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Review Article

Living With Digital Monitoring in Early Psychosis: Service Users' Experiences of Privacy, Stigma and Therapeutic Trust

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ABSTRACT

Digital monitoring is increasingly incorporated into psychosis care through smartphone symptom monitoring, passive sensing, digitally mediated therapy, supported self-management, and algorithm-based relapse prediction. Its clinical and ethical value, however, depends not only on technical performance but also on how service users experience data collection, interpretation, stigma, autonomy, and therapeutic relationships. This qualitative evidence synthesis examined service-user experiences of privacy, stigma, and therapeutic trust in early psychosis and broader psychosis-spectrum care. PubMed/MEDLINE, PsycINFO, Scopus, and Web of Science were searched for literature published from January 2016 through April 2026, supplemented by citation chaining. Contextual literature was separated from the primary empirical evidence used for thematic synthesis. Sixteen primary studies published between 2021 and 2026 contributed to the findings and encompassed active symptom monitoring, passive smartphone sensing, digitally mediated therapy, supported self-management, digital access and engagement, and algorithm-based relapse prediction. Reflexive thematic synthesis identified three interconnected themes. First, consent functioned as an ongoing negotiation of data type, purpose, access, interpretation, and continued participation rather than as a single authorization event. Second, digital care could reduce visible contact with mental health services while simultaneously reproducing stigma through digital exclusion, disclosure of psychiatric identity, persistent records, and decontextualized interpretation of ordinary behaviour as risk. Third, therapeutic trust depended on reciprocity, human interpretation, transparency about responsibility, contestability of automated outputs, and evidence that monitoring produced meaningful and timely benefit. Experiences differed according to monitoring modality and whether participants described actual or anticipated technology use. Digital monitoring in psychosis care is therefore most defensible when data collection is proportionate, users retain meaningful control, automated interpretations remain contestable, and monitoring supports rather than substitutes therapeutic relationships. The heterogeneity of digital modalities, study designs, psychosis stages, and predominantly high-income settings limits the transferability of the synthesis and warrants longitudinal research examining lived experience during routine clinical implementation. Keywords: early psychosis; digital monitoring; digital phenotyping; privacy; stigma; therapeutic trust; qualitative evidence synthesis

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INTRODUCTION

Digital technologies are increasingly being incorporated into mental health services to support symptom monitoring, communication, self-management, and identification of clinical deterioration. In psychosis care, smartphone applications, digitally mediated interventions, passive sensing, and predictive analytics have attracted particular interest because changes in symptoms and behaviour may precede relapse and because continuous or repeated digital contact may supplement conventional face-to-face care (1,2). Despite rapid technological development, evidence of sustained clinical benefit under routine service conditions remains heterogeneous, and the usefulness of digital monitoring depends not only on predictive or technical performance but also on whether services can interpret the resulting information and respond to it appropriately (3,4). These issues are especially important in early psychosis, where digital monitoring intersects with concerns about suspiciousness, social threat, disclosure, stigma, autonomy, and continuity of therapeutic relationships. Service users may value digital technologies when they increase

access, facilitate self-reflection, support communication, or make disclosure easier, while simultaneously questioning what information is being collected, who has access to it, and whether digital systems could substitute for interpersonal care (5,6). Consequently, acceptance of digital monitoring cannot be understood as a simple preference for or against technology; it is shaped by the modality of monitoring, perceived clinical purpose, degree of user control, sensitivity of the information collected, and responsiveness of the care system.

Privacy within digital mental health extends beyond conventional confidentiality because passive technologies may generate health-related inferences from behaviours that individuals did not intentionally disclose. Location, movement, sleep, device interaction, and communication patterns may acquire clinical meaning once they are processed through digital phenotyping systems. Ethical analyses have therefore emphasized proportionality, purpose limitation, data minimization, transparency, control over secondary use, and the ability of users to understand and challenge inferences generated from their data (7–9). These considerations are particularly relevant when inferred behavioural states are treated as objective indicators despite contextual ambiguity or measurement error.

