

Medication Schedules Meet Everyday Life Through Negotiation: A Temporal Theory of Routine Disruption and Responsibility Among Patients, Family Caregivers, and Pharmacy Teams

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Abstract

Medication schedules are usually expressed as stable instructions, yet medication taking occurs inside everyday lives whose timing, demands, relationships, and available support continually change. Accounts centred on adherence identify whether medicines are taken as prescribed but often reveal less about how medication-taking practices remain workable, become disrupted, or are reconstructed when ordinary routines change. This conceptual article develops Temporal Negotiation Theory to explain medication taking as temporally organized work distributed across patients, family caregivers, and pharmacy teams. Drawing on evidence concerning treatment burden, habit formation, medication work, care transitions, caregiver involvement, professional role negotiation, and pharmacy-based coordination, the theory distinguishes temporal anchors that stabilize medication practices from disruption episodes that expose mismatches between prescribed schedules and lived routines. Disruption does not necessarily produce medication failure. It can initiate negotiation over timing, assistance, monitoring, practical control, and responsibility. Responsibility may remain with the patient, become temporarily shared, migrate toward family caregivers, or be supported by pharmacy teams, while reconstructed routines may subsequently stabilize, remain fragile, or become disrupted again. The theoretical contribution is therefore a process account in which medication schedules acquire practical viability through recurring alignment among temporal anchors, available capacity, and responsibility arrangements. This perspective shifts attention from isolated dose-taking behavior toward the temporal organization of medication work and the conditions under which that organization can be renegotiated. For regimen design and counselling, the theory implies that workable schedules depend not only on pharmacological instructions but also on how medication tasks can be incorporated, supported, and redistributed within everyday life.

Keywords: Medication schedules, Medication work, Temporal routines, Family caregivers, Community pharmacy, Treatment burden

Introduction

Medication adherence remains a persistent concern in long-term treatment, particularly for people managing

multiple conditions and medicines. A systematic review and meta-analysis of multimorbidity populations found substantial heterogeneity in nonadherence and in the factors associated with it, indicating that failure to take medicines as prescribed cannot be reduced to a single patient characteristic or behavioral deficit [1]. At the same time, validated work on treatment burden has shown that patients must accommodate medication taking within a wider set of health-related tasks whose cumulative effort can interfere with everyday life [2]. These findings place adherence inside a broader problem: prescribed regimens require patients to repeatedly make

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Received: 03 March 2025; Accepted: 10 June 2025

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How to cite this article: Bennett S, Asante K, Rossi E. Medication Schedules Meet Everyday Life Through Negotiation: A Temporal Theory of Routine Disruption and Responsibility Among Patients, Family Caregivers, and Pharmacy Teams. Ann Pharm Educ Saf Public Health Advocacy. 2025;5(1):173-84. <https://doi.org/10.51847/12f1n6n2v9>

treatment activities workable under changing temporal and practical conditions.

Qualitative synthesis strengthens this interpretation. People living with multiple long-term conditions describe treatment as work that competes with employment, family life, appointments, domestic responsibilities, fatigue, and other demands [3]. Medication taking is therefore embedded in daily organization rather than occurring as an isolated response to an instruction. Correspondingly, efforts to evaluate adherence interventions increasingly recognize that no single behavioral endpoint captures all meaningful consequences of medication use, and consensus work has identified the need for a broader set of outcomes when judging adherence interventions [4]. The analytical issue is consequently not only whether a dose is taken, but how a medicine becomes incorporated into a recurring pattern of action and how that pattern changes when circumstances no longer support it.

This article develops Temporal Negotiation Theory to address that problem. The theory treats medication taking as temporally organized work that is stabilized through recurring anchors, exposed to disruption, and potentially reconstructed through negotiation among patients, family caregivers, and pharmacy teams. Its central claim is conditional: medication schedules become workable when the practical timing of medication tasks and the distribution of responsibility can be aligned with everyday life, and they become vulnerable when that alignment is disturbed without a viable means of reorganization. The theory therefore focuses on temporal states and transitions while preserving the possibility that disruption can lead to adaptation rather than failure.

Medication taking as a temporal practice

Medication taking is often represented as a sequence of discrete doses, yet the activities required to produce those doses extend beyond swallowing a medicine. Longitudinal qualitative research with patients and family members managing medicines at home has described medication management as work involving acquisition, organization, knowledge, monitoring, interpretation, physical administration, and communication [5]. These tasks recur, interact, and change as health conditions change. Their temporal organization is therefore part of the work itself. A medication that must be taken every morning generates not merely a pharmacological instruction but a recurring obligation that must be coordinated with waking, food,

transport, symptoms, other medicines, caregiving duties, and the practical availability of assistance.

