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Walden University
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Executive Summary: Clinical Practice Guideline
Reducing Missed Appointments in Mental Health Outpatient Care Using SMS Reminders

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Summary

Missed appointments remain a serious problem in mental health outpatient clinics. They break the flow of treatment, waste staff time, and worsen outcomes for patients. In this setting, the practice problem is the lack of an evidence-based system for reminding patients about their visits.

This doctor of nursing practice (DNP) project focused on developing and evaluating a clinical practice guideline (CPG) for automated text message (SMS) appointment reminders. The guiding question asked: Can a CPG using SMS reminders help reduce missed appointments in a mental health outpatient setting?

A thorough review of CINAHL and PubMed found strong support for this approach, including 11 systematic reviews, 19 randomized controlled trials, 31 quasi-experimental or observational studies, and 22 background reports. Together, these studies confirm that SMS reminders improve attendance rates.

The CPG was reviewed by an expert panel using the AGREE II tool. The panel rated the guideline highly for clarity, scope, and rigor based on a Likert scale from 1 (*strongly disagree*) to 7 (*highly agree*). The AGREE II results show that most items scored between 5 and 7, indicating generally strong consistency and quality across all evaluated areas, with several items reaching the highest average score of 7.

For nursing practice, this project highlights the value of evidence-based tools that support continuity of care. In addition, this initiative supports positive social change by reducing health disparities, improving access for underserved groups, and promoting equity in mental health care.

Background

Missed appointments are common in mental health outpatient clinics and create a major gap in practice. Patients with psychiatric conditions often require consistent follow-up, but barriers such as transportation, financial strain, stigma, or forgetfulness may prevent them from keeping appointments. The practice problem is that there is no evidence-based process for patient appointment reminders in a private mental health practice. This gap results in inconsistent communication and frequent missed appointments, which disrupts care, increases hospitalization risks, and adds stress and costs for both patients and staff. The practice-focused question guiding this project was: Will a clinical practice guideline created for patient appointment reminders in a private mental health practice be validated and approved by subject matter experts using the AGREE II instrument?

A literature search was completed using the CINAHL and PUBMED databases. The search found a strong base of evidence: 11 systematic reviews, 19 randomized controlled trials (RCTs), 31 quasi-experimental or observational studies, and 22 background reports. Together, these studies consistently showed that SMS reminders reduce missed appointments and improve attendance, especially when sent 48–72 hours before visits and when they allow two-way communication.

The evidence shows that appointment reminders are one of the most effective strategies for addressing this problem. SMS reminders, in particular, are cost-effective, scalable, and widely accessible. Systematic reviews of randomized controlled trials show that SMS reminders reduce missed appointments by up to 41% and improve attendance

by 34% (Opon et al., 2020). Quasi-experimental studies also demonstrate measurable increases in visit volumes when reminder systems are implemented (Boone et al., 2022).

Patients generally report that SMS reminders are acceptable and useful. A study in South Africa showed that more than 93% of mental health patients expressed willingness to receive SMS reminders for follow-up care (Sibiya & Ramlucken, 2021). Similarly, large-scale evaluations in the U.S. Veterans Affairs system found that SMS reminders not only reduced missed appointments but also shortened wait times by an average of 6.5 days (Li et al., 2022).

This project builds on these findings by addressing the gap in practice at the local site. Despite strong evidence, the clinic did not have a standardized SMS reminder system integrated with its electronic health record (EHR). By creating a CPG tailored to the local context, this project ensures that nurses, clinicians, and administrative staff have a consistent process for reducing no-shows.

The background clearly demonstrates that missed appointments are not only a local problem but a global issue that requires innovative, evidence-based solutions. Addressing this problem is critical to advancing nursing practice, improving patient outcomes, and ensuring efficient use of healthcare resources.

Clinical Practice Guideline Development

A clinical practice guideline (CPG) is a set of clear, evidence-based recommendations designed to help healthcare providers make consistent decisions and improve patient care. For this project, the CPG explained how to use SMS reminders to reduce missed appointments in a mental health clinic.