Digital approaches may also alter experiences of stigma in opposing directions. Remote and online care can reduce visible attendance at mental health services and may enable some individuals to engage from familiar environments, whereas application names, notifications, shared devices, persistent digital records, and algorithmic categorization may reveal or reinforce a psychiatric identity (10). Access is also socially patterned: people with severe mental illness may experience limitations in device ownership, connectivity, data availability, digital literacy, cognitive capacity, or private space, meaning that technologies intended to increase access can reproduce existing inequalities if non-use and exclusion are not considered (11).

Therapeutic trust presents a related challenge. Engagement with a digital tool is not equivalent to trust in the clinical system in which that tool operates. Digital therapeutic relationships are more likely to remain credible when users understand the purpose of monitoring, know who reviews their information, can discuss automated outputs with a clinician, and experience a meaningful response when clinically important information is disclosed (12,13). Health professionals have similarly raised concerns regarding responsibility for alerts, false-positive signals, workload, and over-reliance on algorithmic predictions, indicating that the ethical and therapeutic consequences of monitoring depend on organizational arrangements as well as technological design (14).

Existing syntheses of digital interventions in psychosis have identified usability, relevance, technical support, accessibility, and service responsiveness as important influences on engagement (15,16). However, feasibility and engagement alone do not adequately explain how service users negotiate the interrelated concerns of privacy, stigma, and therapeutic trust. These concerns may operate recursively: consent shapes what data are disclosed; data practices influence how individuals perceive privacy and identity; interpretation of those data influences the therapeutic relationship; and the quality of the service response subsequently affects willingness to continue monitoring. Privacy is therefore conceptualized here as the appropriateness and controllability of data flows, stigma as an identity and power process that may be either reduced or reproduced through digital care, and therapeutic trust as confidence in the intentions, competence, responsiveness, and accountability of clinicians and services (7,12–16).

The available literature also encompasses substantially different forms of digital engagement, including active symptom reporting, passive behavioural sensing, digitally mediated therapy, supported self-management, and algorithmic relapse prediction. Experiences arising from actual technology use may differ from opinions about hypothetical systems, while privacy concerns associated with passive location or communication data may differ from those associated with voluntary symptom entry. A synthesis that does not preserve these distinctions risks treating heterogeneous technologies and forms of participation as equivalent.

Accordingly, this qualitative evidence synthesis critically examines recent primary evidence concerning service-user experiences of digital monitoring in early psychosis and broader psychosis-spectrum

populations. The review addresses how privacy, stigma, and therapeutic trust are negotiated across different forms of digital monitoring and what these experiences imply for ethically and relationally appropriate implementation. Particular attention is given to distinctions between data modalities, direct and anticipated experiences of monitoring, user agency, contextual interpretation, service responsiveness, and the potential for digital systems both to facilitate and to constrain participation in care.

MATERIALS AND METHODS

A qualitative evidence synthesis with systematic literature searching and an interpretive analytic orientation was undertaken to examine service-user experiences of digital monitoring in early psychosis and psychosis-spectrum care. The purpose was not to estimate intervention effectiveness or pool quantitative effects, but to synthesize experiential evidence concerning privacy, stigma, therapeutic trust, user agency, and service responsiveness. The methodological approach was informed by principles for qualitative evidence synthesis of complex interventions (17), and review reporting was assessed against PRISMA 2020 principles where applicable to a synthesis without meta-analysis (18).

Two analytically distinct bodies of literature were maintained throughout the review. The first comprised theoretical, ethical, review, and contextual literature used to establish the conceptual background but not to generate the empirical themes. The second comprised 16 primary empirical studies published between 2021 and 2026 that constituted the evidence base for the Findings. Maintaining this distinction was intended to reduce conflation between prior conceptual arguments and themes generated from the primary evidence.