Patients may also modify how prescribed schedules are enacted when treatment collides with symptoms or everyday demands. Qualitative research involving people self-administering oral anticancer medicines shows that patients sometimes make situated decisions about taking, delaying, or managing medicines in relation to side effects and their interpretation of treatment demands [6]. Such behavior cannot automatically be treated as successful adaptation, because some deviations may increase clinical risk. It nevertheless demonstrates that medication taking is practically accomplished through decisions made within lived circumstances. The prescribed regimen establishes a formal schedule, while everyday practice determines how that schedule is enacted.

This distinction becomes especially important when the person prescribed the medicine is not the only actor involved. A meta-ethnography examining medication experiences among people with intellectual disability and those supporting them found medication management to be relational, with responsibilities distributed across patients, family members, paid supporters, and professionals [7]. The particular population imposes clear limits on generalization, but the underlying analytical lesson is broader: medication taking can be jointly produced. The person who swallows the medicine may not be the person who orders it, prepares it, notices an error, monitors symptoms, remembers a refill, resolves conflicting instructions, or contacts a pharmacist.

Temporal Negotiation Theory therefore defines medication taking as a temporal practice as the recurrent organization of medication-related actions within everyday time. This definition separates the concept from adherence as an outcome. A patient may achieve high adherence through a highly burdensome arrangement that depends on intensive caregiver support, repeated reminders, or fragile workarounds. Conversely, temporary deviation from a schedule may occur during an attempt to reorganize medication work after illness, travel, discharge, or changing capacity. The theoretical object is the organization that makes medication taking possible, including who performs the work, when it is performed, what recurring events support it, and what happens when those conditions change.

Routines and temporal anchors

Routine provides one mechanism through which repeated medication work becomes less effortful. A systematic review examining habit strength across chronic conditions found that stronger medication-taking habits were generally associated with better adherence, although most included studies were correlational and therefore did not establish that habit itself caused adherence [8, 9]. Temporal Negotiation Theory uses this literature cautiously. Habit evidence supports the importance of repeated context, but it does not justify treating medication taking as an automatic process detached from social and practical conditions.

A temporal anchor is defined here as a recurring event, activity, or predictable period that provides a stable point around which medication work can be organized. Anchors can include waking, breakfast, preparing for work, an evening meal, bedtime, another established treatment task, or a recurring encounter with a caregiver. Habit-based intervention research has explicitly examined whether repeated medication taking linked to cues and reinforcement can strengthen regular medication behavior [10]. The theoretical significance lies in the coupling between a medication task and a recurring feature of daily life. A dose scheduled for “every morning” has limited practical content until it becomes attached to something sufficiently stable to cue and accommodate the action.

Qualitative evidence illustrates both the value and the fragility of such coupling. Patients with hypertension described meals, waking, bedtime, and other recurring activities as supports for medication-taking routines, while travel, weekends, social activities, work changes, and competing responsibilities could disturb established patterns [11]. These findings suggest that anchors differ not merely in presence but in temporal reliability. An anchor tied to an event that occurs almost every day under similar conditions may provide a stronger organizing point than one dependent on a variable work shift or an activity that disappears during travel. The same prescribed clock time can therefore be easy to maintain for one person and persistently unstable for another.

Medication routines must also coexist with the complexity of the wider regimen. Older patients,

relatives, and professionals discussing polypharmacy have identified timing, medication lists, organization, and coordination among the practical demands of medicine use [12]. The resulting routine can involve multiple anchors operating at different times, some compatible and some competing. Additional external support can be superimposed on this structure. In a randomized trial, a smartphone application using reminders and motivational features improved adherence at selected assessment points among people using multiple medicines [13]. Such support demonstrates that adherence can be scaffolded externally, but an externally delivered cue is analytically different from a medication action that has become integrated into a stable daily routine. A reminder may compensate for an absent or unreliable anchor without changing the underlying organization of everyday life.

The distinction matters because the durability of medication practice depends on how several sources of temporal stability interact. A stable routine may be supported by recurring daily events, by deliberate planning, by caregiver involvement, by pharmacy coordination, or by technologies that cue action. These supports need not operate identically, and their failure modes differ. A domestic routine can be disrupted by travel; a family caregiver may become unavailable; a reminder can be ignored; pharmacy refill dates can become desynchronized; and an otherwise reliable morning anchor may cease to fit after a work schedule changes.

