, and regularly attended appointments with a family caregiver, defined as attending medical visits with a relative or friend “most” or “all” of the time. Caregivers were eligible if they regularly accompanied the participating patient to his or her routine appointments, were aged 21 years or older, English-speaking, and lacked cognitive impairment, as defined by a score of 3 or greater on a 6-item screen (Callahan et al., 2002). In accordance with the PCC principle of respecting patients’ preferences (Nickel et al., 2018), if a patient declined participation, the dyad was excluded from the study.

Study Procedures

Physicians were informed of the study at staff meetings and by email. They completed oral informed consent before study initiation and were randomized 1:1 to CHEC or usual care using a computer-assisted algorithm to ensure unbiased allocation. Patient-caregiver dyads of participating physicians were allocated to CHEC or usual care based on the randomization of their assigned physician.

Patients with upcoming appointments were identified by medical chart review. Participating physicians were then asked to confirm whether the patient was typically accompanied by a family caregiver. Recruitment letters were mailed to patients’ homes, inviting both the patient and his or her caregiver to participate. Prospective participants who did not opt out by mail or phone were contacted by research personnel who explained the study, answered questions, and obtained oral consent and email addresses of individuals who agreed to participate. For patient participants, a 10-item Capacity to Consent Feedback Tool for Minimal Risk Research was used to assess decisional capacity. In cases where the patient responded incorrectly to 1 or more questions on the tool, consent was sought from the healthcare proxy (as identified in the medical record).

Caregivers in the intervention condition received the checklist in advance of the visit (via email) to complete and bring to the appointment. Physicians were instructed to review the checklist during the appointment and address the caregivers’ primary concern using the standardized tip sheet developed by the research team. Dyads in the standard care condition proceeded with their appointment as usual. All medical visits were audio-recorded. Caregivers completed pre- and post-visit surveys and received up to $40 in the form of a gift card. The study was approved by the Weill Cornell Medicine Institutional Review Board (IRB #21-04023513) and registered at ClinicalTrials.gov under NCT04946942.

Data Collection and Measures

Data were collected at baseline, during the medical visit, and post-visit (within one week of the appointment).

Baseline data: Patient and caregiver sociodemographic information were collected immediately prior to the patient’s scheduled medical appointment. Patient characteristics were abstracted from the medical record and included age, gender, race and ethnicity, insurance status, living arrangement, health conditions, medications, and number of

outpatient visits within the past 6 months. Caregiver attributes were collected via electronic self-report questionnaires and included sociodemographic characteristics (age, gender, race and ethnicity, educational attainment, marital status, and employment), caregiving-related characteristics (number of years and hours per week spent on caregiving activities, frequency of accompanying the patient to medical visits), and health literacy, assessed by a valid and reliable tool with three questions: "How confident are you in filling out medical forms?", "How often do you have someone else (primary care provider, nurse, friend) help you read medical forms?", and "How often do you have problems learning about the patient's medical conditions because of difficulty understanding written information?" (Chew et al., 2004).

Medical visit data: Medical visits were audio-recorded and transcribed verbatim. Total visit duration (expressed in minutes) was recorded by time stamps. A standardized coding system, developed by the Primary Investigator, was used by three trained coders to capture the content of visit discussions, including (a) whether the checklist was explicitly referenced, (b) the proportion of visit time spent discussing caregiver concerns about the patient (e.g., health management, care coordination activities), and (c) the proportion of visit time spent discussing caregiver concerns about him or herself (e.g., finding ways to cope with caregiver stress). The coding system was standardized through iterative review and cross-checking the audio files and associated transcripts. Coders met regularly throughout analysis to review their records, reconcile any discrepancies, and achieve consensus in their ratings. They were unblinded from group allocation because most CHEC group visits explicitly referenced the checklist.

Post-visit data: Measures of CHEC's acceptability and utility were collected immediately after the visit via questionnaires administered to caregivers in the intervention group. Caregivers were asked for their perceptions of the checklist's length and ease of use. They were also asked how likely they would be to recommend the checklist to other caregivers, how useful they perceived the checklist to be in terms of helping them to identify their primary concern, and how useful they perceived the checklist to be in helping the healthcare team to recognize their concerns. Open-ended questions asked participants to elaborate on their responses.

