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Research Article

Clinical Consequences of Workarounds in Nursing Practice

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Abstract:

Workarounds in nursing practice, defined as deliberate deviations from established protocols to overcome workflow obstacles, present a critical paradox in healthcare. While often born from a commitment to efficient patient care in the face of systemic flaws like understaffing or cumbersome technology, these adaptive shortcuts carry significant latent risks that undermine the very safety they seek to preserve. The clinical consequences are multifarious and severe, directly compromising patient safety through increased risks of medication errors, misidentification, and hospital-acquired infections. Furthermore, workarounds erode data integrity within electronic health records, nullify clinical decision support alerts, fracture structured communication among care teams, and contribute to moral distress and legal vulnerability among nurses. Organizationally, the normalization of these deviations masks underlying system failures, creates a false sense of resilience, and stymies meaningful quality improvement. Ultimately, pervasive workarounds signal a dangerous disconnect between work-as-imagined by policymakers and work-as-done at the frontline, indicating that patient safety is often maintained through fragile, individual heroism rather than through robust, reliable system design.

1. Introduction

The modern healthcare environment is a complex, high-stakes ecosystem characterized by advanced technologies, intricate protocols, and an unyielding demand for safe, efficient patient care. Within this pressurized setting, nurses, as the primary caregivers and coordinators at the bedside, routinely navigate a myriad of systemic constraints, including inefficient workflows, fragmented communication channels, malfunctioning equipment, and persistent resource limitations. In response to these everyday obstacles, a pervasive and often tacit phenomenon emerges: the workaround. Workarounds in nursing are defined as deviations from formal, prescribed procedures or protocols, undertaken by frontline staff to achieve a work goal, manage a breakdown in a process, or circumvent perceived inefficiencies in the system [1]. They represent a form of adaptive, situated problem-solving, born not necessarily from malice or negligence, but frequently from a commitment to maintain the flow of care and meet patient needs in the face of operational friction.

The conceptualization of workarounds distinguishes them from mere errors or reckless violations. While errors are unintentional mistakes, and violations are deliberate, often reckless disregard for rules, workarounds occupy a more ambiguous middle ground. They are deliberate actions, but their intent is typically to "get the job done" when the standard way is blocked or deemed impractical [2]. This distinction is crucial for understanding their prevalence and persistence. Nurses often employ workarounds as a practical response to the reality of their work environment, viewing them as necessary adaptations rather than subversions. Common examples abound: bypassing a malfunctioning medication dispensing cabinet by storing high-use medications in a unlocked drawer; using personal mobile phones or unsecured messaging apps to communicate urgent patient information when hospital pagers are slow; documenting interventions retrospectively in a batch to save time during a hectic shift; or verbally relaying critical lab results to a physician without documenting the communication in the electronic health record (EHR) due to time constraints or cumbersome interface design [3, 4].

The sheer pervasiveness of workarounds suggests they are not an anomaly but an embedded feature of nursing practice. Studies indicate that nurses frequently encounter situations requiring workarounds, with some estimates suggesting multiple instances per shift [5]. This widespread adoption points to a fundamental disconnect between the designed procedures of healthcare systems and the situated reality of clinical work. Procedures are often created with an idealized, linear workflow in mind, but nursing practice is inherently nonlinear, unpredictable, and interrupt-driven. When formal processes fail to account for this reality, workarounds spontaneously arise to bridge the gap. Initially, these adaptations may seem benign or even beneficial, allowing nurses to overcome immediate hurdles and provide timely care. This perceived short-term efficiency is a primary driver of their use and often leads to their normalization within units or even entire institutions [6].

However, this normalization masks a profound and dangerous paradox. While workarounds may solve an immediate, local problem, they often do so by bypassing the very safeguards and structured processes designed to ensure patient safety, data integrity, and professional accountability. The clinical consequences of these deviations are frequently latent, distributed, and multifaceted, extending far beyond the immediate context in which they are employed. They can introduce new, unforeseen risks, erode systematic defenses, and create a fragile clinical environment where safety is increasingly dependent on individual vigilance and

improvisation rather than on robust, reliable systems [7]. Furthermore, workarounds can generate a "second reality" of care—a shadow system of practices that is undocumented, unregulated, and invisible to organizational leadership, making it impossible to accurately assess workflow, allocate resources, or identify genuine system flaws that need redesign [8].

2. Patient Safety: Compromising the Primary Mandate

The most critical domain impacted by nursing workarounds is patient safety. The foundational protocols and safety checks embedded in healthcare processes—such as the "Five Rights" of medication administration, patient identification procedures, and infection control guidelines—are not bureaucratic obstacles but carefully constructed layers of defense against error. Workarounds that bypass these layers systematically dismantle this protective infrastructure, creating direct pathways for adverse events.