The relevant contrast is therefore not simply between “having” and “not having” a routine. Temporal anchors can be internally embedded in everyday activities, relationally maintained through another person, or externally scaffolded through technologies and services. Their stability depends on whether the event or resource supporting the medication task remains available under changing circumstances.

The resulting distinctions are summarized in **Table 1** as different ways through which a medication schedule can acquire temporal support and different ways in which that support can become vulnerable.

Table 1. Temporal anchoring conditions that stabilize or destabilize medication-taking practice

Anchoring condition	Temporal organizing function	What keeps the anchor usable	Characteristic disruption	Likely immediate	Temporal Negotiation
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				response in medication work	Theory interpretation
Recurring everyday event	Couples medication with a repeated activity such as waking, eating, or bedtime	Event occurs reliably and leaves enough practical opportunity for the medication task	Travel, altered work hours, illness, changed meal pattern, weekend variation	Dose must be remembered or relocated to another recurring event	Stability depends on compatibility between prescribed timing and lived recurrence
Deliberate self-organized routine	Uses planning, preparation, pill organization, or repeated checking to maintain timing	Patient has sufficient cognitive, physical, and practical capacity	Fatigue, competing tasks, regimen change, increased treatment workload	Additional planning, postponement, omission, or search for assistance	Stability is actively produced rather than automatically sustained
Relational anchor	Connects medication work to the presence or actions of a family caregiver or other supporter	Supporter is available, informed, and able to participate without unacceptable burden	Caregiver absence, disagreement, changing patient capacity, role ambiguity	Responsibility may become temporarily shared or redistributed	Temporal stability and responsibility allocation become interdependent
External technological scaffold	Provides reminders or prompts independent of an existing daily event	Device is accessible, attended to, and correctly configured	Alert fatigue, changed schedule, device nonuse, competing demands	Prompt may be ignored, rescheduled, or replaced	External prompting can support adherence without necessarily reconstructing routine
Service-based temporal coordination	Aligns medication-related encounters, supplies, reviews, or refill timing	Pharmacy and care processes remain synchronized with patient needs	Transition, prescription change, supply delay, fragmented service timing	Additional contact, reconciliation, or rescheduling becomes necessary	Service timing can support or destabilize the temporal conditions surrounding home medication work
Multi-dose or polypharmacy configuration	Coordinates several medication tasks across a day	Timing requirements can be combined without excessive complexity	New medicine, altered dose, hospital discharge, conflicting instructions	Existing anchors may be overloaded or reorganized	More anchors do not necessarily create more stability; compatibility among them matters

Table 1 treats temporal stability as an organizational accomplishment rather than a fixed patient trait. The next analytical problem is what occurs when that organization is disturbed.

Disruption of everyday medication work

A routine disruption occurs when the existing arrangement linking medication tasks to time, context, and available support no longer operates as expected. Disruption may arise from an acute health event, a new medicine, a dose change, travel, changed employment, caregiver absence, cognitive decline, or movement

between healthcare settings. Hospital discharge is particularly informative because it can combine several forms of change at once. Mixed-method research with polymedicated older adults has shown that medication management after discharge requires active reorganization and that person-centred support must account for the realities of home management rather than treating discharge instructions as self-executing [14]. Medication-related admission can also alter the structural complexity of the regimen itself; changes in Medication Regimen Complexity Index scores across admission and discharge demonstrate that the treatment configuration a

patient returns home with may differ materially from the one previously embedded in daily life [15].

Disruption is therefore broader than forgetting. It represents a mismatch between an established temporal arrangement and new conditions. A previously reliable breakfast anchor may become unusable when a medicine is changed to require fasting. A caregiver who prepared evening medicines may no longer be available. A hospital may alter doses and timing without those changes being fully integrated into the patient's existing routine. Each event creates work because the prior arrangement can no longer be reproduced unchanged.

Transitions also expose limits in how medication changes are negotiated. Research examining decision-making across transitions of care has identified opportunities for greater involvement of patients and families when medicines are changed [16]. This matters because formal decisions about medication timing or regimen structure can modify the temporal work that must later be performed at home. If the people who will enact the regimen have little opportunity to explain existing routines, competing responsibilities, or available support, the new schedule may be clinically appropriate while remaining practically difficult to incorporate.

