Impact of mHealth-Augmented Social Support on Healthcare Utilization Among Patients with Diabetes: A Secondary Analysis of the TExT-MEDS + FANS Trial

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Abstract

The rising cost of unscheduled acute healthcare, particularly for emergency department (ED) visits, poses significant financial burdens, especially for patients with diabetes, with US ED costs reaching $19.3 million in 2022. This study explores the impact of a mobile health (mHealth) intervention with augmented social support on healthcare utilization among diabetes patients through a secondary analysis of the TExT-MEDS + FANS randomized controlled trial. The trial involved 173 participants randomized into mHealth-augmented social support (FANS) and traditional support (mailed pamphlet) groups. Results showed significant reductions in acute unscheduled care visits for both groups during and after the intervention, with the FANS group experiencing a reduction of 1.04 visits during the intervention and 1.10 visits post-intervention, while the control group had reductions of 1.47 and 1.53 visits, respectively. Clinic visits increased during the intervention phase but did not sustain post-intervention, and hospitalizations modestly decreased in both groups. Gender and supporter relationship differences were observed, with females supported by spouses in the active control group showing the largest decrease in unscheduled care visits. The findings suggest that mHealth interventions combined with social support can effectively manage diabetes and reduce healthcare costs, particularly for groups with limited access to care.

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Abstract

The rising cost of unscheduled acute healthcare, particularly for emergency department (ED) visits, poses significant financial burdens, especially for patients with diabetes, with US ED costs reaching $19.3 million in 2022. This study explores the impact of a mobile health (mHealth) intervention with augmented social support on healthcare utilization among diabetes patients through a secondary analysis of the TExT-MEDS + FANS randomized controlled trial. The trial involved 173 participants randomized into mHealth-augmented social support (FANS) and traditional support (mailed pamphlet) groups. Results showed significant reductions in acute unscheduled care visits for both groups during and after the intervention, with the FANS group experiencing a reduction of 1.04 visits during the intervention and 1.10 visits post-intervention, while the control group had reductions of 1.47 and 1.53 visits, respectively. Clinic visits increased during the intervention phase but did not sustain post-intervention, and hospitalizations modestly decreased in both groups. Gender and supporter relationship differences were observed, with females supported by spouses in the active control group showing the largest decrease in unscheduled care visits. The findings suggest that mHealth interventions combined with social support can effectively manage diabetes and reduce healthcare costs, particularly for groups with limited access to care.

Introduction

The cost of unscheduled, acute healthcare, particularly for emergency department (ED) care, is growing. The strain is particularly evident among patients with diabetes, with US ED costs related to diabetes care amounting to $19.3 million in 2022[1]. Patients with diabetes may need frequent unscheduled care due to complicated care needs, difficulty accessing care, and lack of self-management skills that result in clinical decompensation[2,3]. The US healthcare system often faces heavy financial burdens resulting from unscheduled visits[1,4]. Additionally, high medical bills and unpredicted lost productivity ultimately pose significant expenses to patients themselves[5]. This is

compounded by the broader societal impact, where increased healthcare spending can affect economic stability. Finding strategies to minimize these costs are important to creating a more sustainable healthcare ecosystem.

Within the context of such challenges, mobile health (mHealth) interventions offer an approach to managing chronic diseases like diabetes, providing tools such as glucose monitoring, medication reminders, dietary tracking, and personalized coaching[6,7]. These platforms aim to reduce healthcare costs, improve accessibility, and enhance patient medication taking, engagement, and involvement[8-10]. Examining the impact of mHealth interventions on healthcare utilization is crucial for evaluating their feasibility and scalability across various healthcare settings and populations, as they can greatly reduce direct costs[11,12]. Integrating family support into mHealth platforms could enhance diabetes management, with potential benefits for patient care[13]. Research comparing mHealth-directed social support to traditional in-person interactions could inform comprehensive diabetes management strategies, and ultimately reduce costs related to unscheduled visits[14,15].

