



**Department of Veterans Affairs  
Office of Inspector General**

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**Healthcare Inspection**

**Review of a Patient's Medication  
Management**

**Lincoln Community Based  
Outpatient Clinic  
Lincoln, Nebraska**

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## **Executive Summary**

The VA Office of Inspector General Office of Healthcare Inspections conducted a review of the medication management provided for a patient who received health care and prescriptions at the Lincoln Community Based Outpatient Clinic (CBOC) of the VA Nebraska-Western Iowa Healthcare System. The patient died unexpectedly, and a medical examiner determined the patient's cause of death was accidental multidrug toxicity. The purpose of this review was to determine if the patient received appropriate medication management.

The patient had a complex medical and mental health history, which included acute and chronic pain. He was well known to CBOC staff; from 2004 through February 2012, he received MH, primary care, and/or pharmacy services at least every 30 days at the CBOC. A psychiatrist treated the patient and prescribed medications to address his mental health needs. A physician assistant treated the patient and prescribed medications to address his other acute and chronic conditions. CBOC providers prescribed a number of medications that had the potential for adverse interactions. The patient's medication regimen remained essentially the same for several years prior to his death.

Providers performed medication reconciliations, (reviews of active VA and non-VA medications), and monitored the patient's compliance with his medication regimen. Providers, pharmacists, and pharmacy software identified potential adverse medication interactions (low blood pressure, elevated potassium, and electrocardiogram abnormalities). Providers monitored these potential adverse medication interactions by annual blood chemistries, drug levels, and electrocardiograms. Mental Health providers conducted assessments at an appropriate frequency, referred the patient to pain management clinic services, and monitored his prescribed opioid use closely. CBOC providers managed the patient's medication management appropriately. We made no recommendations.



**DEPARTMENT OF VETERANS AFFAIRS**  
**Office of Inspector General**  
**Washington, DC 20420**

**TO:** Director, VA Midwest Health Care Network (10N23)

**SUBJECT:** Healthcare Inspection – Review of a Patient's Medication Management, Lincoln Community Based Outpatient Clinic, Lincoln, NE

## **Purpose**

The VA Office of Inspector General (OIG) Office of Healthcare Inspections conducted a review of the medication management provided to a patient who received health care and medication prescriptions at the Lincoln Community Based Outpatient Clinic (CBOC) of the Nebraska-Western Iowa Healthcare System. The patient died unexpectedly and a medical examiner determined the patient's cause of death was accidental multidrug toxicity. The purpose of this review was to determine whether the patient received appropriate medication management.

## **Background**

The CBOC is part of the VA Nebraska-Western Iowa Healthcare System, Veterans Integrated Service Network (VISN) 23. The CBOC, categorized as a very large CBOC,<sup>1</sup> is owned and staffed by the VA. In fiscal year 2011, the CBOC had over 14,000 primary care enrollees with approximately 135,500 visits.<sup>2</sup> The CBOC provides outpatient primary care services, specialty care, and mental health (MH) services for patients in the Lincoln, NE area.

Medication management provides a framework for an effective and safe medication management system. Effective and safe medication management is dependent on carefully implementing medication management processes based on the care, treatment, and services provided by the organization.<sup>3</sup> Effective pain management often requires consideration of the use of one or more of several different classes of medications and other treatment modalities prescribed simultaneously. The potential of each modality for improving pain treatment outcomes is weighed against the potential for drug-drug and drug-disease interactions, side effects, and toxicities.<sup>4</sup>

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<sup>1</sup> Based on the number of unique patients seen as defined by the VHA Handbook 1160.01, the size of the CBOC facility is categorized as very large (> 10,000), large (5,000-10,000), mid-size (1,500-5,000), or small (< 1,500).

<sup>2</sup> <http://vssc.med.va.gov/>

<sup>3</sup> Joint Commission Manual 2011, *CAMC Update 2*, September 2010.

<sup>4</sup> VHA Directive 2009-053, *Pain Management*, October 28, 2009.

