Affinity Write Up

The qualitative data gathered from survey responses spanning age groups 18 to 75+ were analyzed using Affinity Diagramming techniques. The research team sorted participant responses by age category and took the time to review the data independently. They pulled out individual findings, user comments, reported frustrations, accessibility issues, and desired features, jotting them down as individual "sticky notes," ensuring that at least twenty insights were identified for each participant group. Special attention was paid to the challenges users faced, such as usability barriers, memory difficulties, accessibility problems, and trust issues.

Next, the sticky notes were organized based on similarities and thematic connections. Through a process of iterative clustering, broader themes began to take shape. These clusters were then labeled with meaningful headings that captured the main user needs and concerns. Multi-level grouping was applied where it made sense (for instance, accessibility concerns were grouped under the larger umbrella of usability barriers). The final clusters showcase the key findings from the user research.

Preference for Simplicity and Low Cognitive Load

Across all age groups, users have consistently voiced a strong desire for a straightforward, easy-to-use system. Many participants shared their frustrations about "too many steps," "confusing buttons," and layers of navigation that feel excessive. Younger users (ages 18–34) pointed out issues like "too many pop-up ads" and "too many re-routing links," while older participants (ages 50–74) highlighted that apps often involve "too many steps" just to accomplish basic tasks. Time and again, participants described their ideal system as a "simple app," a "user-friendly app," or expressed the need for "an app that consolidates everything into one place." This recurring feedback shows that simplicity isn't just a nice-to-have; it's a fundamental requirement for usability. This feedback strongly supports the need for a design that prioritizes a clean layout, avoids deep menus, and cuts out unnecessary screens. The grouping of these insights suggests that reducing cognitive load should be a key principle in design.

Strong Demand for Appointment Reminders

A large cluster related to missed appointments and the need for reminders. Several age groups mentioned that they have missed appointments because of confusion or forgetfulness. In the 50-64 age group, four participants mentioned missing appointments , and in the 65-74 age group, two participants mentioned missed appointments. The need for reminders was directly stated by the participants as a means to improve their experience, such as:

- “It would be very helpful if they send me appointment reminders to my phone.”
- “An alarm.”
- “Phone reminders.”

The need for appointment reminders is one of the most popularly identified needs among the age groups. This cluster clearly supports the need to send appointment reminders, such as push notifications, alarm notifications, and possibly vibration notifications.

Accessibility Barriers: Vision, Text Size, and Interface Clarity

Accessibility emerged as a major multi-level cluster. Participants reported issues including:

- “Small text”
- “Vision problems”
- “Confusing buttons”
- “Fear of making mistakes”
- “Legally blind”

Older participants (65–74) reported small text and too many steps as barriers. One respondent explicitly identified as legally blind, reinforcing the need for accessibility-first design. Users frequently selected “Large text and simple layout” as a desired feature across nearly all age groups. This cluster directly aligns with requirements for large text mode, high contrast colors, and elimination of cluttered screens. The affinity diagram indicates that accessibility should not be treated as an optional enhancement but as a primary system requirement, particularly given the aging demographic.

Memory and Informal Systems for Medication Management

Another major cluster centered around medication tracking behaviors. Many participants reported using:

- Memory
- Pill organizers
- Phone alarms
- Written notes

Despite high self-reported confidence in medication management, several participants acknowledged challenges such as “forgetting doses,” “too many medications,” and “vision problems”. The gap between confidence and reported issues suggests a latent need for structured medication tracking. While medication reminders were selected less frequently than appointment reminders among younger groups, older groups showed greater need.

This cluster validates requirements including:

- Add medications
- Set medication schedules
- Receive medication reminders
- View medication history
- Mark medication as taken

The data suggests medication management features may be particularly critical for users over 50.

Trust, Privacy, and Security Concerns

Trust emerged as a strong thematic cluster. Many respondents indicated that “Clear privacy information” would increase trust in a clinic app. Others mentioned:

- ”“Recommendations from doctor”
- “Help from clinic staff”
- **“Simple design**

A small but notable subset expressed that they “do not trust apps.” This cluster indicates that user adoption depends not only on usability but also on perceived security and institutional endorsement. Privacy transparency and endorsement by healthcare providers may significantly influence uptake.