To understand the impact of mobile health integrated social support on healthcare utilization, this study offers a detailed analysis of healthcare utilization trends as a secondary analysis of TExT-MEDS + FANS, a randomized controlled trial of mHealth augmented social support compared to standard social support added to a patient focused mHealth curriculum for patients with diabetes. The primary research objectives were to dissect the relationship between mHealth-delivered social support and its influence on healthcare-seeking behaviors, including the frequency and nature of healthcare utilization. We also examined if the character of the existing support relationships prior to the intervention modified the intervention effect.

Methods

Research Methodology: TExT-MED + FANS (Trial to Examine Text-Messaging in Emergency patients with Diabetes + Family and friends Network Support) was a 12-month comparative effectiveness randomized controlled trial investigated the impact of integrating mHealth-enhance

support into a text messaging intervention focused on patients. Participants were enrolled from June 2017 to December 2019. For further information on employed methods in TExT-MED+FANS and the specific mHealth program under study, please refer to the publication in Contemporary Clinical Trials[16].

Study Population: Enrolled participants were individuals with diabetes who visited the Emergency Department at the Los Angeles County + University of Southern California Medical Center (now Los Angeles General Medical Center). These individuals, along with their designated social supporters, were recruited for the study. The Medical Center is one of two Level I trauma centers in the Los Angeles area, and contains one of the world's busiest Emergency Departments, with over 95,000 annual visits[17]. Situated in a Federal Medically Underserved Area, the hospital predominantly serves individuals who speak Spanish and come from Latine/Hispanic and low-socioeconomic backgrounds.

Study Protocol:

Screening: Patients were eligible to participate if they had either type 1 or type 2 diabetes with elevated A1C levels (A1c > 8.5), were aged 18 or older, possessed the capability to send and receive text messages, could identify a supporter, and were able to provide informed consent.

Enrollment of Patient: Trained research assistants approached patients with diagnosed diabetes in their electronic medical records, regardless of the nature of the patient's visit. Patients provided informed consent and completed an intake interview in their preferred language (English or Spanish). They were then registered in the text-messaging platform to access the TExT-MED patient curriculum. While in the ED, patients nominated a family member or close friend to serve as their supporter for the study and research assistants collected contact information for up to three supporters.

Enrollment of Support Person: Support person enrollment took place concurrently in the ED or through telephone communication within a two-week window following patient enrollment.

Supporters completed the enrollment process by providing informed consent and verifying their ability to send and receive text messages.

Randomization: Following supporter enrollment, patient-supporter dyads were randomized to either mHealth-augmented social support through the FANS (Family And friends Network Support) program or standard social support (mailed pamphlet). If the dyad was randomized to the FANS arm, research assistants registered the family member for the text-messaging platform to receive the mHealth-augmented support curriculum.

Treatment Groups: Every patient received the text message-based patient curriculum (TExT-MED) regardless of their group assignment. Supporters in the intervention group received a text message-based curriculum (FANS) guiding them to provide mHealth-augmented social support to their loved one. Supporters in the active control group received standard social support through the same material and curriculum distributed via mailed pamphlet.

Measures: Electronic medical record (EMR) review determined patient healthcare utilization. Acute unscheduled care encompassed any visit to the Medical Center Emergency Department or Urgent Care, or any hospitalizations in the Los Angeles County (LAC) Department of Health Services system. In this study, scheduled care referred to any fulfilled clinic appointment with a primary care provider associated with the Los Angeles County Department of Health Services. All calculations underwent scrutiny by two reviewers, with any discrepancies resolved through consensus.

Measurement phases:

- **Prior**: 6 months prior to enrollment.
- **Active**: Intervention start date to intervention end date (a 6-month period).
- **Post-intervention**: End of intervention date to 6 months after intervention. Subjects did not receive text messages during this period.

At the time of enrollment, patients self-reported their sex, race/ethnicity, primary language, duration of diabetes, and access to primary care. Age and insurance status were extracted from the EMR. Insurance status was classified as means-tested (including Medicaid – government insurance-based),

non-means-tested (such as Medicare and private insurance), or uninsured (no recorded insurance at the time of the visit). The supporter's sex was reported by the supporter, and for analysis purposes, supporters identified as cohabitating significant others by the patient were considered spouses. Supporters other than spouses were categorized as non-spouse supporters, encompassing various relationships such as siblings, friends, or children.