Caregivers in both groups (CHEC and usual care) also responded to questionnaires that ascertained (a) their perceived efficacy in primary care interactions, evaluated by an adapted version of the Perceived Efficacy in Patient-Provider Interactions (PEPPI-5) instrument comprised of 5 items (on Likert scales ranging from 1=not at all to 5=very confident) (Maly et al., 1998) and (b) knowledge and use of community-based resources, assessed by two questions (also on 1–5 Likert scales with higher scores indicating greater knowledge) used in prior research to evaluate caregivers' awareness of available services and supports (Thomas, 2017).

Data Analysis

As a pilot feasibility study, our analyses focused on descriptive findings rather than inferential statistics. Feasibility was evaluated according to rates of recruitment, enrollment,

and retention. Univariate statistics were used to characterize the sample and to evaluate caregivers' perceptions of CHEC's acceptability. The proportion of the visit spent discussing the caregivers' concerns was calculated by dividing the number of minutes within each category (i.e., concerns about patient; concerns about self) by the total visit duration and subsequently averaged for each treatment group (CHEC vs. usual care). Independent t-tests were used to compare between-group differences in post-visit measures of caregivers' self-efficacy in primary care interactions and knowledge of resources. The content of participants' responses to open-ended questions about CHEC's utility was abstracted; common themes in caregivers' perspectives were identified using rapid qualitative analysis (Lewinski et al., 2021; Renfro et al., 2022). Microsoft Excel (Microsoft Corporation, 2018) was used to facilitate data organization, management, and analysis (Bree & Gallagher, 2016; Ose, 2016).

Results

Study Sample Characteristics

A total of 476 individuals (n=238 patient-caregiver dyads) of seven participating physicians were initially contacted via postal mail and follow-up telephone calls. Of the 476 individuals approached, 199 were unresponsive to follow-up calls and 155 refused to participate due to lack of interest (n=79) or time restrictions (n=54). The remaining 122 individuals (comprising n=61 dyads) agreed to participate and were assessed for eligibility. Of the 61 dyads who agreed to participate, 3 did not meet the eligibility criteria and 6 did not respond to follow-up. In total, 52 dyads enrolled and completed the study assessments.

Participating clinicians were 57.1% women. Most were non-Hispanic white (71.4%); the remainder were Asian (28.6%). They had been working in an outpatient practice for 12.2 years, on average.

Caregiver and patient baseline characteristics and between-group differences are presented in Table 1. Caregivers were 64 years of age, on average. Most were women (78.8%) and adult children (51.9%) with high levels of health literacy (M=4.5 on a 5-point Likert scale). They spent approximately 32.5 hours per week caregiving for the patient. More than two-thirds (70.6%) accompanied the patient to all medical visits and sizeable proportions assisted their care recipient with personal care (38.5%), administering medications (59.6%), scheduling doctors' appointments (82.7%), and coordinating services (60.0%).

Patients had a mean age of 86.3 years. Approximately two-thirds were women (59.6%) and non-Hispanic White (69.4%). Most (63.8%) were living with the caregiver or other family member. On average, patients had attended 6.3 outpatient visits in the past 6 months and were taking 7.6 medications. Nearly one-third (30.7%) had a medical diagnosis of dementia.

Acceptability and Utility of CHEC

Metrics of acceptability are summarized in Table 2. All CHEC caregivers completed the checklist (100%). The most commonly endorsed items pertained to understanding the patient's health conditions and treatment plans (n=16), arranging health-related services

for the patient (n=9), finding ways to cope with caregiving (n=8), and managing the patient's medications (n=6). Most (78.6%) CHEC visits explicitly referenced the checklist.

Of the 28 caregivers who were randomized to the intervention, 82.1% reported that the checklist was the right length and 89.3% indicated it was easy to complete. In open-ended responses, caregivers noted that the checklist was "short and straightforward" with "clear and concise questions" that "can be completed very quickly even by someone who is very busy." They also asserted that "in advance of a doctor's visit, identifying these items, needs, and issues helps to make the visit more productive and efficient."