Continued Preference for Human Interaction

While a lot of participants showed interest in using a mobile app, several older individuals really stressed how important it is to “talk to a real person.” Some of the scheduling issues they mentioned included “it’s hard to reach someone by phone” and “not being able to speak to a real person.” This highlights a mixed expectation: users crave the ease of digital solutions but don’t want to lose the option of human support. This points to the need for optional caregiver access and hints at the potential for features that could support clinic staff in the future.

Synthesis of Affinity Findings

The affinity diagram analysis highlights some key themes that resonate across different age groups:

1. A preference for simplicity and less complexity
2. A strong demand for dependable reminders
3. An emphasis on accessibility-first design (think large text, high contrast, and fewer steps)

4. Organized medication support
5. A focus on trust and transparency regarding privacy
6. The option for human or caregiver assistance
7. A wish to consolidate everything into one system

These insights strongly back up the system requirements laid out in Phase 2 and reinforce the user scope defined for the application. It's crucial to note that the data shows accessibility and simplicity aren't just niche desires; they're expectations that span generations. The results from the affinity diagram provide solid evidence for the proposed system features and should be a key part of the design justification and future research publications.

Affinity Analysis: Clinic Staff Interviews

The affinity analysis synthesizes interview data from 8 clinic staff across multiple roles to identify shared behaviors, friction points, and opportunities related to patient communication, scheduling, and medication adherence. To determine how digital tools could realistically help in appointment scheduling and medication tracking with patients.

1. Roles & Daily Responsibilities

Diverse roles from the participants include clinical support staff, receptionists, nurses, physician assistants, pharmacy technicians, medical records clerks, and admin assistants.

- Despite different titles, most are involved in:
    - Scheduling or managing appointments
    - Patient communication
    - Record keeping
    - Follow-ups for missed appointments or medications

Despite role differences, most participants shared responsibilities related to scheduling, patient communication, documentation, and follow-up care. Indicating that clinic workflows are highly interconnected and any digital or process improvement must support multiple staff roles simultaneously.

2. Current Tools & Systems

Tool usage varies by role rather than by clinic-wide standard.

- EMR/EHR systems (providers, nurses, admin staff)
- Excel spreadsheets (front desk, pharmacy techs, receptionists)

Tool usage varies by role rather than being standardized clinic wide. Inconsistent systems can contribute to inefficiencies and increase the risk of miscommunication, stressing the need for better system integration or standardization.

3. Comfort with Digital Tools

Comfort levels range from:

- Very comfortable (nurses, front desk staff)
- Moderately comfortable (admin assistants)
- Not comfortable (some receptionists, PAs, pharmacy techs, records clerks)

Several participants implied a need for additional training on digital interfaces. Successful adoption of new digital solutions will require simple interfaces and role-specific onboarding or training.

4. Missed Appointments & Follow-Up

All participants reported following up after missed appointments. Primarily through:

- Phone calls
- Portal messages

The similar approaches to missed appointments, primarily involving follow-up phone calls or messages to understand why the appointment was missed reported by participants suggests an opportunity for proactive solutions such as automated reminders and self-rescheduling options.

5. Communication Challenges

Patient-related barriers such as:

- Patients being uncooperative
- Limited health literacy

- Difficulty understanding instructions

Internal coordination issues arise when:

- Schedules are tight
- Documentation is incomplete or delayed

From the responses of participants, it was observed that communication issues were driven more by clarity and accessibility than by lack of effort, emphasizing the importance of clear, patient-friendly communication tools.

6. Patient Engagement & Digital Reminders

Generally, there were positive responses to digital tools as most participants reported that patients responded well to:

- Text reminders
- Digital appointment alerts
- Medication notifications

Most patients responded well to digital tools, however, older adults still preferred phone calls. This indicates that digital engagement tools should be flexible and customizable to accommodate patient preferences.

7. Medication Adherence

Medication non-adherence was a common phenomenon. All participants reported medication forgetfulness due to:

- Multiple prescriptions
- Confusing dosing schedules
- Side effects

- Most participants receive positive feedback about reminders, though not universally.

8. Consequences of non-adherence

- All participants agreed that missed medications can result in:

- Worsening symptoms
- Increased blood pressure
- Cardiac rhythm issues
- Hospitalization

Across all interviews, communication, follow-up, and medication adherence emerged as the most critical pain points. Staff expressed openness to digital tools but emphasized the need for simplicity, training, and flexibility. These findings suggest strong design opportunities for integrated, user-friendly systems that support both clinic workflows and patient engagement.