Data analysis: One participant's data was removed from the analytic population because of thrice weekly procedures in the ED during the study phase. The intervention effectiveness was otherwise examined with an intention-to-treat approach, regardless of patient or supporter dropping out of the TExT-MED or FANS text messages. Analysis was completed with STATA 17.0 (citation). Data was examined with histograms, and did not violate assumptions of heteroscadascity. Baseline characteristics were examined descriptively as a whole and by intervention group (Table 1).

In our main effects analysis, we used linear regression models of change scores of healthcare visits from 1) baseline to end of intervention phases, and 2) from end of intervention to end of maintenance phase, examining differences in in health care utilization by the FANS augmented vs traditional support groups (Table 2). Differences between groups were estimated with the contrast and margins function. We individually examined unscheduled acute care visits (ED and urgent care visits), hospitalizations and scheduled care (clinic) visits. We then used an interaction term for gender and supporter relationship to examine the moderating effect of supporter relationship and gender with the same procedures. (Table 3).

Results

In this study, a total of 3,963 patients with diabetes were identified from electronic health records (EHR) while in the emergency department (Figure 1). Out of these, 1,959 patients were not screened due to various reasons including critical illness (n=449), discharge or non-approach before ED discharge (n=940), lack of alertness and orientation (n=267), language barriers (n=116), and

other reasons (n=95). Among the screened individuals, 1,739 were excluded for: inability to send text messages (n=613), lack of a stable mobile phone (n=427), A1C levels below 8.5% (n=394), absence of a supportive individual (n=122), and other reasons (n=183), see Figure 1 for detailed inclusion and exclusion numbers. Ultimately, 173 patients were randomized into the study, allocated either to mHealth Augmented Support (n=86) or Mailed Pamphlet Support (n=87). One participant in the mHealth Augmented Support was excluded in this analysis as they were undergoing three times weekly dialysis treatment in the emergency department due to insurance limitations during the study period. The final analytic population was composed of 165 participants randomized into two intervention groups: mHealth Augmented Support (FANS) with 79 participants and Mailed Pamphlet Support with 86 participants.