Information Sources and Search Approach

PubMed/MEDLINE, PsycINFO, Scopus, and Web of Science were searched for literature published from January 2016 through April 2026. Citation chaining was also used to identify potentially relevant publications. Search concepts covered psychosis and first-episode psychosis in combination with terms relating to digital monitoring, smartphones, passive sensing, digital phenotyping, online therapy, artificial intelligence, relapse prediction, privacy, stigma, trust, acceptability, and service-user experience. The search was designed to capture multiple forms of digitally mediated monitoring rather than a single technology class. These included active symptom-monitoring applications, passive sensing and digital phenotyping, digitally mediated psychological interventions, supported self-management applications, and algorithmic or artificial-intelligence-based relapse prediction. Contextual literature identified through the search was retained for conceptual interpretation but was kept separate from the primary empirical evidence used to construct the themes.

Eligibility and Evidence Boundaries

Primary studies were considered relevant when they reported direct service-user data concerning symptom monitoring, passive smartphone sensing, digitally mediated therapy, relapse prediction, supported self-management, data sharing, or closely related digital practices in people with early psychosis or psychosis-spectrum conditions. Priority was given to early psychosis populations, while broader psychosis-spectrum samples were retained when their findings were directly relevant to the review question. Studies based exclusively on clinician perspectives and technical validation studies without service-user experience data were not intended to contribute to the thematic findings. Because the included literature contained different forms of exposure to technology, evidence was differentiated conceptually according to whether participants described direct use, anticipated or hypothetical use, or a mixture of experience and prospective attitudes. This distinction was considered important when interpreting concerns about technologies that participants had experienced compared with concerns about systems described prospectively.

Data Extraction and Evidence Organization

For each included study, the review recorded the population and clinical context, type of digital technology, form of data collection or digital interaction, study design, nature of service-user participation, and findings relevant to privacy, stigma, trust, acceptability, access, autonomy, feedback, and clinician response. Technologies were additionally considered according to broad functional modality: active self-report or

symptom monitoring, passive behavioural sensing, digitally mediated therapy or self-management, and predictive or algorithmic systems.

The empirical evidence was organized so that direct experience, anticipated use, and mixed accounts could be interpreted separately where the original study design permitted this distinction. Hypothetical concerns were therefore treated more cautiously than experiences arising during active deployment. Contextual theoretical and review publications were not coded as primary findings and were used only after theme development to situate the interpretation.

Methodological Appraisal

Methodological appraisal considered whether accounts were derived from actual or hypothetical technology use, the relevance and inclusiveness of the sample, reflexivity where reported, transparency of qualitative or mixed-methods analysis, and the extent to which research procedures could be distinguished from routine clinical care. Methodological weaknesses were not used automatically as exclusion criteria because ambivalent or methodologically limited accounts could still contribute to understanding the range and context of service-user experiences. Instead, methodological limitations were considered when interpreting the strength and transferability of individual findings.

Particular attention was given to apparent inconsistencies across studies. Contradictory accounts were not assumed to represent analytic error; they were compared in relation to the sensitivity of the data being collected, the digital modality, whether participation was experienced or hypothetical, accessibility of the technology, and whether services provided a visible response to the information generated.

Qualitative Synthesis

The synthesis used a reflexive thematic approach informed by contemporary principles of reflexive thematic analysis (19). Extracted findings were examined for recurring and contrasting accounts concerning perceived benefit, intrusiveness, data preferences, stigma, access, clinical response, automation, uncertainty, reciprocity, and loss or retention of control. Privacy, stigma, and therapeutic trust functioned as sensitizing concepts rather than fixed coding categories, allowing findings that challenged or complicated the initial conceptual structure to remain analytically visible.

Theme development was guided by explanatory coherence rather than numerical frequency. Particular attention was given to contextual differences that could explain apparently conflicting findings, including the distinction between active and passive data collection, the sensitivity of particular data streams, actual versus anticipated technology use, material access, clinician responsiveness, and whether automated interpretations could be questioned. The final thematic structure comprised three interconnected themes: consent as an ongoing boundary negotiation; digital monitoring as capable of both concealing and reproducing stigma; and therapeutic trust as dependent on reciprocity, human interpretation, and visible clinical benefit.

Scope and Methodological Limitations

The synthesis was limited to English-language literature, predominantly from high-income settings, and included studies spanning different stages of psychosis and different forms of digital technology. The rapidly changing technological environment also limits the stability of conclusions about particular platforms or implementation models. Variation in direct versus hypothetical exposure, clinical context, digital access, and study methodology was therefore treated as part of the interpretive context rather than as evidence that all forms of digital monitoring generate equivalent experiences.