To evaluate the CPG, a structured process was used. An expert panel of seven professionals including nurses, behavioral health clinicians, IT specialists, and front-desk staff was selected because of their clinical experience, knowledge of scheduling systems, and work with mental health patients.

The panel reviewed the draft CPG using the AGREE II tool created by Brouwers et al. (as cited in Wang et al., 2025), which looks at six areas: scope and purpose, stakeholder involvement, rigor of development, clarity of presentation, applicability, and editorial independence. The review was completed electronically, with each member given the CPG document and rating forms to complete online. Their feedback confirmed that the guideline was relevant, evidence-based, and practical to implement.

Results

To evaluate the quality and usability of the Clinical Practice Guideline (CPG), a seven-member expert panel used the AGREE II tool. This tool measures six quality domains: scope and purpose, stakeholder involvement, rigor of development, clarity of presentation, applicability, and editorial independence. The following results summarize the mean scores for each domain based on ratings from all reviewers ($N = 7$). Table 1 presents the numerical averages and summary of these findings.

Table 1*Average AGREE II Domain Scores (N = 7)*

Domain	Items included	Average score
1. Scope and Purpose	1–3	6.3
2. Stakeholder Involvement	4–6	5.7
3. Rigor of Development	7–14	6.2
4. Clarity of Presentation	15–17	6.5
5. Applicability	18–21	6.0
6. Editorial Independence	22–23	6.5

The AGREE II results revealed consistently high ratings across all domains. The strongest areas were clarity of presentation ($M = 6.5$), editorial independence ($M = 6.5$), and rigor of development ($M = 6.2$), indicating that the guideline was written clearly, supported by high-quality evidence, and developed without external bias. Reviewers commented that the CPG was practical and aligned with best practices in the literature.

Panelists particularly valued the integration of the two-way SMS reminder system that allows patients to confirm or cancel appointments, which they believed would reduce missed visits and improve scheduling efficiency. Feedback also highlighted areas for continued improvement, including additional strategies for patients with limited phone access or low literacy and ongoing staff training to verify contact information and obtain consent for text reminders (see appendix for CPG).

Overall, these findings support the validity and usefulness of the CPG. The domain-level analysis demonstrates that the guideline meets high standards of quality and is well suited for implementation in a mental health outpatient setting.

Evidence from multiple studies supports the effectiveness of SMS reminders in reducing missed appointments. For example, Boone et al. (2022) showed that SMS reminders increased visit volume by 3.3%, while Chung et al. (2020) found a 38% reduction in no-shows after implementation. Veterans Affairs studies showed reduced wait times and improved scheduling efficiency with SMS reminder systems (Li et al., 2022). A limitation of this project is that some patients may have limited phone access or low literacy, which can affect how well SMS reminders work for everyone. Despite this, the project is important beyond the local site because it provides an evidence-based model that other mental health clinics can use to improve attendance, efficiency, and access to care for diverse populations.

Conclusions

The project demonstrated that SMS reminders can serve as an effective strategy to reduce missed appointments in mental health outpatient care. Adoption of the CPG is expected to improve organizational efficiency by reducing no-show rates, enhancing scheduling, and improving continuity of care.

The final guideline provides staff with clear, step-by-step instructions, ensuring consistency and accountability. The expert panel's review confirmed the guideline's rigor and usability, with recommendations for training and equity-focused adaptations.

The implications for nursing practice are significant. Nurses will be able to engage patients proactively, ensuring they receive reminders tailored to their needs. This reduces stress on clinical staff, minimizes wasted resources, and improves patient outcomes. Broader implications include advancing health equity by supporting vulnerable

groups, such as Medicaid patients and those with limited literacy, who benefit most from reminder systems (Tarabichi et al., 2023).

Recommendations for future practice include scaling the guideline beyond the local site, piloting additional features such as multi-language reminders, and integrating predictive analytics to identify patients most at risk of missing appointments. Evaluation will continue through monitoring appointment adherence rates before and after implementation, with adjustments made through quality improvement cycles.

