

**Chronic Kidney Disease (CKD)  
and Anemia in the  
Long-Term Care (LTC) Setting**

# CKD and Anemia in the LTC Setting

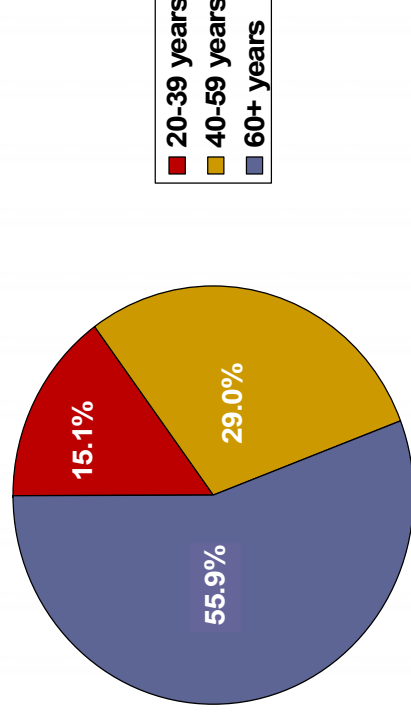
## Topics to Be Covered:

- Prevalence of CKD in the Elderly
- Prevalence of CKD in the LTC Setting
- Prevalence of Anemia in the LTC Setting
- Complications of Anemia in Older Adults
- Underdiagnosis of Anemia in the LTC Setting
- Anemia Assessment
- Management of CKD-related Anemia
- Benefits of a CKD-related Anemia Management Protocol
- CKD and Anemia Facts

# Prevalence of CKD in the Elderly

## Older Age Is a Risk Factor for CKD<sup>1</sup>

More Than Half of All CKD Patients Are Over Age 60 Years<sup>2</sup>



- Patients age 60 years or older are more than three times as likely to have CKD than people under age 40 years<sup>2</sup>

**References:** 1. Hansberry et al. *Adv Chronic Kidney Dis.* 2005;12:71-77. 2. United States Renal Data System. *2008 Annual Data Report: Atlas of Chronic Kidney Disease and End-Stage Renal Disease in the United States.* Bethesda, Md: National Institutes of Health, National Institute of Diabetes & Digestive & Kidney Diseases, Division of Kidney, Urologic & Hematologic Diseases; 2008.

# Prevalence of CKD in LTC Patients

- Based on a retrospective, cross-sectional analysis of 9931 LTC residents age 65 years and older<sup>1</sup>
  - Approximately 40% of LTC patients had CKD, with a glomerular filtration rate (GFR) of <60 mL/min/1.73 m<sup>2</sup><sup>1</sup>

# Prevalence of Anemia in the Aging Population

## Prevalence of Anemia Increases With Age<sup>1,2</sup>

- According to Guralnik et al, in the general population more than 20% of people age 85 years and older were reported to be anemic (Hb <12 g/dL in women, Hb <13 g/dL in men)<sup>3</sup>
- The highest rates of anemia among the elderly were reported to occur in hospitalized patients or those in LTC settings<sup>1</sup>
- Prevalence of anemia (Hb <12 g/dL in women, Hb <13 g/dL in men) among LTC residents was reported to range from 56% to 74%<sup>4,5</sup>

**References:** 1. Carmel R. *Blood Rev.* 2001;15:9-18. 2. Salive et al. *J Am Geriatr Soc.* 1992;40:489-496. 3. Guralnik et al. *Blood.* 2004;104:2263-2268. 4. Pandya et al. *Curr Med Res Opin.* 2008;24:2139-2149. 5. Artz et al. *J Am Geriatr Soc.* 2004;52:423-427.

# Anemia in Older Adults: Potential Complications

- Falls<sup>1</sup>
- Increased hospitalization<sup>2</sup>
- Greater mortality<sup>1,2</sup>
- Functional impairment<sup>1</sup>
- Cognitive impairment<sup>3</sup>
- Tachycardia<sup>1</sup>
- Orthostasis<sup>1</sup>
- Frailty<sup>1</sup>
- Mobility impairment<sup>1</sup>
- Fatigue<sup>1</sup>
- Left ventricular hypertrophy<sup>1</sup>

# Anemia Is Often Undiagnosed in LTC

- Anemia was reported to be undiagnosed in approximately two-thirds of elderly CKD patients<sup>1</sup>
- Additionally, in this study only 9% of patients who were diagnosed with anemia received treatment<sup>1</sup>
  - A retrospective analysis of data from a large, vertically integrated healthcare system in the Midwestern United States
  - The WHO criteria for anemia are <12 g/dL for women and <13 g/dL for men
  - Patients were age 65 years or older

# Anemia Assessment

## National Kidney Foundation (NKF)

### Recommendations for the Evaluation of Anemia<sup>1</sup>

- Assess for anemia in all CKD patients regardless of stage or cause
- Workup the cause of anemia when Hb is <13.5 g/dL in adult men and <12 g/dL in adult women
- Initial evaluation should include:
  - Hb
  - CBC
  - Absolute reticulocyte count
  - Iron parameters
    - Serum ferritin
    - Serum transferrin saturation (TSAT)
  - Evaluation for GI bleed<sup>2</sup>

# Anemia Management

- Ensure patient is iron replete<sup>1</sup>
- Initiate appropriate therapies
- Monitor Hb and iron levels regularly during therapy<sup>1</sup>

# Benefits of a CKD-related Anemia Management Protocol

- Promotes team dynamics and patient education
- Enhances communication and coordination between staff
- Leads to efficient identification of conditions affecting anemia management, including:
  - Infection, inflammation, and medications<sup>1</sup>
- Educates patients on optimal health practices<sup>1</sup>
- Empowers staff to pursue continuous quality improvement<sup>1</sup>
- Provides consistent clinical interventions<sup>2</sup>

# Benefits of a CKD-related Anemia Management Protocol (cont)

- Manage expenses associated with treatment of anemia
- Encourage a consistent approach, which may make it more likely that patients will achieve the desired outcome

# CKD and Anemia Facts

## In summary:

- CKD is common in the elderly<sup>1,2</sup>
- Anemia frequently develops as a comorbidity of CKD<sup>3</sup>
- Effective anemia management is enhanced by a multidisciplinary team<sup>4</sup>