RESULTS

The empirical synthesis comprised 16 primary studies published between 2021 and 2026. The evidence base was heterogeneous in design, population, technology, and degree of exposure to digital monitoring. It included acceptability studies, surveys, qualitative investigations, mixed-methods research, observational studies of access and engagement, participatory work, supported self-management research, and investigations of attitudes toward artificial-intelligence- or algorithm-based relapse prediction. The digital modalities represented across the synthesis included passive smartphone sensing,

active symptom monitoring, digitally mediated psychological therapy, supported self-management applications, digital research participation, mobile-health access, and predictive algorithms (20–35).

The nature of service-user exposure also differed across studies. Some participants had directly used monitoring or digitally mediated interventions, whereas others discussed anticipated or hypothetical applications of passive sensing, data sharing, or relapse prediction. These forms of evidence were not treated as interchangeable. Accounts derived from direct use were interpreted as experiences of deployment, whereas prospective concerns were interpreted more cautiously as expectations, preferences, or perceived risks. Technology modality was similarly important: active symptom reporting primarily informed perceptions of burden, relevance, selective sharing, and feedback; passive sensing contributed more strongly to concerns about autonomy, behavioural metadata, and inference without deliberate disclosure; online therapy illuminated access, stigma, privacy, and relational communication; and algorithmic prediction concentrated concerns around false alerts, contextual interpretation, contestability, and clinical authority (20–35).

Table 1. Evidence Map of the 16 Primary Studies Included in the Thematic Synthesis

Study	Study context/design	Digital modality	Principal contribution to synthesis
Lopez-Morinigo et al. (20)	Acceptability study in schizophrenia	Passive smartphone-based ecological assessment	Acceptability, privacy, autonomy, and burden
Eisner et al. (21)	In-depth qualitative study in psychosis	Passive sensing for relapse prediction	Data sensitivity, prediction, privacy, and contextual interpretation
Zhang et al. (22)	Survey of service users with psychosis	Digital remote monitoring	Data preferences, control, and acceptability
Eisner et al. (23)	Survey study in psychosis	Digital mental-health tools	Technology attitudes and preferences
Zhang et al. (24)	Survey in severe mental-health problems	Digital mental-health technology	Access, attitudes, and digital engagement
Zhang et al. (25)	Qualitative study of YouXin	Smartphone symptom monitoring	Relevance, burden, feedback, and engagement
Polillo et al. (26)	Early psychosis research-engagement study	Digital research participation	Engagement, voluntariness, and representativeness
Greenwood et al. (27)	Participatory work within SlowMo	Digitally supported intervention	Co-design, terminology, and user acceptability
Hardy et al. (28)	Observational engagement study	SlowMo mobile application	Access, engagement, and clinical context
Valentine et al. (29)	Qualitative study in first-episode psychosis	Online therapy	Disclosure, therapeutic communication, and remote engagement
Watson et al. (30)	Remote-therapy uptake study	Remote psychological therapy	Digital exclusion, access, and service uptake
Luther et al. (31)	mHealth implementation-barrier study	Mobile-health access	Device ownership, symptoms, and material barriers
Steare et al. (32)	Qualitative stakeholder study in early intervention services	Supported self-management application	Feedback, clinical responsibility, utility, and trust
Del Piccolo et al. (33)	Mixed-methods study in first-episode psychosis	Smartphone self-monitoring	Burden, engagement, facilitators, and feedback
Yoo et al. (34)	Patient-perspective study	AI-driven relapse prediction	Prediction, clinical authority, and treatment implications
Eisner et al. (35)	Qualitative study in psychosis	Algorithm-based relapse prediction and data sharing	Data sharing, contestability, interpretation, and accountability

Across this heterogeneous evidence base, three interconnected themes were developed: consent as an ongoing boundary negotiation; digital monitoring as capable of both concealing and reproducing stigma; and therapeutic trust as dependent on reciprocity, human interpretation, and visible clinical benefit. The themes were conditioned by the sensitivity of the data stream, whether collection was active or passive, material access to technology, the visibility of digital engagement, retained user control, and whether services provided a meaningful response to information collected through monitoring (20–35).