Treatment burden provides a complementary boundary condition. Further validation of the Multimorbidity Treatment Burden Questionnaire confirms that the workload of healthcare varies meaningfully among patients [17]. Temporal Negotiation Theory does not convert treatment burden into a stage of routine disruption. Instead, burden affects the amount of adaptive capacity available when disruption occurs. Two patients can experience the same prescription change while facing different consequences because one has spare time, stable support, and an adaptable routine whereas the other is already coordinating multiple appointments, medicines, symptoms, and responsibilities.

Disruption must therefore remain distinct from failure. Some disturbances are absorbed with little difficulty. Others prompt temporary workarounds. Still others expose a deeper incompatibility between the regimen and the existing organization of daily life. The theoretical question becomes whether the actors involved can negotiate a workable response before instability produces sustained omissions, unsafe improvisation, excessive caregiver burden, or loss of control over the regimen.

Negotiation among patients, family caregivers and pharmacy teams

When established medication work becomes difficult to sustain, adaptation frequently involves more than the patient alone. Family caregivers may organize medicines, monitor supplies, provide reminders, interpret instructions, communicate with clinicians, or assume direct responsibility for administration. Qualitative evidence shows that carers can experience medication management as substantial and sometimes ambiguous work, while a systematic review of informal caregiving demonstrates considerable variation in how extensively carers participate in cognitive and practical medication tasks [18, 19]. The variability is important: caregiver involvement should not be treated as a predefined role attached automatically to a family relationship.

Temporal Negotiation Theory uses negotiation to describe the process through which actors establish or revise how medication work will be performed under changed conditions. Negotiation may be explicit, as when a patient and daughter agree that the daughter will prepare medicines each week. It may also be tacit, as when a caregiver begins checking doses after noticing repeated errors. It can involve timing, task ownership, monitoring, autonomy, access to information, or the threshold at which professional help is sought. Negotiation therefore concerns practical control as much as verbal agreement.

The capacity to negotiate depends partly on the interfaces connecting families with healthcare services. Home-visit research involving caregivers of older medication recipients found difficulties in navigating healthcare systems, obtaining information, and securing adequate professional support for medication-management responsibilities [20]. These difficulties create a cross-level problem: families may be expected to maintain medication routines while lacking timely access to the people or information needed to adapt those routines safely. Pharmacy teams can become especially important where the medication problem concerns supply, regimen understanding, timing, interaction with other medicines, or the practical consequences of a recent medication change.

Patient experiences following cardiovascular-related transitions of care indicate that pharmacist-led medication-management services can support understanding and provide valued follow-up after discharge [21]. The contribution of pharmacy teams is not limited to supplying information. Pharmacists can help identify mismatches between formal instructions and lived practice, clarify changed regimens, coordinate

refills, recognize when an arrangement places excessive work on the patient or caregiver, and communicate with prescribers when the schedule itself appears difficult to enact.

Evidence concerning pharmacist-led community services nevertheless requires calibration. An overview of systematic reviews found broadly favorable clinical and behavioral outcomes for pharmacist-led pharmaceutical care, while humanistic and economic findings were less consistent and interventions were heterogeneous [22]. Temporal Negotiation Theory therefore does not assume that pharmacist involvement automatically produces routine reconstruction. Pharmacy support becomes theoretically relevant when it changes the conditions under which medication work can be reorganized—for example, by resolving uncertainty, synchronizing supplies, adapting counselling to existing routines, or helping actors agree on who will perform particular tasks. Negotiation also has limits. Patients may resist caregiver involvement because it threatens autonomy. Caregivers may be unavailable or unwilling to assume additional work. Pharmacy teams may lack access to complete information or authority to alter a prescription. Different actors may hold incompatible understandings of what the problem is. In these circumstances, negotiation can stall or produce a temporary arrangement that remains fragile. The theory must therefore distinguish the existence of interaction from the achievement of workable alignment. The key analytical outcome of negotiation is not agreement in the abstract. It is whether the temporal organization of medication work becomes sufficiently workable under current conditions. This may occur without changing who holds primary responsibility, but disruption can also expose the need for responsibility itself to move.