Three-quarters of caregiver participants (75.0%) reported that they would recommend CHEC to other family caregivers. Most perceived CHEC to be at least somewhat useful in helping them to identify and prioritize their concerns (71.4%). Caregivers described the checklist itself as a "good way not to forget questions that are on your mind" as it offered a structured opportunity to "think about what I wanted to know about ahead of the visit rather than realizing after that I had missed the opportunity to discuss certain items." One caregiver commented, "I think [the checklist] is very helpful, as I was telling my husband. You go into the doctor and your mind goes blank and you forget to say something."

Most caregivers reported that CHEC was at least somewhat useful in helping the medical team to recognize their concerns (78.5%), commenting that "[I'm] not sure a typical doctor would have had any concern for the caregiver without getting this checklist prompting the need to address these questions." They felt that the checklist helped them to "focus on what is important to discuss with the physician the day of the visit. It ensures that everything is covered during the visit." One caregiver asserted that it "would be great if this kind of checklist was more widely available… ahead of any doctor's appointment this checklist should be sent or emailed to the patient or caregiver as a typical part of practice."

Impact of CHEC on Visit Duration and Communication

Total visit duration was similar by group (CHEC: M=31.4 minutes vs. usual care: M=31.8 minutes; p=.55). CHEC visits allocated a greater proportion of the visit time to discussing caregiver concerns about the patient, as compared to usual care visits (32.9% vs. 18.9%; p=.04). The proportion of visit time spent discussing caregivers' concerns about themselves was comparable in CHEC and usual care visits (4.1% vs. 3.3%; p=.40).

Impact of CHEC on Caregivers' Perceived Efficacy and Knowledge of Relevant Resources

Compared to caregivers in the usual care condition, CHEC participants reported slightly higher post-visit efficacy in primary care interactions (M=4.5 vs. M=4.3; p=.22); this difference did not reach statistical significance. A significant difference was observed in caregivers' post-visit knowledge of relevant resources such that CHEC caregivers reported greater knowledge than usual care caregivers (M=3.6 vs. M=2.7; p=.009).

Discussion

In this pilot trial, Collaborative Healthcare Encounters with Caregivers (CHEC) was found to be feasible to administer and acceptable to end-users, as demonstrated by caregivers'

positive appraisals of the checklist and perceptions of its utility in streamlining visit communication and enhancing caregivers' participation in patient-focused discussions. CHEC's potential is further evidenced by audio analyses indicating greater caregiver participation in discussions of patient-focused issues in CHEC visits as compared to standard care. Additional findings from post-visit questionnaires signal the possibility of CHEC's positive impact on caregivers' knowledge of relevant resources.

This study contributes to the empirical literature on communication checklists in health care delivery. Whereas other checklists have focused on increasing patient engagement as well as enhancing interprofessional communication and reducing errors within clinical teams (Boydston, 2018; Newkirk et al., 2012; Russ et al., 2013), our checklist is the first to recognize family caregivers as essential partners in PCC delivery and their contributions to geriatric primary care discussions. Consistent with prior research showing that checklists can modify communication patterns within clinical teams and improve patients' care quality (Knowlton et al., 2024; Lyons & Popejoy, 2014; Newkirk et al., 2012), results of this trial indicate that CHEC may promote greater caregiver participation in discussions about the patient's health management.

A strength of our research was the collection and integration of multiple forms of data (audio recordings, survey instruments, and open-ended response items) to enable a more complete understanding of CHEC's acceptability and utility. There was high degree of convergence across the data sources, and caregivers' responses to open-ended prompts helped to contextualize and elaborate on the quantitative findings from audio data and survey instruments.

For example, caregivers' responses offered an important window into the potential pathways by which CHEC may streamline and enhance visit discussions, thus providing complementary data that could not be gleaned by audio analyses alone. Whereas some caregivers perceived the checklist as a memory aid that could help them recall their chief concerns at the point of care, others viewed the checklist as a roadmap for guiding the visit itself, thereby affording a predictable communication structure. These findings align with research showing that checklists can help promote consistency in care delivery, reduce the potential for missed information, and prompt efficient dialogue within interprofessional teams (Lyons & Popejoy, 2014; Patient Safety and Quality Committee, Society for Maternal-Fetal Medicine et al., 2020; Russ et al., 2013).