Chronic pain is a complex, biopsychosocial condition involving cognitive, psychosocial, and substance abuse issues as well as medical and MH co-morbidities. VHA employs a stepped-care model of pain care, which provides for management of most pain conditions in the primary care setting. This is supported by timely access to secondary consultation from pain medicine, behavioral health physical medicine and rehabilitation, specialty consultation, and care by coordination with palliative care, tertiary care, advanced diagnostic and medical management, and rehabilitation services for complex cases involving co-morbidities such as MH disorders and traumatic brain injury.

The CBOC has a pain management clinic that provides consultative services for patients who have been referred by their primary care provider. A multi-disciplinary team comprised of a physician, pharmacist, and a psychologist provides these consultative services. Each member of the pain management team provides an individualized assessment of the patient's pain inclusive of current and historical psychosocial, pharmacological, and medical needs.

In February 2012, a male patient in his mid-50's was found deceased in his home. Autopsy results revealed the patient's urine contained evidence of alcohol, nicotine, and the following prescription medications: (1) methadone, (2) hydrocodone, (3) benzodiazepine, (4) imipramine, (5) desipramine, (6) citalopram, and (7) quetiapine.<sup>5</sup>

The medical examiner determined the cause of death was accidental multidrug toxicity. With the exception of desipramine, CBOC primary care and MH providers had prescribed the medications found in the patient's urine; desipramine is a breakdown product of imipramine. Law enforcement personnel provided pertinent documents to the VA OIG Office of Investigations on March 23. The case was then referred to the Office of Health Care Inspections for review of the patient's medication management.

## **Scope and Methodology**

We conducted telephone interviews with CBOC and system medical and pharmacy leadership and CBOC primary care providers, MH providers, and pharmacists. We reviewed the patient's electronic health record, local and VHA policies and procedures, clinical practice guidelines, and Joint Commission standards. We reviewed the pharmacy's electronic documentation system and medication interaction software. We reviewed pharmacist and Physician Assistants'(PA) scopes of practice. We also reviewed results of the patient's autopsy and associated law enforcement reports.

We conducted the inspection in accordance with *Quality Standards for Inspection and Evaluation* published by the Council of the Inspectors General on Integrity and Efficiency.

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<sup>5</sup> Methadone and hydrocodone are opioid (narcotic) medications used to relieve pain. Benzodiazepines are tranquilizers. Imipramine, desipramine, and citalopram are medications used to treat depression. Quetiapine is an antipsychotic medication used to treat mental illnesses that cause disturbed or unusual thinking.

## Case Summary

The patient was a man in his mid-50s with a complex medical history. He had the following chronic conditions: bipolar disorder,<sup>6</sup> traumatic brain injury, hypertension, poor dentition, nicotine dependence, obesity, and sleep apnea. His medical history also included the following conditions that caused acute and chronic pain: plantar fasciitis, Achilles tendonitis, shoulder pain, cervical radiculopathy, umbilical hernia, and kidney stones. His surgical history included umbilical hernia repair, distal clavicle excision for shoulder pain, plantar fascia release for plantar fasciitis, and dental extractions.

The patient was well known to CBOC staff; from 2004 to February 2012, he received MH, primary care, and/or pharmacy services at least every 30 days at the CBOC. A psychiatrist treated the patient and prescribed medications to address his MH needs. A PA treated the patient and prescribed medications to address his acute and chronic conditions.

The patient's medication regimen remained essentially the same for several years prior to his death. Appendix A contains a list of his most recent, active medications and includes dosage, frequency, date medication started, and any significant interactions between the prescribed medications.

The patient's pain was managed using a stepped-care pain management approach. A PA referred the patient for consultation with specialists in multiple areas, including orthopedics, neurology, neurosurgery, podiatry, anesthesiology, and urology. The patient received physical therapy for shoulder, neck, feet, and left hip pain. Physical therapy included ice, heat, stretching, orthotics, cervical traction, and a transcutaneous electrical nerve stimulation unit. In addition, he received corticosteroid injections in his shoulder, foot, and left hip.

