Chronic Kidney Disease Burdens Patients, Health Care Systems, and Employers

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BACKGROUND

- Chronic kidney disease (CKD) is a major public health problem worldwide. 1
- A 2006 systematic review of 26 studies conducted worldwide reported an increase in prevalence, with estimates from 10.1% to 33.3%; median estimates were 12.2% in persons aged 65 years and older. 2
- The true prevalence of CKD across countries highlights persistent growth of CKD worldwide (Figure 1). 3
- As CKD becomes more complex due to comorbid illnesses and complications, severity of disease also increases, placing significant burden on patients and health care systems 4-5.

RESULTS

- An increase from one stage to the next, outcomes are adversely affected 6-7.
- With progression of patient health status, resource utilization and costs escalate irrespective of country. 8-9.

Patient Burden of CKD

- Progression of CKD report cognitive impairment, dementia, sleep disturbance, and emotional and physical dysfunction, with physical dysfunction being most prominent. 10-11.
- Compared with general populations, HRQOL, and other PRQD in patients with CKD is decreased. 12-13.
- Age, female sex, less education, lower income, unemployment, limited exercise, and comorbidities are predictors of reduced HRQOL. 12-13.
- Progression of CKD adversely affects HRQOL. Across studies, the magnitude of physical health decline (change from early to later stage CKD) was prominent (Figure 2). 13-14.

Economic Burden of CKD

- Resource utilization and costs of CKD burden to health care systems and employers with increasing CKD incidence. 15-17.
- In a 2007 landmark Medicare cohort with CKD, the highest mean annual number of days hospitalized (6.01 days) was in patients with CKD. The mean annual number of days of stay in patients with CKD was second only to cancer, with 10.8 days. 18-19.
- Mean number of claims increased by $1,280 (Stage 3) to $21,826 (€17,846) (Stage 5) (Figure 4), and work hours missed (Stage 3) to Stage 4: $15,000 to 28,000.

Burden to Employers

- High health care costs and reduced productivity due to CKD burdens to employers 19-20.
- For employees with CKD (U.S.), health care costs range from $1,187 (€877) (Stage 1) to $26,204 (€19,757) (Stage 5) (Table 5), with work hours missed per week often exceeding 10 h. 25-26.

CONCLUSIONS

- Published economic and patient-reported CKD data are sparse, with the largest publications identified in the European literature. 17-19.
- CKD prevalence is increasing worldwide, thereby, placing burdens on patients and health care systems. 20-21.
- With disease progression (reduced kidney function), comorbid illnesses, and complications, unmet need exists for new therapies and employee CKD-management programs. 22-23.
- Patient burden is increased with progression of CKD. 24-25.
- As evidenced by the high cost burden, early screening, and predialysis, management of disease progression and comorbid illnesses are critical; whereas predialysis may be delayed and future cost burden reduced. 26-27.
- The cost burden of CKD is rising. 28-30.

Objective

- To elucidate the patient and economic burden associated with CKD worldwide.

Methods

- Targeted literature search of PubMed via the National Library of Medicine. 31-32.
- Database research.
- Search categories: - CKD including stage renal disease (ESRD) and renal failure; - Clinical description (disease staging); - Patient-reported outcomes (PROs); - Economics;
- Limits: - Years: 2000 to present;
- English language;
- Human;
- Adults;
- If articles were selected if they reported any of the following: - CKD staging from early to advanced disease - Changes in PROs (e.g., health-related quality of life (HRQOL) is one or more countries;
- Change in economics (e.g., resource availability and cost) in one or more countries;
- North American, European, and Asian studies were identified; most reports were from the United States (U.S.).
- Thirty-six articles were selected for inclusion in this review of those, 27 were from non-U.S. countries.

References

1. LeeAnn Braun, MPH, Associate Director, Market Access and Outcomes Strategy. RTI Health Solutions, Research Triangle Park, NC, United States. Phone: +1 919 541 4886 Fax: +1 919 541 5723 Presented at ISPOR 16th Annual European Congress November 4-6, 2011 Madrid, Spain

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