One of the most hazardous categories involves workarounds related to patient identification. The universal protocol for verifying patient identity using two unique identifiers (e.g., name and date of birth) before any intervention is a cornerstone of safe care. However, under time pressure or in chaotic environments, nurses may develop shortcuts. For instance, assuming a patient's identity in a familiar unit without double-checking the wristband, or administering a medication to a patient based on a verbal request from a colleague without performing an independent verification [9]. These deviations dramatically increase the risk of wrong-patient errors, which can lead to administering incorrect medications, performing procedures on the wrong individual, or mismanaging critical test results. The consequences range from minor discomfort to catastrophic harm, including death.

Similarly, workarounds in clinical monitoring and surveillance pose grave threats. Electronic health records (EHRs) often have built-in alert systems for abnormal vital signs or critical lab values. A common workaround, known as "alert fatigue" mitigation, involves manually overriding or ignoring these alerts, especially when they are perceived as non-actionable or excessive [10]. While the intent may be to focus on more urgent tasks, this practice can lead to missed detection of patient deterioration. A nurse might document a set of vitals but fail to recognize or act on a subtly rising respiratory rate or a trending drop in blood pressure because the automated flag was dismissed. This delay in recognizing and responding to early warning signs is a well-documented factor in failure-to-rescue events and unplanned transfers to intensive care units [11].

Infection control protocols are another frequent casualty of workaround behavior. Central line-associated bloodstream infections (CLABSIs) and catheter-associated urinary tract infections (CAUTIs) are largely preventable through strict adherence to aseptic technique during insertion and maintenance. Workarounds, such as reusing single-use supplies in a pinch, failing to perform proper hand hygiene before a central line dressing change due to urgent patient needs, or postponing the removal of an unnecessary urinary catheter because of discharge planning complexities, directly undermine these evidence-based bundles [12]. Each breach in technique introduces pathogens, turning a life-saving device into a potential source of lethal sepsis. The normalization of such minor breaches creates a culture where strict adherence is seen as optional, significantly elevating the collective risk of hospital-acquired infections for all patients on a unit.

3. Medication Administration: A High-Risk Process Fraught with Adaptations

The medication administration process is arguably the nursing task most densely populated with safety checks and, consequently, with potential workarounds. From procurement to administration, each stage is vulnerable to deviations that can culminate in medication errors.

The process often begins with workarounds at automated dispensing cabinets (ADCs). These devices are designed to control inventory, track narcotics, and ensure the right medication is selected for the right patient. However, when an ADC is slow, malfunctioning, or does not contain a needed medication due to stock issues, nurses may resort to "borrowing" medications from another patient's drawer, using a override function excessively to access drugs without a specific order, or stocking personal caches of frequently used medications in unsecured locations [13]. These practices sever the electronic audit trail, bypass dual-check safeguards for high-alert medications, and create opportunities for diversion or incorrect drug selection.

During preparation, time pressures can lead to dangerous shortcuts. This includes crushing medications that are not meant to be crushed (potentially altering their pharmacokinetics or causing airway obstruction), mixing incompatible drugs in the same syringe, or failing to properly reconstitute a powdered medication [14]. The "silent" nature of these preparation errors means they are unlikely to be caught by subsequent checks if the nurse is not aware of the specific

pharmaceutical incompatibilities or administration guidelines.

The administration phase itself is compromised by workarounds to the "Five Rights." A nurse might administer a medication at a slightly different time than scheduled to batch tasks (Right Time), or might give a drug via the oral route when the intravenous route is temporarily unavailable without consulting a pharmacist or prescriber (Right Route) [15]. Perhaps the most perilous is the workaround of the "Right Documentation," where the administration is performed but charting is delayed or done from memory at the end of the shift. This not only creates a legal and ethical discrepancy in the record but also means the next caregiver does not have an accurate, real-time picture of what medications the patient has received, leading to potential duplication or dangerous interactions.

Furthermore, workarounds disrupt the crucial double-check process for high-risk medications like insulin, heparin, and chemotherapeutic agents. The formal policy often requires an independent second nurse to verify the dose and patient. Workarounds to this include a perfunctory, distracted check ("eyeballing" it), verifying the medication after it has already been drawn up (which biases the second nurse), or having the same nurse who prepared the medication also act as the "independent" verifier by using another colleague's login [16]. These practices render the double-check ritualistic rather than effective, nullifying a critical last line of defense against catastrophic dosing errors.