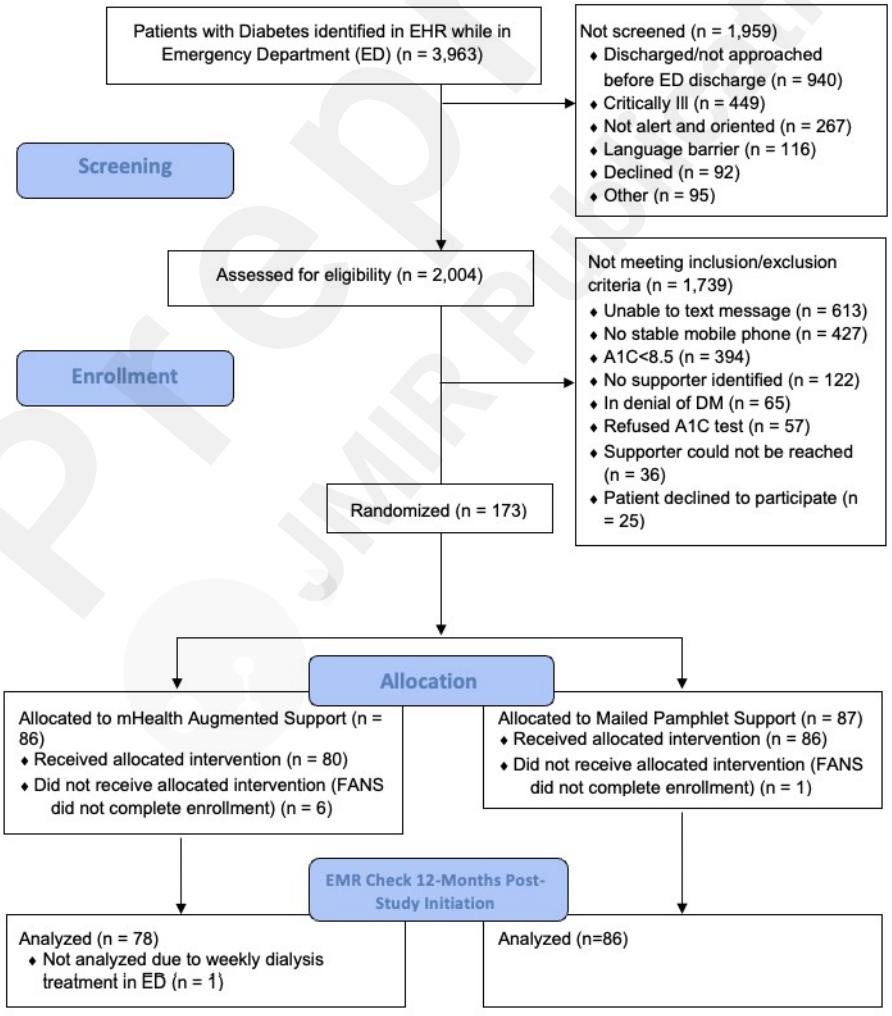

Figure 1. Participant Flow Diagram

The average age of a patient was 47.59 years, and males comprised approximately half of the study population, with a slightly higher proportion in the FANS group (57%) compared to the pamphlet group (43%). The majority of participants self-identified as Latine/Hispanic (92.12%), with small representations from Non-Latine/Hispanic White (1.21%), Asian (1.21%), and Black (5.45%) backgrounds. A substantial proportion of participants primarily spoke Spanish (69.70%). Insurance coverage was predominantly means-based (Medicaid or other means-based government insurance programs) (92.73%), with a few participants either non-means-based insured (Medicare or private insurance) (4.24%) or uninsured (3.03%). Most participants had visited primary care within the previous six months (76.97%). The average duration of diabetes among the participants was 11.39 years, indicating a longstanding condition of diabetes within the cohort (See Table 1).

Table 1. Demographic Data

	Active Control	FANS	Combined
n	86	79	165
Age, Δ (SD)	48.25 (10.84)	46.88 (10.05)	47.59 (10.46)
Male % (n)	43.02 (n = 37)	56.96 (n = 45)	49.70 (n = 82)
Spouse as Supporter (%, n)	43.02 (n = 37)	36.71 (n = 29)	40.00 (n = 66)
Race/Ethnicity (%) Hispanic Non-Hispanic White Asian Black	 94.19 0 2.33 3.43	 89.87 2.53 0 7.59	 92.12 1.21 1.21 5.45
Spanish Primary Language (%)	74.42	64.56	69.70
Insurance type (%) Means-Based Non-Means-Based Uninsured	 95.35 2.33 2.33	 89.87 6.33 3.80	 92.73 4.24 3.03
Self-Reported at least one Primary Care Visit(s) in 6 months Prior to Study (%, n)	74.42 (n = 64)	79.75 (n = 63)	76.97 (n = 127)
Years with Diabetes, Δ (SD)	11.65 (8.52)	11.10 (9.01)	11.39 (8.74)
Did not complete full curriculum (%)	6.98 (n = 6)	5.06 (n = 4)	6.06 (n = 10)

The results from the study indicated significant changes in healthcare utilization across

different types of care visits during the intervention and post-intervention phases (Table 2). During the intervention phase, there was a notable reduction in acute unscheduled care visits across both intervention groups. The FANS group experienced an average decrease of 1.04 visits (*P*<.001), while the active control group saw a larger average decrease of 1.47 visits (*P*<.001). This trend was sustained post-intervention, with reductions of 1.10 and 1.53 visits respectively for FANS and active control, both statistically significant (*P*<.001). The difference between active control and FANS was not statistically significant in either period.

Clinic visits increased during the intervention phase, with the FANS group showing an increase of 1.78 visits (*P*=.012) and the active control group an increase of 1.00 visits (*P*=.023). However, this increase was not sustained post-intervention, with the changes becoming statistically insignificant and the direction of change mixed. There was a difference of 0.62 visits between the intervention groups during the post-intervention period, however this was not statistically significant.

Hospitalization rates showed a modest decrease during the intervention phase with reductions of 0.24 visits in the active control group and 0.18 visits in the FANS group, with the former being statistically significant (*P*=.002). This decreasing trend in hospitalizations continued into the post-intervention phase with similar reductions. There was difference in -0.07 between the intervention groups, though this was not statistically significant.

