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Posted Date: 24 December 2024

doi: 10.20944/preprints202412.2021.v1

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Case Report

Care of HIV Patients in Long-Term Care Facilities: A Growing Concern and a Call to Action

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Abstract: As people living with HIV (PLWH) are living longer, they face increased risks of chronic diseases and may require care in nursing homes (NH). Given the complexity of the general NH resident population, NH staff may lack specialized training to provide optimal HIV care, leading to care gaps. This report highlights six cases of PLWH hospitalized from NHs, illustrating these gaps and the need for systemic changes in education and protocols for HIV care in NHs. Addressing these gaps is crucial for improving outcomes for this aging and vulnerable population.

Keywords: HIV; long term care; nursing home; person living with HIV

Persons living with HIV (PLWH) are living longer. HIV prevalence data from 2021 shows 63.3% of PLWH are over 45 years-old (and 40.6% are aged 55+) [1]. The projection is that by 2030, over 70% of PLWH will be older than 50 years [2]. As PLWH ages, they face onset of inflammation and the increased risk of chronic diseases such as cardiovascular disease, diabetes, renal disease and musculoskeletal afflictions. These conditions could result in the need for temporary or permanent care in nursing homes (NH).

HIV has become more manageable with single tablet regimens and long acting injectables. However, NH teams may lack the specialized training to address HIV care, leading to care gaps for PLWH at NH settings. Literature suggests most NH do not provide HIV/AIDS specialty care [3] and challenges in care range from lower quality of care [4]; to worse outcomes for PLWH in NH compared to those not living with HIV [5].

We have identified six cases of PLWH hospitalized from NH to highlight some of the care gaps for PLWH in NH settings. Our goal is not to critique the qualification of NH teams or the qualities of NH facilities but to highlight the need for systemic changes in education and institutional protocols around HIV care in NH.

1. A 63-yo male was readmitted to a NH after recurrent hospitalizations. The patient's medications reconciliation was flagged by NH pharmacy as having duplicate therapy due to "Prezista and ritonavir have the same mechanism of action (Protease inhibitor)." Investigation showed that darunavir and ritonavir were the only antiretrovirals on the medication reconciliation. The primary team's progress note during the hospitalization listed "HIV" and "Continue ritonavir". Prior to the last hospitalization, his regimen was listed as 3TC, DRV/r. Records from 3 years prior showed he was on ABC, 3TC, DRV/r. His last CD4 was 577 cells/ul and 13% with undetectable viral load. Patient was restarted on ABC/3TC/DRV/r with follow-up labs and appointment orders. The

lead pharmacist at the NH pharmacy indicated the alert should never have been triggered and communicated.

2. A 65 year-old female living with HIV was admitted from NH with acute encephalopathy. Her medication reconciliation only showed 3TC and LPV/r as antiretrovirals. The patient has been on this regimen for at least a year in the NH. Despite this, her viral load on admission remained not detectable and CD4 was 723 cells/ul and 21%. He was discharged back to NH on TDF/FTC/LPV/r with labs and order for outpatient HIV treatment.

3. A 57 year-old male was admitted to a NH after a severe motor-vehicle accident with multiple fractures and injuries leading to impaired memories. The NH staff was aware he had been followed by a local clinic but was not aware the clinic serves PLWH. It was not until 3 months later when an alert NH staff noticed the clinic name and realized the patient had been living with HIV. The patient was restarted on his antiretrovirals after additional records were obtained. His CD4 count was 461 cells/ul and 29% with viral load of 148339 copies when he resumed his ART.

4. A 54 year-old female living with HIV was admitted from NH with fever and pneumonia. Her medication reconciliation showed she was only on 3TC and LPV/r. She had been seen in the same hospital 3 times over the course of 4 years where her ART was always documented as only 3TC and LPV/r. The very first note from 4 years ago mentioned the patient's HIV was under control with CD4 over 500 cells/ul and undetectable viral load. By the most recent admission, her CD4 was 89/26% and viral load was 756 copies. She was started on TMP/SMX prophylaxis and viral load and genotype was ordered. She was started on TDF/FTC/DTG via G-tube at the time of discharge with follow-up scheduled.

5. A 67 year-old male living with HIV and seizure disorder was sent from NH to the ER for evaluation of altered mental status. He has a known history of HIV infection dating back at least to 2019. His ART was recorded as DTG only. NH did confirm that was his only HIV medication for at least one month prior to hospitalization. His CD4 was 366 cells/ul and 11% with undetectable viral load. Further record review showed that 5 years ago, the ER note did list HIV infection as a diagnosis. Medication reconciliation listed TAF/FTC/DTG/DRV/r. No HIV labs were checked. He was continued on TAF/FTC/DRV/r without DTG during that hospitalization. Then he was readmitted 6 months ago where his HIV regimen was reconciled as TAF/FTC and DRV/r. During that admission, CD4 was 224 cells/ul and 11% with a viral load of 109 copies. At the time of the most recent hospital discharge, he was continued on TAF/FTC/DTG.