4. Technology and Electronic Health Record (EHR) Workarounds: Creating Digital Shadows

The widespread implementation of health information technology, particularly EHRs, was intended to reduce error and improve efficiency. Paradoxically, it has also given rise to a new ecology of digital workarounds. Nurses interact with EHRs for countless hours, and when the technology's design conflicts with clinical workflow, they develop adaptations that can undermine the very goals of the system.

A primary consequence is the degradation of data integrity and the clinical narrative. When EHR documentation is cumbersome, requiring excessive clicking or redundant data entry, nurses may resort to "copy-forward" or "cloning" previous notes without adequately updating them to reflect the current clinical situation [17]. This creates a record that is technically complete but clinically inaccurate, potentially leading subsequent providers to make decisions based on outdated or false information. Similarly, workarounds like using free-text boxes instead of structured fields to save time, or documenting in personal notebooks for later batch entry, remove data from the structured, searchable, and actionable digital environment. This creates "data silos" and shadows, making it impossible to generate accurate quality metrics, track patient progress effectively, or conduct reliable clinical research based on EHR data.

Workaround practices also severely compromise clinical decision support. As mentioned, alert overrides are rampant. But beyond overrides, nurses may develop strategies to avoid triggering alerts in the first place. For example, instead of documenting a patient's actual weight (which might trigger a dose alert for a renally excreted drug), a nurse might leave the weight field blank or use an old value [18]. This deliberate avoidance of decision support mechanisms strips away an automated safety net, placing the entire burden of complex pharmaceutical knowledge on the individual nurse's memory and vigilance at a moment of high cognitive load.

Communication and care coordination, which EHRs are meant to enhance, can also be fractured by workarounds. The formal pathway for communicating a critical finding might be to document it in a specific EHR flow sheet and send an electronic alert to the physician. If this process is slow, a nurse may instead call the physician's personal mobile phone (a "shadow communication" channel) [19]. While faster, this workaround leaves no verifiable, timestamped record of the communication in the patient's legal chart. It can lead to miscommunication, dropped responsibilities, and a fragmented care team where vital information exists in ephemeral conversations rather than in a shared, permanent record.

5. Communication and Teamwork: Eroding the Foundation of Safe Care

Effective healthcare delivery is fundamentally a team sport, reliant on clear, structured communication and defined roles. Workarounds that alter standard communication protocols introduce ambiguity, increase cognitive load for other team members, and erode psychological safety.

The classic example is the violation of structured handoff protocols like SBAR (Situation, Background, Assessment, Recommendation). During a busy shift change, nurses may engage in a terse, incomplete verbal handoff in the hallway, omitting key background information or pending tasks, with the assumption that the oncoming nurse will "figure it out" or "look it up in the chart" [20]. This workaround transfers enormous, unstated risk. The receiving nurse is left with an incomplete mental model of the patient, increasing the likelihood of missed care, delayed interventions, or

misunderstanding of the patient's status. The chain of responsibility becomes blurred, as tasks that were not explicitly communicated are assumed to be either done or not important.

Workarounds also disrupt interprofessional communication hierarchies and channels. A nurse needing a medication order clarified might bypass the primary team and page the on-call resident, who lacks context. Conversely, a physician might give a verbal order directly to a nursing assistant instead of to the licensed nurse, violating the chain of command and potentially leading to misinterpretation by a staff member with different training and scope of practice [21]. These informal pathways, while sometimes efficient in the short term, create confusion about who knows what and who is responsible for acting on information. They can breed resentment among team members and fragment the continuity of the care plan.

Furthermore, the normalization of workarounds can stifle a culture of speaking up. If a nurse observes a colleague using a risky shortcut but remains silent because "everyone does it" or for fear of conflict, a powerful informal sanctioning of unsafe practice occurs [22]. This erosion of peer monitoring and challenge is devastating for safety. It creates an environment where deviations are not examined or corrected, allowing locally optimized but globally hazardous practices to proliferate unchecked.

6. Professional, Ethical, and Legal Ramifications for Nurses

Beyond the immediate clinical risks, engagement in workarounds carries significant professional, ethical, and legal consequences for nurses themselves, impacting their practice, well-being, and professional standing.

Engaging in workarounds often creates profound moral distress for nurses. Moral distress occurs when an individual knows the ethically correct action to take but feels constrained from taking it due to institutional or systemic barriers [23]. A nurse may know that bypassing a safety check is wrong but feels compelled to do so to manage an overwhelming workload with inadequate resources. This recurrent conflict between professional ideals and practical constraints leads to feelings of guilt, powerlessness, and burnout. Over time, this distress can contribute to compassion fatigue, cynicism, and ultimately, attrition from the profession, exacerbating the very staffing shortages that often precipitate workarounds in the first place.