Table 2: Main Outcomes

	Active Control (Mailed Pamphlet) (n = 86)	**FANS (mHealth Augmented Social Support) (n = 79)**	**Between Group Difference in Change Score (Active Control – FANS)**	**Combined Total Study Population (n = 165)**
Δ Acute unscheduled care visits **intervention phase** vs. patient's baseline	-1.47 (-1.87 to -1.06) *P*<0.001	-1.04 (-1.41 to -0.66) *P* <0.001	-0.43 (-0.98 to 0.12) *P*=.130	-1.26 (-1.54 to -0.99) *P*<0.001
Δ Acute unscheduled care visits **post-intervention phase** vs. patient's baseline	-1.53 (-1.93 to -1.14) *P*<0.001	-1.10 (-1.52 to -0.69) *P*<0.001	-0.43 (-1.00 to 0.13) *P*=.130	-1.33 (-1.61 to -1.04) *P*<0.001
Δ Clinic visits **intervention phase** vs. patient's baseline	1.00 (0.13 to 1.80) *P*=.023	1.78 (0.40 to 3.17) *P*=.012	-0.82 (-2.39 to 0.75) *P*=.310	1.36 (0.57 to 2.14) *P*<0.001
Δ Clinic visits **post-**	-0.14 (-1.20 to 0.92)	0.48 (-0.81 to 1.77)	-0.62 (-2.26 to 1.02)	0.16 (0.81 to 1.00)

intervention phase vs. patient's baseline	*P*=.794	*P*=.460	*P*=.460	*P*=0.700
Δ Hospitalizations **intervention phase** vs. patient's baseline	-0.24 (-0.40 to 00.09) *P*=.002	-0.18 (-0.37 to 0.01) *P*=.066	-0.07 (-0.31 to 0.17) *P*=.580	-0.21 (-0.33 to -0.09) *P*<0.001
Δ Hospitalizations **Post-intervention phase** vs. patient's baseline	-0.22 (-0.38 to -0.06) *P*=.007	-0.20 (-0.44 to 0.04) *P*=.099	-0.02 (-0.30 to 0.26) *P*=.900	-0.21 (-0.35 to -0.07) *P*=.003

During the 6-month interval, females with spouse supporters in the active control group experienced a significant decrease in acute unscheduled care visits, showing a reduction of 2.41 visits (*P*<.001). In contrast, males with spouse supporters saw a decrease of 1.19 visits (*P*<.01) in the FANS group and a similar decrease in the active control group. Females with non-spouse supporters and males with non-spouse supporters also showed significant decreases, though the effect was strongest in those with spouse supporters. Clinic visits increased significantly during the 6-month interval for both females and males with spouse supporters in the FANS group, with increases of 4 visits (*P*=.012) and 3.21 visits (*P*=.012) respectively.

Table 3. Gender and Supporter Type Sub-Analysis (with significant *P*-values marked)

	Female with Spouse Supporters		**Females with Non-Spouse Supporters**		**Male with Spouse Supporters**		**Males with Non-Spouse Supporters**	
	Active Control	*FANS*	*Active Control*	*FANS*	*Active Control*	*FANS*	*Active Control*	*FANS*
Acute unscheduled Care								
Δ 6-Month	-2.41[c] (-3.24 to -1.59)	0.63 (0.58 to 1.83)	-1.25[c] (-1.85 to -0.65)	-1.58[c] (-2.25 to -0.91)	-1.05[b] (-1.81 to -0.29)	-1.19[b] (-1.93 to -0.45)	-1.41[c] (-2.24 to -0.59)	-0.88[a] (-1.57 to -0.18)
Δ 12-Month	-2.76[c] (-3.61 to -1.92)	0.38 (-0.86 to 1.61)	-1.25[c] (-1.87 to -0.63)	-1.42[c] (-2.11 to -0.74)	-0.9[b] (-1.68 to -0.12)	-1.00[b] (-1.76 to -0.24)	-1.59[c] (-2.44 to -0.74)	-1.33[c] (-2.05 to -0.62)
Clinic Visits								
Δ 6-Month	2.47 (0.05 to 4.89)	4.00 (0.47 to 7.53)	1.50 (--0.26 to 3.3)	0.04 (-1.92 to 1.99)	-0.35 (-2.58 to 1.88)	1.48 (-0.70 to 3.65)	0.00 (-2.42 – 2.42)	3.21 (1.17 to 5.24)
Δ 12-Month	1.12 (-1.40 to 3.63)	4.75 (1.08 to 8.42)	0.03 (-1.80 to 1.87)	-0.62 (-2.65 to 1.42)	-1.55 (-3.87 to 0.77)	-1.05 (-3.31 to 1.22)	-0.06 (-2.57 to 2.46)	1.58 (-0.53 to 3.70)
Hospitalizations								