Temporal redistribution of responsibility

Responsibility for medication management is often described as though it belongs to a single person, yet empirical studies show that practical responsibility can change as patient capacity, disease progression, and available support change. Interviews with patient-caregiver dyads affected by mild cognitive impairment and dementia found that caregivers commonly assumed greater medication-management responsibility after observing errors, worsening cognition, or reduced capacity, although the extent and timing of this transfer varied with autonomy, proximity, and the relationship between patient and caregiver [23]. The condition-

specific context prevents a universal trajectory from being inferred, but it provides clear evidence that medication responsibility can be redistributed over time. Medication systems outside the home also reveal that medication responsibility is inherently distributed. An updated medicines-pathway framework for nursing homes identifies interconnected medication processes involving residents, informal carers, nurses, pharmacists, prescribers, and other professionals [24]. Institutional care differs substantially from independent community living, yet the framework reinforces a useful distinction between formal accountability and the practical activities necessary to make medicines available, understandable, administered, monitored, and reviewed.

Temporal Negotiation Theory defines temporal redistribution of responsibility as a change in who performs, coordinates, monitors, or controls medication work when an existing arrangement becomes insufficient under new temporal conditions. Redistribution can be temporary or persistent. A family member may manage medicines during acute illness and later withdraw. A patient may retain decision authority while delegating ordering and preparation. A pharmacist may assume a stronger coordinating role during a transition without becoming responsible for everyday administration. Responsibility can therefore move by task rather than as an all-or-none transfer.

Professional roles provide a parallel illustration. Realist-informed research on pharmacist-led medication review in general practice shows that collaboration depends on shared understandings, trust, relational work, and flexibility within particular contexts [25]. Multiple-case research in primary care likewise indicates that unclear professional identity can shape how pharmacists negotiate and enact their roles [26]. These studies concern professional collaboration rather than household medication management, so their mechanisms cannot simply be transferred to patient-caregiver relations. They nevertheless demonstrate that formally available expertise does not automatically become practically operative. Roles have to be enacted within relationships and organizational conditions.

This distinction is central to the theory. A patient may formally remain responsible while a caregiver performs most medication work. A pharmacist may possess relevant expertise while lacking authority or information needed to alter a problematic schedule. A caregiver may be willing to help but unable to attend appointments or access the medication list. Redistribution therefore

involves at least three separable dimensions: task performance, practical control, and recognized responsibility. These dimensions can align, but they can also diverge.

Temporal redistribution is especially likely to become visible after disruption because disruption exposes who can compensate when the established routine no longer carries medication work reliably. Where sufficient capacity exists, the patient may reorganize the routine independently. Where capacity is constrained, responsibility may be shared or shifted. Where no actor has the resources, authority, or information needed to stabilize the new arrangement, medication work can remain unsettled even though formal responsibility appears clear.

The theoretical implication is that medication responsibility is not simply attached to a person; it is enacted through time. Its allocation can change as routines, capacities, relationships, and healthcare interfaces change. The next stage of the argument develops how temporal anchors, disruption, negotiation, and responsibility redistribution combine into a coherent theory rather than remaining separate observations.

Development of the temporal negotiation theory

Temporal Negotiation Theory integrates four processes that the preceding evidence streams have usually examined separately: temporal anchoring, disruption, negotiation, and redistribution of responsibility. The theory begins from the premise that medication schedules become practically sustainable when prescribed tasks can be linked to sufficiently stable features of everyday life. Stability is therefore relational: it depends on the fit among regimen requirements, temporal anchors, available capacity, and the people or services carrying medication work.

Disruption exposes that fit. When a previous arrangement ceases to operate, the next state is not predetermined.

Pharmacists themselves use iterative, context-sensitive reasoning rather than a single linear decision sequence [27], and medication decisions across transitions likewise involve changing information, actors, and opportunities for engagement [16]. Within households, responsibility may move as capacity changes [23]. These observations support a theory in which adaptation proceeds through repeated assessment and adjustment rather than a fixed progression.

Negotiation becomes consequential when disruption cannot be absorbed by the existing routine. Patients, caregivers, and pharmacy teams may alter timing, monitoring, assistance, refill organization, or task ownership. Service-level temporal coordination can modify these conditions: synchronized refill systems, for example, can reduce the fragmentation of pharmacy encounters without establishing that household routines themselves have been reconstructed [28]. Temporal Negotiation Theory therefore distinguishes supporting a schedule from reorganizing the medication practice that sustains it.

The theory proposes that reconstructed medication practice emerges when a changed arrangement achieves sufficient compatibility among three elements: workable temporal anchoring, available medication-management capacity, and an enacted distribution of responsibility. Reconstruction can remain partial. A new arrangement may work only while a caregiver is present, while reminders remain effective, or while service coordination compensates for unstable domestic routines. Return to disruption therefore remains possible.