Although CHEC and standard care were comparable in terms of total visit duration (approximately 31 minutes), the composition of visit discussions varied across the two groups: CHEC visits allocated nearly twice as much time as standard care visits to discussing caregivers' concerns about the patient. This finding illustrates CHEC's potential to support PCC by elevating caregivers' involvement in patient-focused discussions while conferring no additional time burden beyond usual care. Purposeful engagement of caregivers in such conversations is consistent with the tenets of PCC and with patients' desire for family involvement in their health care discussions (Wolff & Boyd, 2015). Caregiver participation is also essential for designing care plans that acknowledge caregivers' relationship with and personal knowledge of the patient's preferences, values,

and medical history as well as their involvement implementing and monitoring treatment regimens (Riffin et al., 2020, 2021).

Notably, caregivers in both groups spent a comparable and relatively short proportion of the visit time to discussing concerns about themselves. This finding may help assuage clinicians' apprehensions about introducing caregiver-targeted interventions that have the potential to "open a can of worms" about the caregivers' personal problems or result in a caregiver-directed counseling session (Griffin et al., 2022; Riffin et al., 2020). Future qualitative work will need to elucidate clinicians' perceptions of CHEC, including their concerns about its clinical utility, viability, and impact on visit discussions. These data should be triangulated with patients' perspectives, following PCC principles, to afford a more complete understanding of CHEC's benefits and drawbacks, and mapped onto implementation science frameworks that consider multiple levels of influence, including inner setting, outer setting, and individual characteristics (Damschroder et al., 2022).

In post-test surveys, CHEC group caregivers reported significantly greater knowledge of available resources and supports than caregivers in the standard care condition. This potential benefit of CHEC is important for addressing deficits in caregivers' knowledge, awareness, and use of supportive services (Soong et al., 2020; Travers et al., 2023) and is reflected in the present study by caregivers' common endorsement of the checklist item that identified their need for help arranging health-related services for the patient. A goal for future research will be to review visit audio recordings to characterize the types of resources provided by participating physicians and conduct longitudinal assessments to determine the impact of such discussions on caregivers' service use and patients' health care quality and outcomes.

Findings from this study should be interpreted in the context of several limitations. As a small feasibility trial, the study was not powered to conduct multivariable analyses that account for caregiver characteristics or to evaluate treatment effects by time. Additionally, our findings may not generalize to mainstream primary care practice, given that recruitment occurred at a single academic geriatrics clinic with generous appointment lengths that may have enabled greater discussion of caregiver concerns (Neprash et al., 2021).

Caregiver participants in this study had high levels of education and health literacy, substantial experience in their caregiving role, and significant involvement in patient care, with nearly three-quarters reporting that they always accompanied the patient to medical appointments. It is possible that these factors contributed to the ceiling effects observed in post-visit measures of caregiver self-efficacy in primary care interactions. Careful examination of these attributes and their potential to moderate CHEC's effects will be critical in an adequately powered trial that includes caregivers with greater heterogeneity in baseline characteristics. Finally, given the scope of this study, we did not collect self-report data from patients regarding their perceptions of the quality of visit discussions or impressions of the checklist itself, nor did we collect information about CHEC's utility or acceptability from the clinicians' perspectives. Collection of patient- and clinician-reported outcomes is a prime area for future investigation that is aligned with person-centered orientation to primary care delivery.

Conclusion

The results of this pilot trial offer compelling evidence of CHEC's potential as a clinically feasible intervention that can promote greater inclusion of caregivers in geriatric primary care discussions, particularly conversations that center around patient-focused issues. This finding signals an opportunity for primary care practices to consider CHEC as promising intervention to support PCC. A fully powered trial will be a critical next step to establish CHEC's efficacy and potential implementation in a broader array of primary care practices, including those serving low-income and rural communities.

Acknowledgments.

The authors wish to thank Amanda Figueroa-Nieves for her assistance with reference management as well as Diane Kang, Wells Lee, Emma Luthi, Omeed Moini, Priya Mukhi, and Flavia Scott for their assistance with data collection, organization, and coding.

Funding.