Theme 1: Consent as an Ongoing Boundary Rather Than a One-Time Permission

Service users distinguished among different forms of digital information rather than treating participation in digital care as unrestricted consent to data collection. Across passive sensing, remote monitoring, digital-health attitude surveys, and smartphone symptom-monitoring studies, willingness to participate was influenced by the perceived sensitivity of the data, its relevance to care, who could access it, and the degree of control retained by the individual. Symptom and health-related information was generally easier to justify than location, communication behaviour, or other device-derived metadata, indicating that overall willingness to use digital technology should not be interpreted as blanket permission for every available data stream (20–25).

The distinction between active and passive monitoring was particularly important. Entering symptoms into an application constituted deliberate disclosure, whereas passive systems could generate clinically

relevant inferences from behaviour without a corresponding intentional act of communication. Participants therefore raised questions not only about data security but also about what was being captured, what conclusions might be derived from the information, who would receive those conclusions, and whether monitoring could be paused or reconsidered. Studies of passive sensing and digital remote monitoring consequently supported preferences for selective data sharing, understandable descriptions of individual data streams, transparency regarding recipients and purposes, and continued user control over participation (20–22).

Experience with active monitoring also demonstrated that convenience was insufficient to sustain engagement when repeated reporting lacked recognizable value. Symptom monitoring was viewed more favourably when prompts were manageable, measures appeared clinically relevant, and service users received feedback, reflection, or support in return. The YouXin study, for example, linked engagement with usefulness and feedback rather than with monitoring frequency alone, while broader surveys demonstrated that positive attitudes toward digital mental-health tools could coexist with limits on what users considered appropriate to share (23–25).

Digital participation further raised questions about voluntariness where research and clinical services were closely connected. Digital recruitment within early psychosis services demonstrated that trusted services may facilitate engagement while also making it important to maintain a clear distinction between participation in clinical care and participation in digitally mediated research (26). Taken together, the evidence suggests that consent is better understood as a longitudinal process of negotiating data type, purpose, access, interpretation, duration, and continued participation rather than as a single permission event completed at enrollment (20–26).

Theme 2: Digital Monitoring Can Conceal Stigma While Also Reproducing It

Digitally mediated care could reduce some of the visible social markers associated with conventional mental-health service use. Online therapy enabled young people with first-episode psychosis to communicate from familiar settings and could facilitate discussion of sensitive experiences when therapists adapted communication to the online environment. Participatory work within SlowMo also showed that co-design and less deficit-oriented language could make digitally supported psychological concepts more acceptable to service users (27,29).

These advantages did not remove the material requirements for meaningful digital participation. Access to remote or mobile interventions depended on appropriate devices, connectivity, technical capability, symptom burden, and the availability of sufficient privacy. Observational evidence concerning SlowMo, remote therapy, and mHealth implementation indicated that engagement varied according to both clinical and material circumstances. Consequently, findings from users who successfully accessed digital interventions cannot automatically be generalized to people excluded because of device ownership, connectivity, domestic privacy, symptom severity, or other barriers (28,30,31).

Digital technologies could also expose or reproduce psychiatric identity. Application interfaces, notifications, shared devices, and enduring digital records may make service engagement visible to others, while passive monitoring and algorithmic interpretation can transform ordinary changes in sleep, movement, communication, or device behaviour into indicators of psychiatric risk. Participants' concerns therefore extended beyond conventional confidentiality to the possibility that behavioural variation could acquire a persistent clinical meaning without sufficient contextual interpretation (21,22,27–31).

The relationship between digital care and stigma was consequently conditional rather than uniformly destigmatizing. Remote access could reduce the visibility of conventional service contact, yet inequitable access, interface design, persistent digital records, and automated categorization could reproduce exclusion or psychiatric labeling. The synthesis suggests that stigma-related consequences depend on material access, privacy of device use, language and interface design, and whether behavioural information is interpreted collaboratively within the person's circumstances rather than automatically as evidence of deterioration (21,27–31).