These relationships are synthesized in **Figure 1** as a nonuniform temporal system in which medication practices may stabilize, encounter disruption, enter negotiation, redistribute work, reconstruct, persist in an unsettled configuration, or return to an earlier condition.

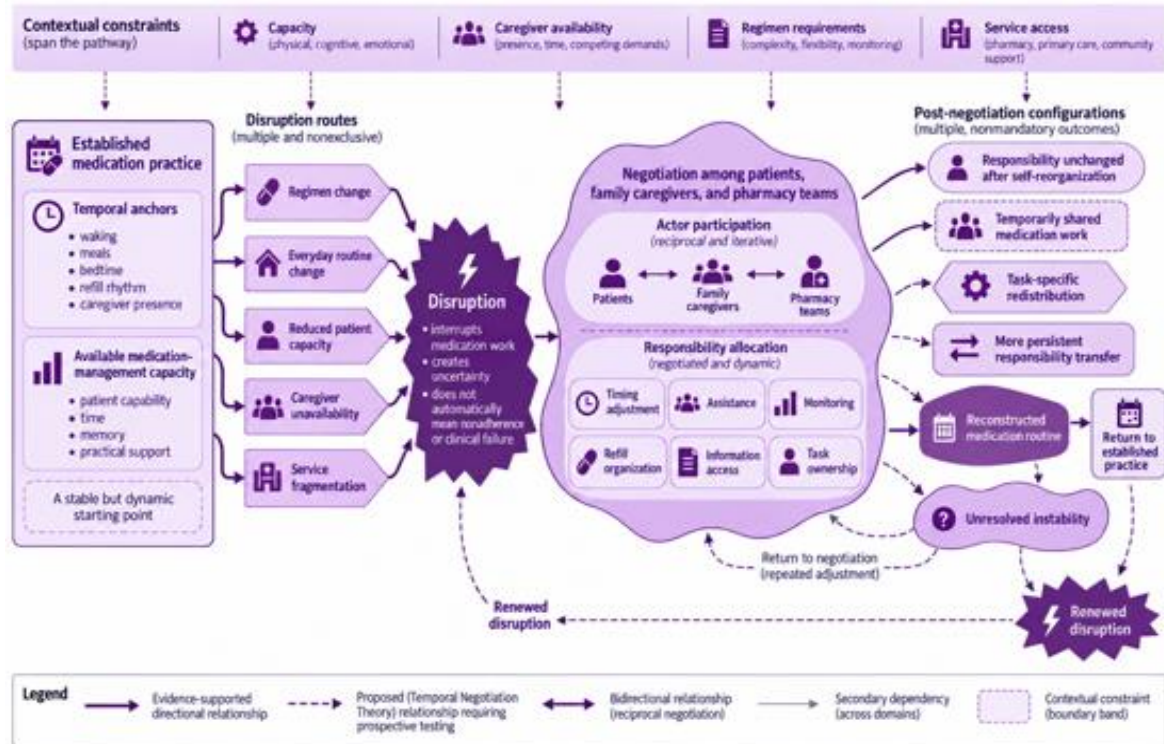


Figure 1. Temporal negotiation of medication work across disruption and responsibility change

States of routine stability, disruption and reconstruction
The theory treats routine stability, disruption, and reconstruction as configurations rather than compulsory stages. Treatment burden varies substantially among patients [29], so similar medication schedules may operate differently under different combinations of capacity and support. Stability means that medication work can be repeatedly accomplished with an acceptable fit between timing and responsibility. It does not require perfect automaticity or complete independence. Disruption denotes loss of that fit. Reconstruction occurs when medication work becomes workable again under a

revised temporal or responsibility arrangement. Between these states lie configurations of negotiated adaptation, externally supported stability, unresolved disruption, and fragile reconstruction. Caregiver responsibility may increase when patient capacity changes [23], while external temporal coordination may preserve adherence without fully reorganizing the patient's daily practice [28]. These distinctions prevent observable adherence from being treated as sufficient evidence that routine reconstruction has occurred. The analytical configurations are summarized in **Table 2**.