From a legal and regulatory perspective, workarounds place nurses in a perilous position. Nursing practice is governed by standards of care and scope of practice regulations established by state boards of nursing. When a patient is harmed due to a workaround—for example, a medication error resulting from a bypassed double-check—the nurse's deviation from the established protocol will be the central focus of any malpractice lawsuit or board of nursing inquiry [24]. The defense that "the system made me do it" or "this is how we always do it here" is rarely successful in court. The nurse's license and livelihood are put at risk for actions taken to compensate for organizational system failures.

Professional accountability is fundamentally undermined by workaround culture. Accountability requires a clear link between action, outcome, and responsibility. Workarounds, especially those involving undocumented practices or shadow systems, obscure this link. When care is provided through informal, ad-hoc processes, it becomes impossible to accurately assign credit for success or responsibility for failure. This lack of transparency not only hinders individual professional development and learning from mistakes but also prevents the organization from holding itself accountable for providing a safe and effective work system [25].

7. Organizational Culture and System Resilience

The consequences of workarounds are not confined to individual acts or patient outcomes; they actively shape and are shaped by the broader organizational culture, affecting the system's long-term resilience and capacity for improvement.

Perhaps the most insidious cultural impact is the normalization of deviance. This sociological concept describes how, over time, repeated but non-catastrophic deviations from procedure become accepted as the new normal [26]. A workaround that initially causes anxiety ("I know I shouldn't do this, but…") gradually becomes routine, then expected, and finally, the de facto standard of work. When new staff are oriented, they are often taught these local adaptations rather than the official procedures. This creates a profound gap between "work-as-imagined" by policymakers and administrators and "work-as-done" by frontline staff. The organization becomes blind to its own risks, as leadership believes safety protocols are being followed while, on the ground, they are consistently bypassed.

This normalization directly stifles organizational learning and improvement. Continuous quality improvement relies on accurate data about processes and outcomes. Workarounds corrupt this data. If nurses consistently use shadow documentation or communication channels, the EHR and official reports no longer reflect reality. A process that appears efficient and safe in the data may, in fact, be riddled with hidden vulnerabilities. Consequently,

when problems arise, root cause analyses are misled. They may blame "human error" or "non-compliance" by individual nurses, rather than identifying the flawed system design (e.g., a slow ADC, a poorly designed EHR screen, chronic understaffing) that necessitated the workaround in the first place [27]. This leads to ineffective corrective actions, such as retraining staff on procedures they already know but cannot follow, rather than fixing the underlying systemic flaws.

Finally, workarounds create a false sense of resilience. Organizations may come to rely on the heroic adaptations of their staff to keep the system functioning. This is termed "working around resilience" as opposed to "working with resilience" [28]. A resilient system is one that can anticipate, monitor, respond to, and learn from variations and disturbances. Relying on workarounds is the opposite: it is a fragile adaptation that masks deficiencies, prevents proactive monitoring, and inhibits learning. It makes the system dependent on the constant, unpaid cognitive labor and risk-taking of frontline workers. When those workers leave, are overwhelmed, or make a mistake within the complex web of informal adaptations, the system's fragility is exposed, often with serious consequences.

8. Conclusion

Workarounds in nursing practice are far more than minor procedural infractions; they are a critical lens through which to view the health of a healthcare system. Their clinical consequences are vast and interlinked, forming a cascade of risk that extends from the bedside to the boardroom. At the patient level, they directly threaten safety by dismantling safeguards against misidentification, medication error, infection, and failure to rescue. Within technological systems, they corrupt data integrity, nullify clinical decision support, and foster unreliable communication. On a professional level, they breed moral distress, expose nurses to legal peril, and undermine accountability. Culturally, they normalize deviance, corrupt organizational learning, and create a fragile, heroic form of resilience that is unsustainable.

Eliminating all workarounds may be an unrealistic goal, as adaptive behavior is inherent in complex systems. However, the goal must be to minimize *hazardous* workarounds by making safe pathways the easiest pathways. By recognizing workarounds not as the problem, but as a symptom of a deeper problem, healthcare organizations can begin to build truly resilient systems where nurses are supported by design, not forced to innovate in the shadows, and where patient safety is secured by reliable systems, not by heroic, high-risk adaptations. The clinical consequences of failing to do so are too grave to ignore.

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