Δ 6-Month	-0.18 (-0.55 to 0.20)	-0.38 (-0.92 to 0.17)	-0.28[a] (-0.56 to -0.01)	0.04 (-0.27 to 0.34)	-0.25 (-0.60 to 0.10)	-0.24 (-0.58 to 0.10)	-0.24 (-0.61 to 0.14)	-0.29 (-0.61 to 0.03)
Δ 12-Month	-0.24 (-0.68 to 0.21)	-0.25 (-0.90 to 0.40)	-0.19 (-0.51 to 0.14)	-0.12 (-0.48 to 0.24)	-0.3 (-0.71 to 0.11)	-0.05 (-0.45 to 0.35)	-0.18 (-0.62 to 0.27)	-0.42[a] (-0.79 to -0.04)

P not significant
[a] indicates $P<0.05$
[b] indicates $P<0.01$
[c] indicates $P<0.001$

Discussion

In this study, we evaluated the impact of an mHealth-augmented social support intervention (FANS) compared to an active control (mailed pamphlet) on healthcare utilization among patients with diabetes, analyzing data from 165 participants to assess changes in acute unscheduled care visits, clinic visits, and hospitalizations. The main findings indicate a significant reduction in acute unscheduled care visits and hospitalizations for both intervention and active control groups, with this effect maintained post-intervention. Moreover, an increase in clinic visits was seen during both the intervention and post-intervention phases. Additionally, we found that the type of supporter, particularly whether or not the supporter was a spouse, played a role in study participants' utilization of the mentioned health services.

The reduction in acute unscheduled care visits aligns with existing literature supporting the effectiveness of mHealth interventions and educational pamphlets in improving patient self-management[18]. Previous studies have shown that providing structured support and education to patients with chronic diseases can lead to better health outcomes[19]. Specifically for patients with diabetes, these interventions have been linked to improved diabetes care, glycemic stability and reduced A1c levels[20]. Moreover, the integration of mobile health technologies has facilitated more consistent monitoring and timely interventions, enhancing overall disease management. Such approaches not only empower patients but also foster a proactive engagement in their healthcare journey, ultimately reducing the burden on acute care services[21].

There is a notable gap in the literature regarding healthcare utilization following mHealth

interventions, particularly concerning emergency department visits, hospitalizations, and clinic visits for patients with diabetes. While extensive data exists on the impact of such interventions on other chronic conditions, like chronic obstructive pulmonary disease (COPD), similar comprehensive studies on diabetes focused mHealth interventions are lacking. Yang et al. demonstrated that an mHealth curriculum for COPD patients significantly reduced the risk of hospitalizations, although it did not yield a substantial difference in the average length of stay[22]. In this study focusing on diabetes, a marked reduction in the frequency of hospitalizations was observed both during and after the intervention, however we did not examine length of stay. While both conditions benefit from mHealth interventions, the nature and progression of diabetes and COPD may present unique challenges and opportunities for reducing healthcare utilization, emphasizing the need for more tailored research in diabetes specific programs.