Table 2. Configurations of medication routine stability, disruption, negotiation, and reconstruction

Configuration	Temporal condition	Responsibility arrangement	Medication work characteristic	Possible movement
Stable embedded routine	Reliable anchors remain compatible with regimen	Existing allocation remains workable	Repeated tasks require limited reorganization	Persistence or disruption
Supported stability	Internal anchors are insufficient but external support compensates	Patient responsibility retained with added assistance	Reminders, caregiver input, or service coordination sustain performance	Greater stability, dependence on support, or disruption
Disrupted routine	Previous anchors or resources no longer fit current demands	Formal responsibility may remain unchanged despite practical strain	Increased remembering, coordination, checking, or improvisation	Independent adaptation, negotiation, or persistence

Negotiated adaptation	Actors actively modify timing, assistance, monitoring, or task division	Responsibility becomes explicitly or tacitly reconsidered	Medication work is reorganized during ongoing uncertainty	Reconstruction, temporary sharing, redistribution, or breakdown
Redistributed responsibility	One or more medication tasks move to another actor	Practical control and recognized responsibility may no longer coincide	Work becomes shared or transferred	Stable sharing, later return, further transfer, or conflict
Reconstructed routine	Revised anchors and responsibility arrangements achieve workable fit	New allocation becomes sufficiently stable	Medication tasks become repeatable under changed conditions	Persistence, further adaptation, or renewed disruption
Persistent instability	No available arrangement adequately restores fit	Responsibility remains ambiguous, overloaded, or unsupported	Recurrent workarounds and coordination failures continue	Delayed negotiation, service intervention, or continuing instability

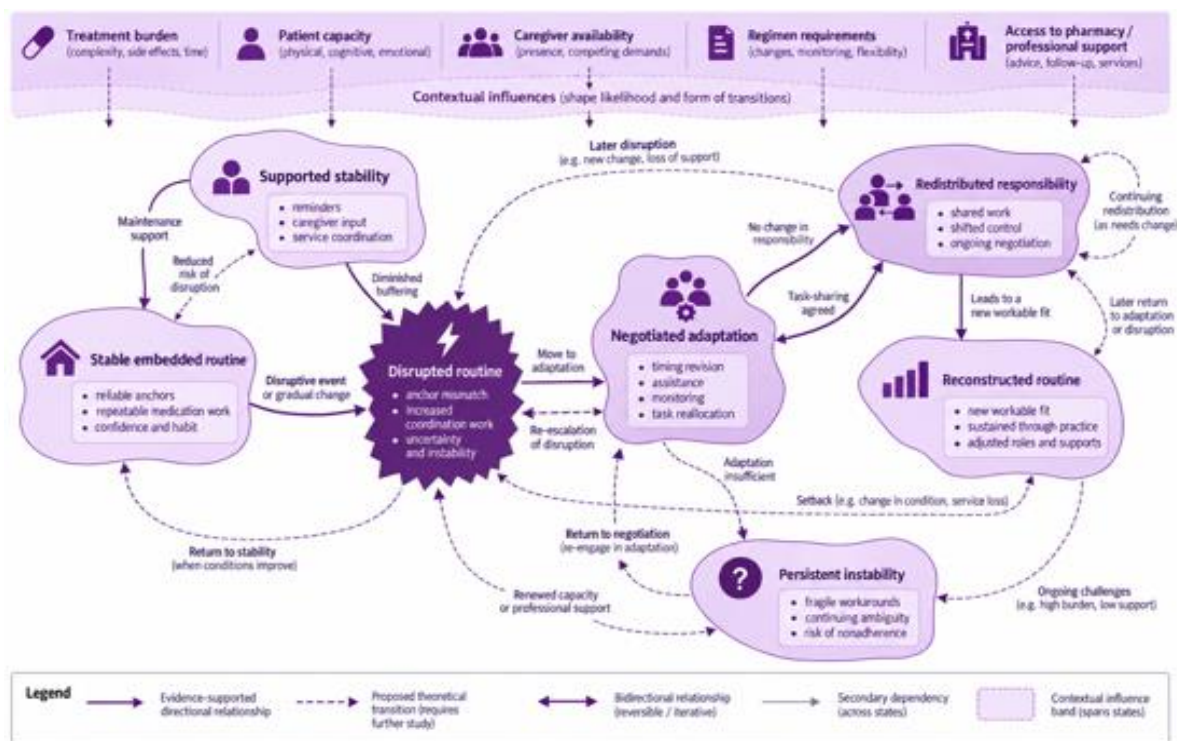


Figure 2. Relational states of medication routine stability, negotiated adaptation, and responsibility redistribution

Theoretical propositions

Temporal Negotiation Theory yields several discriminating propositions. First, medication practices linked to reliable and context-compatible anchors should be more resistant to ordinary disruption than practices dependent on unstable cues, although habit evidence alone cannot establish this causal relationship [8]. Second, disruption should produce greater responsibility redistribution when existing medication-management capacity is insufficient and alternative actors are both available and able to assume relevant work. Third,

caregiver or professional availability should influence outcomes only when practical access, information, and authority allow that capacity to be used; caregiver-system integration problems illustrate this boundary [20].