Research reported in this publication was supported by the National Institute on Aging (NIA) under award numbers K01AG061275 (PI: Riffin) and R35AG072310 (PI: Wolff). Catherine Riffin and Karl A. Pillemer also acknowledge support from an Edward R. Roybal Center Grant from the NIA (P30AG022845). Access to the REDCap tool was provided by the Weill Cornell Clinical & Translational Science Center, which is funded by the National Institutes of Health (UL1TR002384).

Sponsor's Role.

The funding sources had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

References.

Amjad H, Mulcahy J, Kasper JD, Burgdorf J, Roth DL, Covinsky K, & Wolff JL (2021). Do Caregiving Factors Affect Hospitalization Risk Among Disabled Older Adults? Journal of the American Geriatrics Society, 69(1), 129–139. 10.1111/jgs.16817 [PubMed: 32964422]

Bolton R, Logan C, & Gittell JH (2021). Revisiting Relational Coordination: A Systematic Review. The Journal of Applied Behavioral Science, 57(3), 290–322. 10.1177/0021886321991597

Boydston J (2018). Use of a standardized care communication checklist during multidisciplinary rounds in pediatric cardiac intensive care: A best practice implementation project. JBI Evidence Synthesis, 16(2), 548. 10.11124/JBISRIR-2017-003350

Bree RT, & Gallagher G (2016). Using Microsoft Excel to code and thematically analyse qualitative data: A simple, cost-effective approach. All Ireland Journal of Higher Education, 8(2), Article 2. https://ojs.aishe.org/index.php/aishe-j/article/view/281

Callahan CM, Unverzagt FW, Hui SL, Perkins AJ, & Hendrie HC (2002). Six-item screener to identify cognitive impairment among potential subjects for clinical research. Medical Care, 40(9), 771–781. 10.1097/00005650-200209000-00007 [PubMed: 12218768]

Chew LD, Bradley KA, & Boyko EJ (2004). Brief questions to identify patients with inadequate health literacy. Family Medicine, 36(8), 588–594. [PubMed: 15343421]

Cussen J, Mukpradab S, Tobiano G, Cooke C, Pearcy J, & Marshall AP (2024). Early mobility and family partnerships in the intensive care unit: A scoping review of reviews. Nursing in Critical Care, 29(3), 597–613. 10.1111/nicc.12979 [PubMed: 37749618]

Damschroder LJ, Reardon CM, Widerquist MAO, & Lowery J (2022). The updated Consolidated Framework for Implementation Research based on user feedback. Implementation Science, 17(1), 75. 10.1186/s13012-022-01245-0 [PubMed: 36309746]

Dunbar SB, Clark PC, Reilly CM, Gary RA, Smith A, McCarty F, Higgins M, Grossniklaus D, Kaslow N, Frediani J, Dashiff C, & Ryan R (2013). A trial of family partnership and education interventions

in heart failure. Journal of Cardiac Failure, 19(12), 829–841. 10.1016/j.cardfail.2013.10.007 [PubMed: 24331203]

Gautreau SJ, Gould ON, Allanach WW, Clark AE, Massoeurs SJ, & Forsythe ME (2019). Total Knee Arthroplasty Communication Checklist Increases Patient Satisfaction. The Journal of Arthroplasty, 34(3), 456–461. 10.1016/j.arth.2018.11.032 [PubMed: 30594339]

Griffin JM, Riffin C, Bangerter LR, Schaepe K, & Havyer RD (2022). Provider perspectives on integrating family caregivers into patient care encounters. Health Services Research, 57(4), 892–904. 10.1111/1475-6773.13932 [PubMed: 34957543]

House S, Wilmoth M, & Kitzmiller R (2022). Relational coordination and staff outcomes among healthcare professionals: A scoping review. Journal of Interprofessional Care, 36(6), 891–899. 10.1080/13561820.2021.1965101 [PubMed: 34392784]

Khan NNS, Todem D, Bottu S, Badr MS, & Olomu A (2022). Impact of patient and family engagement in improving continuous positive airway pressure adherence in patients with obstructive sleep apnea: A randomized controlled trial. Journal of Clinical Sleep Medicine: JCSM: Official Publication of the American Academy of Sleep Medicine, 18(1), 181–191. 10.5664/jcsm.9534 [PubMed: 34270409]