The subgroup analysis revealed that while acute unscheduled care visits decreased significantly across most supporter groups, females with spouse supporters in the mHealth intervention group showed no significant change. The type of supporter may influence the intervention's effectiveness, aligning with prior work indicating that spousal support by sex can vary widely in its impact on health behaviors[23]. These patterns underscore the complex role of social support dynamics, as highlighted in previous studies which have shown that the quality and type of support can differentially impact health outcomes[24,25]. Specifically, research has emphasized the effectiveness of spousal support in chronic disease management, including diabetes, due to the consistent and close nature of the support provided[26]. Clinic visits increased significantly for females with spouse supporters during the intervention phase in both groups, which aligns with studies indicating that women are generally more proactive in seeking preventive care[27-29]. In the present study, this increase was only sustained in the mHealth group, suggesting the potential for digital health tools to maintain engagement with healthcare services. This study's findings align with these insights, suggesting that while mHealth interventions can be broadly beneficial, their impact may be moderated by the type of support relationship involved.

The findings of this study have substantial implications for public health and policy. The reduction in acute unscheduled care visits among patients with diabetes through mHealth-augmented social support interventions highlights the potential of such technologies in enhancing chronic disease management. Policymakers should consider integrating mHealth solutions into standard care protocols, particularly for populations with limited access to care, to improve healthcare accessibility and outcomes[20,30,31]. Additionally, investing in mHealth platforms could alleviate the financial burden on healthcare systems by reducing the frequency of costly acute unscheduled care visits and hospitalizations[32,33]. Public health initiatives should also focus on promoting digital literacy and access to mobile health technologies, ensuring that communities that have been historically marginalized can fully benefit from these advancements. By incorporating mHealth interventions into broader healthcare strategies, a more sustainable and equitable healthcare system can be created that better addresses the needs of patients with chronic conditions like diabetes.

This study has several limitations that must be considered when interpreting the findings. First, the small sample size and the secondary analysis nature of the study may limit the internal validity of the results. Future research with larger, more diverse populations is needed to confirm these findings. Second, acute unscheduled care visits in this study included both urgent care and emergency department visits, due to the structure of the Los Angeles County Department of Health Service Electronic Health Record System. While urgent care visits are less costly than ED visits, they still are inferior to scheduled clinic care, and are not the desired health care utilization pattern. Third, the sample was predominantly composed of individuals from Hispanic/Latine and low-socioeconomic backgrounds who utilized means-based insurance. These findings may not be generalizable to populations with different demographic and socioeconomic characteristics. Despite these limitations, the study provides valuable insights into the potential benefits of mHealth interventions. Addressing limitations and exploring tailored approaches can enhance the efficacy and reach of such interventions.

Conclusion

This study contributes to the growing body of evidence examining the use of mHealth tools to support chronic disease management, reduce the burden on healthcare systems, and support the effectiveness of structured support systems and educational interventions in enhancing patient self-management and reducing healthcare utilization. mHealth-augmented social support interventions, such as the FANS program, may be able to reduce acute unscheduled care visits and hospitalizations among patients with diabetes. Though more study in this area is needed to identify who will most benefit, we saw indications that these interventions, particularly when involving spouse supporters, can lead to meaningful improvements in healthcare outcomes and engagement with preventive care services. The significant reductions in unscheduled care visits suggest that mHealth-augmented social support can effectively improve diabetes management, particularly for disproportionately affected groups. These findings underscore the importance of incorporating digital health solutions into chronic disease management social support strategies to improve healthcare outcomes and reduce acute care reliance.