The patient received psychosocial services at the CBOC, which included social work assistance with employment and housing concerns, routine MH assessments and treatment by a psychiatrist, and individual MH counseling and therapy. Routine suicide risk assessments were negative.

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<sup>6</sup> Bipolar disorder, also known as manic-depressive illness, is a brain disorder that causes unusual shifts in mood, energy, activity levels, and the ability to carry out day-to-day tasks.

## Inspection Results

### Medication Management

CBOC providers managed the patient's medications appropriately. Medication management processes included assessment, interventions, and monitoring of the patients care and prescribed medications. The PA had a current scope of practice and received appropriate supervision from a physician.

A CBOC psychiatrist prescribed the patient's MH related medications, and a CBOC PA provided his primary care and prescribed medications for his acute and chronic medical conditions.<sup>7</sup>

The patient's prescribed medications presented a risk of significant potential adverse interactions, which included a prolongation of the Q-T interval<sup>8</sup> and central nervous system and respiratory depression. Providers, pharmacists, and pharmacy software identified the potential adverse medication interactions, which also included low blood pressure, elevated potassium, and other electrocardiogram (EKG) abnormalities.

Providers performed medication reconciliations, which included routine reviews of active VA and non-VA medications and the patient's compliance with his medication regimen. Providers monitored the patient for the identified potential adverse medication interactions and performed annual blood chemistries, drug levels, and EKGs. In addition, the MH provider assessed the patient's central nervous system by observing his mood, affect, speech, reflexes, balance, and thought processes. The patient complied with his drug regimen, suicide and alcohol screenings were negative, and he received smoking cessation counseling.

In 2010, the patient's PA referred him to the Primary Care Pain Management Clinic for evaluation and recommendations regarding his pain therapy. The team did not find evidence of addictive behavior and did not find reason to reduce the dose of his methadone. The team agreed that the methadone the patient was prescribed for pain combined with the carbamazepine he was prescribed for bipolar disorder was probably the best therapy for him because a significant amount of his pain was nerve related. The team recommended that the patient continue to receive an annual EKG. The patient's opioid pain relievers were prescribed every 30 days.

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<sup>7</sup> Appendix A

<sup>8</sup> A prolongation in the Q-T interval is a change in the electrocardiogram that could result in a fatal heart rhythm. . The Q-T interval is the time elapsing from the beginning of the QRS complex to the end of the T wave in an electrocardiogram, representing the total duration of electrical activity of the ventricles in the heart.

## Conclusions

The medication management for this medically complex patient was appropriate. Providers documented appropriate assessments and evaluations, and considered the risks of medication, dependency, and side effects.

We made no recommendations.

## Comments

The VISN and VA Nebraska-Western Iowa Healthcare System Directors concurred with our report. No further action is required.



JOHN D. DAIGH, JR., M.D.  
Assistant Inspector General for  
Healthcare Inspections



**Table 1. Active Medications Prescribed for The Patient at The Time of His Death.**

Medication	Dose	Frequency	Start Date	Purpose	Potential/ Significant Interaction
Aspirin	81 mg	One every day	11/9/2004	For prevention heart attack or stroke	
Atenolol (Tenormin®)	25 mg	One every day	6/6/2006	For heart and blood pressure	<b>Hypotension</b>
Carbamazepine (Tegretol®, others)	200mg	Three every morning and at bedtime	4/28/2004	For episodes of mania and nerve related pain	<b>CNS-Respiratory Depression</b>
Cholecalciferol (Vitamin D3)	1000U	One every day	2/17/2010	For vitamin supplement	
Citalopram hydrobromide (Celexa®)	40mg	One half every morning	2/19/2004	For depression	<b>Prolongation Q-T Interval</b>  <b>CNS-Respiratory Depression</b>
Cyclobenzaprine HCL (Flexeril®, others)	5mg	Two three times a day as needed for muscle spasm	9/25/09	For muscle spasm	<b>CNS-Respiratory Depression</b>
Docusate NA (Colace®)	100mg	One twice a day	12/30/2008	For constipation	
Enalapril Maleate (Vasotec®)	10mg	One every day	2/19/2004	For heart and blood pressure	<b>Hypotension</b>