Knowlton SE, Shih SL, Brizzi K, Spaulding A, Ross M, Tolchin DW, & Brady Wagner L (2024). Strategies to improve the experience of patients with brain tumors in the inpatient rehabilitation setting: Development of a care coordination checklist. Disability and Rehabilitation, 46(5), 911–916. 10.1080/09638288.2023.2183991

Lewinski AA, Crowley MJ, Miller C, Bosworth HB, Jackson GL, Steinhauser K, White-Clark C, McCant F, & Zullig LL (2021). Applied Rapid Qualitative Analysis to Develop a Contextually Appropriate Intervention and Increase the Likelihood of Uptake. Medical Care, 59(Suppl 3), S242–S251. 10.1097/MLR.0000000000001553 [PubMed: 33976073]

Lingard L, Regehr G, Orser B, Reznick R, Baker GR, Doran D, Espin S, Bohnen J, & Whyte S (2008). Evaluation of a preoperative checklist and team briefing among surgeons, nurses, and anesthesiologists to reduce failures in communication. Archives of Surgery (Chicago, Ill.: 1960), 143(1), 12–17; discussion 18. 10.1001/archsurg.2007.21 [PubMed: 18209148]

Lyons VE, & Popejoy LL (2014). Meta-analysis of surgical safety checklist effects on teamwork, communication, morbidity, mortality, and safety. Western Journal of Nursing Research, 36(2), 245–261. 10.1177/0193945913505782 [PubMed: 24068073]

Maly RC, Frank JC, Marshall GN, DiMatteo MR, & Reuben DB (1998). Perceived efficacy in patient-physician interactions (PEPPI): Validation of an instrument in older persons. Journal of the American Geriatrics Society, 46(7), 889–894. 10.1111/j.1532-5415.1998.tb02725.x [PubMed: 9670878]

Neprash HT, Everhart A, McAlpine D, Smith LB, Sheridan B, & Cross DA (2021). Measuring Primary Care Exam Length Using Electronic Health Record Data. Medical Care, 59(1), 62–66. 10.1097/MLR.0000000000001450 [PubMed: 33301282]

Newkirk M, Pamplin JC, Kuwamoto R, Allen DA, & Chung KK (2012). Checklists change communication about key elements of patient care. The Journal of Trauma and Acute Care Surgery, 73(2 Suppl 1), S75–82. 10.1097/TA.0b013e3182606239 [PubMed: 22847100]

Nickel WK, Weinberger SE, Guze PA, Patient Partnership in Healthcare Committee of the American College of Physicians, Carney J, Ende J, Hoy E, Myerson S, Rothholz M, Sands D, Schneider D, Sweeney JM, & Sweet DE (2018). Principles for Patient and Family Partnership in Care: An American College of Physicians Position Paper. Annals of Internal Medicine, 169(11), 796–799. 10.7326/M18-0018 [PubMed: 30476985]

Ose SO (2016). Using Excel and Word to Structure Qualitative Data. Journal of Applied Social Science, 10(2), 147–162. 10.1177/1936724416664948

Patient Safety and Quality Committee, Society for Maternal-Fetal Medicine, Gibson KS, & McLean D (2020). Society for Maternal-Fetal Medicine Special Statement: A maternal transport briefing form and checklist. American Journal of Obstetrics and Gynecology, 223(5), B12–B15. 10.1016/j.ajog.2020.08.065 [PubMed: 32861688]

Renfro CP, Rome Z, Gatwood J, & Hohmeier KC (2022). Use of Rapid Assessment Procedures when analyzing qualitative data in pharmacy research. Research in Social & Administrative Pharmacy: RSAP, 18(1), 2249–2253. 10.1016/j.sapharm.2021.05.013 [PubMed: 34116965]

Riffin C, Wolff JL, Butterworth J, Adelman RD, & Pillemer KA (2021). Challenges and approaches to involving family caregivers in primary care. Patient Education and Counseling, 104(7), 1644–1651. 10.1016/j.pec.2020.11.031 [PubMed: 33280966]

Riffin C, Wolff JL, Estill M, Prabhu S, & Pillemer KA (2020). Caregiver Needs Assessment in Primary Care: Views of Clinicians, Staff, Patients, and Caregivers. Journal of the American Geriatrics Society, 68(6), 1262–1270. 10.1111/jgs.16401 [PubMed: 32167573]