Theme 3: Therapeutic Trust Depends on Reciprocity, Human Interpretation, and Visible Benefit

Service users evaluated digital monitoring partly according to what occurred after information had been collected. Supported self-management and smartphone monitoring were more positively experienced when they facilitated reflection, informed consultations, generated understandable feedback, or contributed to an identifiable clinical benefit. Repeated prompts and data entry became more burdensome when participants could not determine whether their information was being reviewed or how it contributed to care (25,32,33).

Reciprocity therefore emerged as an important condition of trust. Monitoring was easier to justify when users understood who reviewed the information, what type of response might follow a concerning signal, and how the data would be incorporated into clinical decision-making. Where these connections remained unclear, data collection could be experienced as one-directional or extractive. The findings consequently indicate that application use or completion rates alone should not be interpreted as evidence of therapeutic trust in the surrounding service (32,33).

Concerns were more pronounced when digital monitoring involved algorithmic or artificial-intelligence-based prediction. Participants could recognize potential benefits in earlier recognition of deterioration while simultaneously expressing concern about false-positive alerts, false reassurance, data sharing, and clinicians giving greater authority to predictive outputs than to the individual's own explanation of their circumstances. Acceptability of prediction therefore depended on human judgment, contextual verification, transparency, and the possibility of questioning or correcting automated interpretations (34,35).

These studies did not indicate uniform rejection of automation. Rather, service users were concerned about systems in which algorithmic outputs might influence care without adequate explanation, contextual discussion, or identifiable accountability. Trust therefore had to be established through clear responsibilities, acknowledgement of predictive uncertainty, opportunities for contestation, and evidence that digital monitoring resulted in proportionate and timely human response (21,32–35).

Integrated Thematic Interpretation

The three themes interacted recursively. Control over data collection influenced willingness to disclose; data practices and interpretations shaped experiences of privacy and identity; and the clinical response to disclosed or inferred information subsequently influenced trust and future participation. Across modalities, ethically acceptable monitoring was therefore associated less with maximizing the volume or technical sophistication of collected data than with proportionality, contextual interpretation, retained agency, and visible service responsiveness (20–35). Variable engagement should likewise not be interpreted solely as resistance to digital care. Limited participation could reflect device access, connectivity, symptom burden, lack of privacy, repetitive prompts, uncertain utility, or uncertainty regarding how collected information would be used. Conversely, willingness to use one form of technology did not imply acceptance of passive sensing, unrestricted secondary data use, or unchallengeable algorithmic prediction. These findings support modality-specific and context-sensitive interpretations of engagement rather than a single undifferentiated construct of digital acceptability (20–35).

DISCUSSION

This qualitative evidence synthesis indicates that privacy, stigma, and therapeutic trust are not independent dimensions of digital monitoring in psychosis care but interconnected relational processes. Across the 16 primary studies, acceptability depended on what information was collected, whether data generation was active or passive, whether technology use was visible to others, how much control service users retained, who interpreted the resulting information, and whether monitoring led to a recognizable clinical response. Three principal findings emerged: consent functioned as an ongoing process of boundary negotiation; digital technologies could reduce some forms of visible stigma while reproducing others through exclusion and psychiatric categorization; and therapeutic trust depended on reciprocity, contextual human interpretation, and accountable service response (20–35).

The first theme extends conventional understandings of consent by demonstrating why a single authorization may be insufficient for continuous or inferential forms of monitoring. Ethical discussions of digital phenotyping have emphasized that privacy concerns arise not only from disclosure of existing health information but also from the generation of new inferences from location, communication, movement, sleep, and device behaviour (7–9). The primary evidence was consistent with this concern: service users differentiated symptom self-report from more passive or behaviourally revealing data streams and expressed preferences for selective sharing, transparency, and continued control over monitoring (20–25). Consent in this setting is therefore better conceptualized as longitudinal governance of changing data flows rather than as an isolated administrative event.