6. An 56 year-old male living with HIV was admitted to NH following recurrent hospitalizations related to stroke. As an outpatient he was being followed closely by an established HIV clinic and had been on TAF/FTC/DRV/Cobi plus RLT. Despite caregiver advocacy, the patient's regimen was reconciled to DRV/cobi plus RLT only. Since NH admission, he has not had a chance to follow-up with his outpatient HIV provider. His CD4 was 394 cells/ul and 17%. HIV viral load was not available. His regimen was resumed on TAF/FTC/DRV/Cobi/RLT after specific instructions from the inpatient ID service to NH staff.

Barriers and gaps that we have identified based on the presented cases are:

1. Due to the high cost of current co-formulated HIV medications, many inpatient pharmacies, particularly community-based ones, are unable to provide the combination pills. Instead they are provided as individual components. This introduces complexity (multiple medications being reconciled into one single medication or vice versa during admissions/discharges) and confusion (due to lack of provider knowledge about appropriate combinations and/or substitutions of HIV medications).
2. In a NH setting, PLWH, even without regular visits for HIV care, might continue to receive antiretroviral regimens, even inadequate ones, often under the false impression that "something is better than nothing". It is insufficient for NH teams to recognize the importance of PLWH taking HIV medications, it is also critical for providers to recognize inappropriate/inadequate ART regimen for escalation and further review..
3. Drug checking softwares used by the general public as well pharmacies need to be validated with regard to the appropriate classification of ritonavir (and cobicistat). We surveyed 5 online

drug checking websites (four available to general consumers and one healthcare provider oriented/restricted). None of them marked ritonavir or cobicistat as duplicate therapy with any of the PIs (amprenavir, atazanavir, darunavir, indinavir, fosamprenavir, lopinavir, nelfinavir, saquinavir, tipranavir) we assessed. However, the results from consumer-oriented websites are not uniformly satisfactory. One website consistently flagged multiple ritonavir+PI or cobicistat+PI combinations as “Serious - Use Alternative” (Additional Material). A second site also gives inconsistent warnings depending on the order of the two drugs. Most sites flag many of the boosted-PI combinations as “SERIOUS/MAJOR”. The website restricted to healthcare providers consistently has more accurate and nuanced discussion about the combinations, referencing the use of ritonavir and cobicistat specifically as boosting agents in available combinations (Additional Material).

4. Finally, we do not consider this a true care gap but more of a reflection of the historical stigma associated with HIV infection. Many well-established HIV clinics either use euphemisms or do not mention HIV directly in their names. This does pose additional challenges during patient intakes.

These barriers can potentially undo years of excellent work by the medical community in reversing the devastating impact of HIV infections across the US. Possible approaches to address barriers identified above include:

1. Targeted education during training (medical/pharmacy/nurse practitioner/physician assistant schools; emergency, family and internal medicine, as well as pharmacy residencies) plus continuing education about infections that require cocktail therapies (e.g., HIV, active TB) and basic awareness about what constitutes appropriate regimens for these infections.
2. Enhancement to drug interaction checking softwares to better recognize combination therapies. Disclaimers or prompts should be added to ensure that providers verify the completeness of prescribed regimens.
3. Implement pharmacy protocol to escalate medications that are often part of combination therapies for infections mentioned above to ensure appropriate, complete regimen is being dispensed for the correct diagnoses (PrEP vs HIV infection, or latent TB vs. active TB).
4. Mandate HIV screening test or verification of HIV status with the local department of health as a part of NH intake processes. The mandate would be inline with current recommendations on HIV screening from the CDC [9].

PLWH living in NH settings can be particularly vulnerable to receiving suboptimal HIV care. The cases presented highlight the need for systemic changes, including improved education, enhanced drug interaction software, and better protocols for care of PLWH in NH settings. Addressing these gaps is essential to improving outcomes for this aging and vulnerable population.

Supplementary Materials: The following supporting information can be downloaded at the website of this paper posted on Preprints.org, “Evaluation of Online Drug Interaction Checkers” Excel Sheet. Accessed February 4th, 2024.

Author Contributions: M.L.: Conceptualization. Case contribution. Writing. W.D.K.: Conceptualization. Writing. D.B.: Conceptualization. Case contribution. Writing - Review & Editing. M.H.L.: Drug interaction checker investigation and data collection, curation, and analysis. Writing - Original Draft. All authors have read and agreed to the published version of the manuscript

Funding: None. Not applicable.

Patient Consent Statement: Patient consent is not applicable for this manuscript.

Conflicts of Interest: None.

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