Riffin C, Wolff JL, & Pillemer KA (2021). Assessing and addressing family caregivers' needs and risks in primary care. Journal of the American Geriatrics Society, 69(2), 432–440. 10.1111/jgs.16945 [PubMed: 33217776]

Riffin C, Wolff JL, & Pillemer KA (2024). Development and evaluation of a caregiver checklist for primary care. Families, Systems, & Health. Advance online publication. 10.1037/fsh0000937

Russ S, Rout S, Sevdalis N, Moorthy K, Darzi A, & Vincent C (2013). Do safety checklists improve teamwork and communication in the operating room? A systematic review. Annals of Surgery, 258(6), 856–871. 10.1097/SLA.0000000000000206 [PubMed: 24169160]

Soong A, Au ST, Kyaw BM, Theng YL, & Tudor Car L (2020). Information needs and information seeking behaviour of people with dementia and their non-professional caregivers: A scoping review. BMC Geriatrics, 20(1), 61. 10.1186/s12877-020-1454-y [PubMed: 32059648]

Svendsen ML, Ellegaard T, Jeppesen KA, Riiskjær E, & Nielsen BK (2021). Family involvement and patient-experienced improvement and satisfaction with care: A nationwide cross-sectional study in Danish psychiatric hospitals. BMC Psychiatry, 21(1), 190. 10.1186/s12888-021-03179-1 [PubMed: 33849472]

Thomas LC (2017). Improving Caregiver Knowledge of Support Resources. Federal Practitioner: For the Health Care Professionals of the VA, DoD, and PHS, 34(3), 45–48.

Travers JL, Rosa WE, Shenoy S, Bergh M, & Fabius CD (2023). Characterizing caregiving supportive services use by caregiving relationship status. Journal of the American Geriatrics Society, 71(5), 1566–1572. 10.1111/jgs.18213 [PubMed: 36571796]

Umberson D, & Thomeer MB (2020). Family Matters: Research on Family Ties and Health, 2010–2020. Journal of Marriage and the Family, 82(1), 404–419. 10.1111/jomf.12640 [PubMed: 33867573]

Van Os J, Altamura AC, Bobes J, Gerlach J, Hellewell JSE, Kasper S, Naber D, & Robert P (2004). Evaluation of the Two-Way Communication Checklist as a clinical intervention. Results of a multinational, randomised controlled trial. The British Journal of Psychiatry: The Journal of Mental Science, 184, 79–83. 10.1192/bjp.184.1.79 [PubMed: 14702232]

Wolff JL, & Boyd CM (2015). A Look at Person-Centered and Family-Centered Care Among Older Adults: Results from a National Survey. Journal of General Internal Medicine, 30(10), 1497–1504. 10.1007/s11606-015-3359-6 [PubMed: 25933625]

What this paper adds?

- Collaborative Healthcare Encounters with Caregivers (CHEC) is feasible to administer in primary care and may promote greater involvement of family caregivers in patient-centered discussions.
- CHEC has the potential to enhance family caregivers' efficacy in their primary care interactions and knowledge of relevant services and supports.
- Primary care practices may consider CHEC as a promising strategy for supporting family engagement while minimizing time demands.

Application of study findings

Family partnerships can positively affect patients' care quality and outcomes. Our checklist-based intervention, Collaborative Healthcare Encounters with Caregivers (CHEC) is a promising tool for supporting family-centered care and warrants further evaluation in a broader array of primary care practices.

Table 1.