Medication	Dose	Frequency	Start Date	Purpose	Potential/ Significant Interaction
Fish Oil	1000mg	One three times a day	2/20/2006	For vitamin Supplement	
Gapapentin (Neurontin®, others)	300mg	One four times a day	12/22/2009	For nerve pain	CNS- Respiratory Depression
Hydrocodone/Acetaminophen (Vicodin®)	10mg/650mg	Twice a day as needed for pain	12/01/2004	For pain	CNS- Respiratory Depression
Imipramine HCL(Tofranil®)	50mg	One every morning	6/1/2008	For urinary bladder control	CNS- Respiratory Depression
Meloxicam (Mobic®)	15mg	One half every day for two weeks, then as needed	11/08/2011	For inflammation and pain	
Methadone HCL	10mg	Two and one half three times a day for chronic back pain	10/04/2006	For pain	Prolongation Q-T Interval  Respiratory Depression
Omeprazole EC (Prilosec®)	20mg	One twice a day	11/09/2004	For reduction of stomach acid	
Quetiapine Fumarate (Seroquel®)	25mg	Two every morning and one at noon	12/30/2005	For mood control	Prolongation Q-T Interval  Respiratory Depression

Medication	Dose	Frequency	Start Date	Purpose	Potential/ Significant Interaction
Quetiapine Fumarate (Seroquel®)	400mg	One at bedtime	4/25/2007	For mood control	Prolongation Q-T Interval  Respiratory Depression
Ranitidine HCL (Zantac®)	150mg	One at bedtime	1/16/2008	For reduction of stomach acid	
Sennosides (Senokot®)	8.6mg	Two every day	10/04/2006	For prevention constipation	
Simvastatin (Zocor®)	80mg	One half at bedtime	08/19/2004	For reduction of cholesterol	
Temazepam (Restoril®)	15mg	One at bedtime	10/02/09	For sleep	CNS- Respiratory Depression
Trazodone HCL (Desyrel®, others)	50mg	One at bedtime	4/16/2004	For sleep and depression	CNS Respiratory Depression

## VISN Director Comments

**Department of  
Veterans Affairs**

**Memorandum**

**Date:** July 9, 2012

**From:** Director, VA Midwest Health Care Network (10N23)

**Subject:** **Healthcare Inspection – Healthcare Inspection – Review of a Patient's Medication Management, Lincoln Community Based Outpatient Clinic, Lincoln, NE**

**To:** Director, Denver Office of Healthcare Inspections (54DV)

**Thru:** Director, VHA Management Review Service (10A4A4)

1. Nebraska-Western Iowa Health Care System concurs with the findings, which include no recommendations, for the Healthcare Inspection Review of the patient's Medication management at the Lincoln Community Based Outpatient Clinic in Lincoln, NE. This review included no recommendations.
2. Thank you.

*(original signed by:)*

Janet P. Murphy

Director, VA Midwest Health Care Network (10N23)

## System Director Comments

**Department of  
Veterans Affairs**

**Memorandum**

**Date:** July 9, 2012

**From:** Director, VA Nebraska-Western Iowa Health Care System  
(636/00)

**Subject:** **Healthcare Inspection – Healthcare Inspection – Review of a Patient's Medication Management, Lincoln Community Based Outpatient Clinic, Lincoln, NE**

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2. Thank you.

*(original signed by:)*

MARCI MYLAN, Ph.D.

Director, VA Nebraska-Western Iowa Health Care System  
(636/00)

## OIG Contact and Staff Acknowledgments

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OIG Contact	For more information about this report, please contact the Office of Inspector General at (202) 461-4720.
Acknowledgments	Stephanie Hensel, RN, JD, Project Leader Ann Ver Linden, RN, MBA, Team Leader Laura Dulcie, BSEE Jerome Herbers, Jr., MD

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