

# HYDRATION CHALLENGES IN LTC: CONSEQUENCES AND STRATEGIES

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## Introduction

Chronic fluid deficits pose a significant challenge in long-term care facilities, driven by age-related physiological changes, multiple medical conditions, cognitive impairments, medication effects, and environmental constraints like staffing limitations. These deficits lead not only to acute dehydration but also to numerous secondary complications including mood disturbances, decreased alertness and vigor, impaired motor skills, increased fatigue, headaches, musculoskeletal problems, reduced participation in care activities, elevated fall and infection risks, compromised wound healing, and deteriorating skin health.

## The Dehydration Cascade

Chronic low fluid intake triggers what experts call the "dehydration cascade"—a progressive process where accumulated mild deficits eventually result in acute dehydration. Remarkably, even minimal daily shortfalls can initiate this cascade; a deficit of just one ounce per day over 30 days creates a 2% deficit in a 70kg individual. Recent evidence-based reviews, including a Cochrane review, emphasize that hydration assessment should prioritize clinical findings over laboratory values alone, as lab results may not capture the full picture of a patient's hydration status.

## Understanding Hypohydration

Hypohydration represents a sub-acute condition associated with chronic low-intake deficits of 1-2%. While this deficit doesn't typically alter laboratory values, it produces meaningful symptoms through a specific physiological mechanism. Mild increases in vascular osmotic load drive fluid shifts from inside cells to the vascular system to maintain homeostasis, causing cellular dysfunction.

This compensatory shift normalizes vascular osmolarity, which paradoxically prevents thirst sensations and ADH release, making it even more difficult to encourage adequate oral fluid intake.

The clinical consequences of chronic hypohydration are substantial, including cognitive and mood impairments, reduced musculoskeletal performance, headaches, increased fall risk, delayed wound healing, urinary tract infections, and constipation. Additionally, hypohydration accelerates progression down the cascade—moving from a 2% deficit to a 4% deficit occurs much faster than progressing from 0% to 4%. This progression can be triggered by infections, reduced care participation, fatigue, headaches, or mood changes.

## Stopping the Cascade

Traditional approaches of "pushing oral fluids" often fail to halt the cascade effectively. While these efforts may slow progression, they typically create a "hypohydration plateau" where acute dehydration is merely delayed rather than prevented. The underlying deficit persists, along with all associated secondary consequences—mood changes, impaired function, decreased alertness, fatigue, and elevated risks for falls, infections, and impaired wound healing.

The CMS RAI Manual supports intravenous fluid use "if needed to prevent dehydration if the additional fluid intake is specifically needed for nutrition and/or hydration" when clinically indicated and properly documented. Preventive IV hydration differs from treating acute dehydration; rather than simply returning to baseline, it involves over-hydrating via fluid bolus to shift water back into the cells that have compensated during the deficit period. Excess fluid is naturally excreted once rehydration is achieved.

## Managing Hypohydration in Long Term Care

According to RAI guidance, identifying patients for preventive IV intervention requires careful evaluation and monitoring, progressive intervention including sustained less-invasive approaches, and thorough documentation of medical necessity. The algorithm for patient selection is based on four key criteria:

1. Chronic low fluid intake despite efforts to support adequate intake
2. Documented conditions or medications that interfere with normal fluid balance
3. Documented conditions caused by, contributed to, or complicated by dehydration
4. No special considerations or risks associated with IV hydration

The preventive approach has distinctive operating principles. Since patients are non-acute, they can be identified and scheduled for regular interventions (biweekly or monthly). While single infusions reduce acute dehydration risk, many patients continue experiencing low intake afterward, requiring ongoing monitoring to determine if repeated infusions are medically necessary for resolving hypohydration-associated complications. Finally, since hydration and nutritional status share risk factors and chronic low fluid intake associates with micronutrient losses, patients may benefit from optional micronutrient supplementation alongside preventive hydration.



## Summary

Dehydration remains one of the most preventable causes of avoidable hospitalizations among nursing home residents, yet facilities too often react to acute crises rather than proactively preventing them. CMS acknowledges IV hydration's clinical role when deployed preventively through established regulatory frameworks.

Preventive IV hydration serves as a regulatory safeguard, quality improvement tool, and QAPI best practice. It is patient-centered, rooted in CMS guidance and RAI Manual standards to reduce dehydration risk and improve quality of health while avoiding preventable hospitalizations. It's cost-effective, reducing hospitalizations and ED visits. It's transparent and auditable through facility policies ensuring appropriate use. And it's compliance-based, integrating hydration management into QAPI while bringing multidisciplinary teams together to demonstrate continuous improvement cultures to surveyors.

Preventive IV hydration represents an ideal focus for Performance Improvement Projects, allowing facilities to incorporate proactive therapy as an evidence-based intervention while documenting patient-centered outcomes and demonstrating clinical compliance.

**For more information on how Vitaline can support your facilities' efforts to reduce dehydration risk and manage clinical consequences of low-intake hypohydration, contact Aryeh Polstein at [apolstein@vitalinehc.com](mailto:apolstein@vitalinehc.com) or go to [vitalinehc.com](https://vitalinehc.com) for more information.**

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