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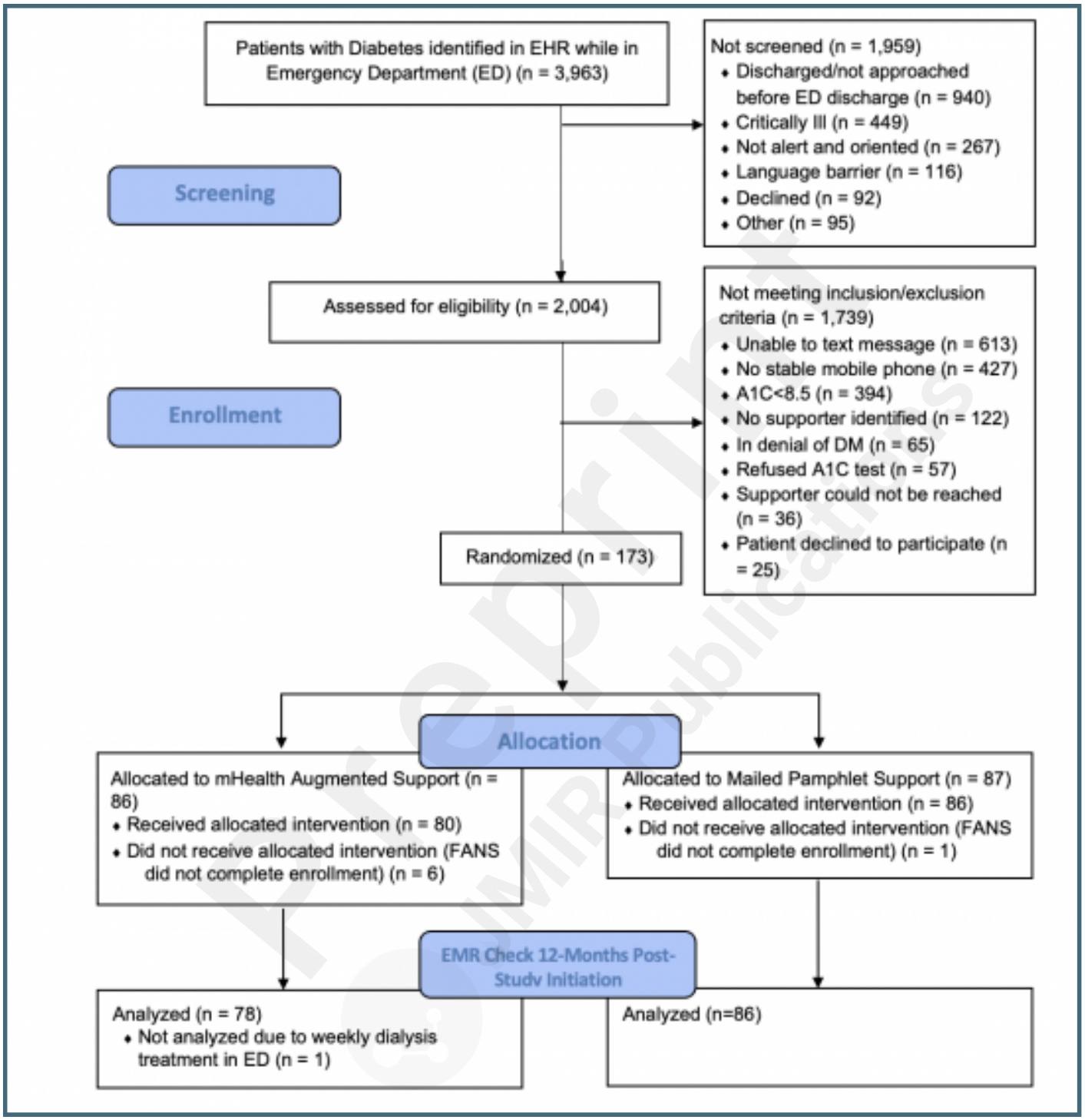
Supplementary Files

Figures

Untitled.


Patients with Diabetes identified in EHR while in Emergency Department (ED) (n = 3,963)
Not screened (n = 1,959)
Discharged/not approached before ED discharge (n = 940)
Critically Ill (n = 449)
Not alert and oriented (n = 267)
Language barrier (n = 116)
Declined (n = 92)
Other (n = 95)
Screening
Assessed for eligibility (n = 2,004)
Not meeting inclusion/exclusion criteria (n = 1,739)
Unable to text message (n = 613)
No stable mobile phone (n = 427)
A1C<8.5 (n = 394)
No supporter identified (n = 122)
In denial of DM (n = 65)
Refused A1C test (n = 57)
Supporter could not be reached (n = 36)
Patient declined to participate (n = 25)
Enrollment
Randomized (n = 173)
Allocation
Allocated to mHealth Augmented Support (n = 86)
Received allocated intervention (n = 80)
Did not receive allocated intervention (FANS did not complete enrollment) (n = 6)
Allocated to Mailed Pamphlet Support (n = 87)
Received allocated intervention (n = 86)
Did not receive allocated intervention (FANS did not complete enrollment) (n = 1)
EMR Check 12-Months Post-Study Initiation
Analyzed (n = 78)
Not analyzed due to weekly dialysis treatment in ED (n = 1)
Analyzed (n=86)