Characteristics of Study Participants

Characteristic	Total Sample (N=52)	CHEC (n=28)	Usual Care (n=24)	P-value
Caregiver				
Age, M ± SD[a]	64.0 ± 12.1	66.7 ± 11.2	60.8 ± 12.6	.08
Gender, female, n (%)[a]	41 (78.8)	26 (92.9)	15 (62.5)	.001
Race, white, n (%)[a]	39 (78.0)	19 (70.4)	20 (87.0)	.68
Ethnicity, non-Hispanic, n (%)[a]	45 (86.5)	25 (89.3)	20 (83.3)	.81
Education, college graduate, n (%)	43 (82.7)	25 (89.3)	18 (75.0)	.17
Marital status, married, n (%)[a]	33 (63.5)	19 (67.9)	14 (58.3)	.07
Employed full-time, n (%)[a]	19 (36.5)	9 (32.1)	10 (41.7)	.78
Relationship to patient, % (n)[b]				.25
Spouse, husband, wife	14 (26.9)	10 (35.7)	4 (16.7)	
Child, daughter, son	27 (51.9)	13 (46.4)	14 (58.3)	
Other, relative, friend	11 (21.2)	6 (21.4)	5 (20.8)	
Health literacy, M ± SD[a]	4.5 ± 0.6	4.6 ± 0.5	4.5 ± 0.6	.65
Number of years spent caregiving, M ± SD[a]	8.1 ± 9.1	9.3 ± 11.6	6.8 ± 5.1	.33
Hours per week spent caregiving, M ± SD[a]	32.5 ± 51.0	41.2 ± 59.3	23.0 ± 39.2	.22
Frequency of accompanying patient to medical visits, n (%)[b]				.26
All appointments	36 (70.6)	22 (78.6)	14 (60.9)	
Most appointments	9 (17.6)	4 (14.3)	5 (21.7)	
Some appointments	6 (11.8)	4 (14.3)	2 (8.7)	
Caregiving tasks, n (%)[b]				
Providing personal care (e.g., bathing, dressing)	20 (38.5)	13 (46.4)	7 (29.2)	.21
Administering medications	31 (59.6)	15 (53.6)	16 (66.7)	.35
Scheduling doctors' appointments	43 (82.7)	23 (82.1)	20 (83.3)	.91
Coordinating services (e.g., home health care)	33 (66.0)	18 (66.7)	15 (55.6)	.92
Patient				
Age, M ± SD[a]	86.3 ± 7.0	86.7 ± 8.2	86.0 ± 5.5	.74
Gender, female, n (%)[a]	31 (59.6)	13 (46.4)	18 (75.0)	.04
Race, white, n (%)[a]	34 (69.4)	18 (66.7)	16 (72.7)	.67
Ethnicity, non-Hispanic, n (%)[a]				
Insurance, n (%)[b]				.13
Private insurance	39 (74.5)	17 (60.7)	22 (78.6)	
Public insurance (Medicare, Medicaid)	42 (82.4)	25 (89.3)	17 (70.8)	
Living arrangement, n (%)[b]				.13
Alone	12 (25.5)	3 (11.5)	9 (42.9)	
With family/caregiver	30 (63.8)	19 (73.1)	11 (52.4)	
Assisted living facility	4 (8.51)	4 (15.4)	4 (19.0)	

Characteristic	Total Sample (N=52)	CHEC (n=28)	Usual Care (n=24)	P-value
Major health conditions, n (%)[b]				
Dementia	16 (30.7)	9 (32.1)	7 (29.2)	.82
Diabetes	9 (17.3)	4 (14.3)	5 (20.8)	.55
Cancer	11 (21.1)	3 (10.7)	8 (33.3)	.06
Kidney disease	12 (23.1)	4 (14.3)	8 (33.3)	.12
Number of medications, M ± SD[a]	7.6 ± 4.3	7.2 ± 4.52	8.0 ± 4.2	.51
Number of outpatient visits (past 6 months), M ± SD[a]	6.3 ± 7.19	6.6 ± 6.9	6.0 ± 7.7	.78

[*] Missing data: caregiver race, n = 3; number of years spent caregiving n = 5; hours per week spent caregiving, n = 4; frequency of accompanying patient to medical visits, n = 1; patient race, n = 3; patient living arrangement, n = 5; number of medications, n = 2.

[a] Significance determined by independent sample t tests.

[b] Significance determined by one-way ANOVA.

Table 2.

Acceptability and Utility of the Checklist among Intervention Group Caregivers (N=28)

	N (%)
Completed checklist prior to visit	28 (100.0)
Referenced checklist during visit	22 (78.6)
Perceived checklist to be the right length	23 (82.1)
Perceived checklist as easy to complete	25 (89.3)
Would recommend checklist to other caregivers	21 (75.0)
Perceived checklist to help with identifying and prioritizing concerns	20 (71.4)
Perceived checklist to help medical team to recognize concerns	22 (78.6)