This distinction also clarifies why technical security alone is insufficient to establish legitimacy. Data may be securely stored yet still be collected beyond what a service user considers proportionate or interpreted in ways the individual did not anticipate. The ethical question therefore concerns not only unauthorized access but also whether the type, purpose, recipient, duration, and interpretive use of monitoring remain intelligible and acceptable within the therapeutic relationship (7–9,20–22). For services, this implies that consent procedures should address individual data streams and foreseeable forms of inference rather than relying solely on broad authorization for use of a digital platform.

The second theme demonstrates that digital care has an ambivalent relationship with stigma. Previous qualitative and review literature has shown that digital interventions may normalize some experiences and allow less visible engagement with care while simultaneously raising concerns about disclosure, comparison, identity, and accessibility (10,15,16). The present synthesis supports this ambivalence. Online and remotely delivered interventions could reduce some of the social visibility associated with attending mental-health services, yet app visibility, shared devices, enduring records, unequal access, and algorithmic categorization could create alternative routes through which psychiatric identity became visible or reinforced (27–31).

The findings also place digital exclusion within the stigma discussion rather than treating it purely as a technical implementation problem. People with severe mental illness may experience disproportionate barriers related to connectivity, device ownership, affordability, cognitive burden, symptoms, and privacy, and previous literature has warned that digital transformation can amplify existing inequalities (11). The included empirical studies similarly indicated that participation varied according to access and clinical circumstances (28,30,31). Apparent acceptability among enrolled or digitally connected participants should therefore not be generalized to populations systematically underrepresented because they could not access or sustain use of the technology. A further concern involves the psychiatric interpretation of ordinary behaviour. Digital phenotyping may identify changes in movement, sleep, or communication that correlate with altered clinical states, but such behavioural signals remain probabilistic and context dependent (4,9). Reduced mobility, for example, may reflect psychiatric deterioration but may also arise from physical illness, employment patterns, financial constraints, travel, or ordinary variation. Participants' concern that routine behaviour could be interpreted primarily through a risk framework therefore has a plausible empirical and ethical basis (21,22,34,35). Digital monitoring may become stigmatizing when behavioural variation acquires psychiatric significance without sufficient contextual discussion.

The third theme identifies reciprocity as a central mechanism through which monitoring acquires therapeutic legitimacy. Earlier work on digital therapeutic alliance has emphasized that engagement with an application is not equivalent to a relationship characterized by trust, shared goals, responsiveness, and accountability (12,13). The present synthesis reinforces this distinction. Service users were more willing to tolerate monitoring burden when information contributed to useful feedback, self-understanding, consultation, or timely support, whereas repeated collection without visible response could be experienced as one-directional or extractive (25,32,33).

This finding has organizational implications. Monitoring systems create expectations about who observes data, when information is reviewed, what constitutes an actionable signal, and what happens when an alert occurs outside normal service hours. Health professionals have independently expressed concern

about responsibility, false alerts, workload, and over-reliance on automated prediction (14). The service-user evidence suggests that uncertainty about these same organizational arrangements directly affects trust. Services should therefore avoid implying continuous clinical observation unless the staffing and response model genuinely provides it, and implementation plans should make responsibilities and response boundaries explicit.

Algorithm-based relapse prediction intensifies these concerns because it introduces an additional interpretive actor between the service user and clinician. Participants in the included studies did not reject predictive technology uniformly; they recognized the potential value of earlier warning while questioning false positives, false reassurance, data sharing, and the possibility that predictive scores could displace their own accounts (34,35). These concerns suggest that prediction is more likely to be acceptable when outputs are treated as prompts for collaborative assessment rather than as autonomous determinations of clinical state. Human interpretation remains particularly important because probabilistic behavioural signals do not establish why an observed change has occurred (4,21,34,35). Taken together, the findings indicate that the appropriate unit of ethical evaluation is not the application or algorithm alone but the wider monitoring system comprising data streams, technical infrastructure, inference processes, clinicians, service capacity, governance arrangements, and the user's social context. This interpretation is consistent with broader digital mental-health literature showing that usability, clinical relevance, technical support, and service responsiveness all influence engagement (3,15,16). A technically accurate system may still undermine trust if users cannot understand or challenge its interpretations, while a relatively simple monitoring tool may be experienced as useful when it supports shared reflection and timely clinical communication (21, 35).