By addressing a critical gap in practice, this DNP project demonstrates how evidence-based, technology-driven interventions can create sustainable improvements in patient care, organizational outcomes, and social equity. The CPG is based on good quality and consistent evidence, with strong support for SMS-based, interactive, and personalized reminders. It is recommended for implementation with periodic evaluation for risk and translation effectiveness. By addressing a critical gap in practice, this DNP project demonstrates how evidence-based, technology-driven interventions can create sustainable improvements in patient care, organizational outcomes, and social equity, ultimately supporting positive social change by improving access and fairness in mental health care.

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Appendix

Clinical Practice Guideline

1. Scope and Purpose

Objective:

To reduce missed appointments and improve attendance in a mental health outpatient setting using automated SMS reminders.

Population:

All outpatients receiving services at the clinic, including high-risk groups such as Medicaid recipients, veterans, and individuals with low health literacy.

2. Stakeholder Involvement

- **Development Team:** Nurses, behavioral health clinicians, informatics specialists, front desk staff, and IT administrators.
- **Target Users:** Schedulers, clinical staff, and administrative personnel.
- **Patient Input:** Preferences gathered from literature (e.g., Selim et al., 2024) indicated favorability toward timely, personalized SMS reminders.

3. Guideline Instructions (Steps for Staff)

Step 1: Set Up the Reminder System

- IT staff must configure an SMS-based appointment reminder system.
- Use software that integrates with the Electronic Health Record (EHR) to automate scheduling and reminders.

- Ensure the system supports two-way messaging for confirmations or cancellations.

Step 2: Collect and Verify Patient Contact Information

- At each visit or intake, front-desk staff must:
 - Verify that the patient's mobile number is current.
 - Ask for consent to receive appointment reminders.
 - Document communication preferences (e.g., SMS, phone call).

Step 3: Schedule and Send Reminders

- The system must send reminders 48–72 hours before scheduled appointments.
- Content should include:
 - Clinic name, date and time of the appointment.
 - Patient's first name.
 - Option to confirm or cancel.
 - Clinic contact number.

Example Message: “Hi [First Name], you have an appointment with [Clinic Name] on [Date] at [Time]. Reply 1 to confirm, 2 to cancel. Call [Clinic Phone] for help.”

Step 4: Monitor and Track Responses

- Staff must review the appointment dashboard daily to:

- See who confirmed or canceled.
- Follow up with non-responders by phone within 24 hours.
- Reschedule canceled appointments promptly.

Step 5: Personalize for High-Risk Groups

- For patients with a history of no-shows:
 - Use multiple reminders (e.g., one at 72 hours, one at 24 hours).
 - Consider phone calls or in-person reminders.
 - Document reminder history in the EHR.

Step 6: Quality Improvement Monitoring

- Monthly, the clinic manager must:
 - Track no-show rates and compare them to baseline.
 - Review patient feedback.
 - Identify trends by demographics.
 - Share results during team meetings.

4. Recommendations with Evidence Ratings

Recommendation	Evidence Level	Quality	Supporting Articles
Use SMS reminders within 48–72 hours of appointment	I, II	High	#1, #3, #5, #6, #8
Include personalization (name, date, clinic) in reminders	III	Good	#2, #4, #10
Use systems that allow two-way communication (confirm/cancel)	I, II	High	#3, #6
Supplement with phone calls for non-responders or high-risk patients	II, III	Good	#5, #7
Incorporate AI-based predictive scheduling tools where possible	V	Good	#10, #11
Behavioral "nudge" messages alone are not sufficient, combine with interaction	I	Good	#9

5. Applicability

- **Facilitators:** High mobile phone use, staff support, and strong evidence.
- **Barriers:** Language/literacy issues, outdated phone numbers, technology resistance.
- **Costs:** Low for SMS; moderate for AI tools.

- **Sustainability Plan:** Incorporate performance metrics into monthly audits and staff training.

6. Editorial Independence

- No commercial funding or software endorsements were received.
- All contributors disclosed no conflicts of interest.

Final Recommendation

The CPG is based on good quality and consistent evidence, with strong support for SMS-based, interactive, and personalized reminders. It is recommended for implementation with periodic evaluation for risk and translation effectiveness.