Fourth, responsibility change should be task-specific rather than necessarily global. Preparation, ordering, monitoring, administration, interpretation, and communication may move independently, consistent with observed caregiver transitions in medication management [23]. Fifth, external synchronization or reminder systems should produce more durable

stabilization when they fit existing routines than when they merely impose additional temporal demands. Refill synchronization provides a service-level example of temporal reorganization whose household consequences remain an empirical question [28].

These propositions distinguish the theory from a static determinants model because they specify when the same medication regimen should produce different trajectories depending on the temporal organization and negotiability of medication work.

Implications for regimen design and counselling

Regimen design should consider whether prescribed timing can be incorporated into the patient's recurring life rather than assuming that clock-time instructions are self-executing. Counselling can identify existing anchors, foreseeable disruptions, backup arrangements, and tasks that already depend on another person. Reported disruption by travel, work changes, weekends, meals, and competing responsibilities shows why this assessment may matter [11].

Counselling should also clarify responsibility before a crisis exposes ambiguity. Patients and caregivers may benefit from explicitly discussing who orders medicines, notices missed doses, monitors changes, manages refills, and contacts professionals when routines fail. Where family support is limited or difficult to integrate with healthcare systems [20], pharmacy teams may serve as accessible points for clarification and coordination. Pharmacist-led post-transition services are valued by some patients [21], while broader review evidence suggests benefits across several pharmacist-led community interventions but does not support assuming uniform effects [22].

Temporal fit should therefore be treated as a design consideration: the practical question is not only whether a regimen can be followed, but how it can remain workable when everyday conditions change.

Results and Discussion

Temporal Negotiation Theory reframes medication schedules as arrangements that must continually interface with everyday time, capacity, relationships, and service organization. Its principal contribution is the integration of evidence on routine formation, treatment burden, caregiver work, professional role negotiation, transitions of care, and pharmacy coordination into a

process account of how medication practices remain stable or are reorganized after disruption.

Several neighboring explanations remain important. Habit research can explain why repeated cues support medication behavior [8]. Treatment-burden models explain why patients differ in available capacity [17]. Professional-role theory explains why formal expertise may not translate automatically into enacted responsibility [26]. None of these constructs is replaced by Temporal Negotiation Theory. The proposed contribution lies in explaining how they interact when an established medication arrangement becomes temporally unworkable.

The theory also has substantial boundaries. Evidence concerning oral anticancer therapy [6], intellectual disability [7], dementia [23], nursing homes [24], and other specific populations cannot be generalized without qualification. The proposed states and transitions have not been prospectively validated as a unified system. Future research should therefore examine whether changes in temporal anchoring precede observed redistribution of medication work, whether negotiated responsibility predicts successful reconstruction, and whether externally supported adherence differs from genuinely reconstructed routines in durability under subsequent disruption.

The theory is most useful when medication taking requires recurring coordination across changing conditions. It may add less where the regimen is simple, temporal requirements are flexible, and medication work remains consistently manageable without relational or organizational adjustment. Its value therefore depends on demonstrating empirical discrimination rather than merely redescribing medication complexity.

Conclusion

Medication schedules become part of everyday life through recurring arrangements of time, work, and responsibility. When those arrangements remain compatible with daily routines, medication practice may stabilize with little visible negotiation. When circumstances change, disruption exposes the practical organization that had previously sustained the regimen. Patients, family caregivers, and pharmacy teams can then modify timing, assistance, monitoring, and responsibility, sometimes reconstructing a workable routine and sometimes leaving medication work persistently unsettled. Temporal Negotiation Theory

therefore proposes that medication-taking stability depends conditionally on the continuing fit among temporal anchors, available capacity, and enacted responsibility—and on whether that fit can be renegotiated when everyday life changes.

Acknowledgments: None

Conflict of Interest: None

Financial Support: None

Ethics Statement: None

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