These findings also caution against using engagement as a simple endpoint for implementation success. Non-use, intermittent use, or withdrawal may represent rational responses to burden, inadequate access, unclear benefit, privacy concerns, or lack of reciprocity rather than resistance to innovation (15,16,23–25,28,30,31,33). Conversely, continued use does not necessarily demonstrate trust in data governance or confidence in automated decision-making. Evaluation frameworks should therefore consider autonomy, perceived proportionality, privacy, stigma, trust, reciprocity, accessibility, and contestability alongside conventional feasibility and engagement outcomes.

The synthesis has several strengths. It separated contextual literature from the 16 primary empirical studies used to generate the thematic findings, considered privacy, stigma, and trust as interconnected processes rather than isolated variables, and explicitly distinguished among active symptom reporting, passive sensing, digitally mediated therapy, access-related evidence, and algorithmic prediction. It also treated actual and anticipated technology use as analytically distinct because direct experience of an intervention provides a different basis for inference than responses to hypothetical scenarios (20–35).

Several limitations constrain interpretation. The included literature was heterogeneous in study design, digital modality, stage of psychosis, clinical setting, and degree of technology exposure, and much of the evidence arose from relatively small or self-selected samples. The literature was restricted to English-language publications and was concentrated predominantly in high-income settings, limiting transferability to health systems with different digital infrastructure, governance arrangements, cultural expectations, and resource constraints. Digitally excluded individuals may also be systematically underrepresented in research requiring device ownership or sustained digital participation, meaning that feasibility and acceptability findings may overrepresent users who are already better positioned to engage (11,28,30,31).

The synthesis is additionally limited by rapid technological change. Specific applications, sensing capabilities, and predictive systems may evolve more quickly than the evidence base, while attitudes observed during pilot research may differ from experiences after technologies become embedded in routine care. Studies also varied between direct deployment and hypothetical or anticipated use, which restricts the strength of conclusions about longer-term lived experience. Future longitudinal qualitative research should therefore examine how privacy, stigma, and trust change after false alerts, missed

deterioration, delayed responses, prolonged sensing, changes in consent preferences, and repeated clinical use of predictive outputs (21,22,34,35).

Future research should deliberately include people who are commonly underrepresented in digital-health studies because of device access, connectivity, language, cognitive burden, symptom severity, socioeconomic constraints, or lack of domestic privacy. Comparative studies should examine whether granular consent mechanisms, different feedback models, and alternative clinician-response arrangements change engagement and trust. Research should also examine how predictive information is negotiated during actual consultations, particularly whether algorithmic outputs support collaborative understanding or instead narrow interpretation toward predefined risk categories. Outcomes should extend beyond technical feasibility and predictive performance to include perceived autonomy, stigma, trust, burden, reciprocity, equity, and ability to challenge or correct digital interpretations (11,14–16,20–35).

CONCLUSION

Digital monitoring in early psychosis and psychosis-spectrum care is experienced not simply as the use of a technology but as participation in a system of data collection, interpretation, and clinical response. Service users differentiated among data streams, valued the ability to retain control over participation, and judged monitoring partly according to whether collected information produced understandable and useful clinical consequences. Digital care could reduce the visibility of conventional service contact while simultaneously reproducing stigma through unequal access, disclosure of psychiatric identity, persistent digital records, and decontextualized interpretation of behaviour. The synthesis does not support the assumption that more continuous or more granular data automatically produce more person-centred care. Digital monitoring is more defensible when collection is proportionate, consent remains revisable, automated interpretations can be questioned, uncertainty is acknowledged, and clinicians remain accountable for contextualizing information and responding appropriately. The principal implementation challenge is therefore not simply whether early psychosis services can monitor service users more closely, but whether monitoring can be organized in ways that preserve autonomy, reduce avoidable stigma, and strengthen rather than displace therapeutic relationships.

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