**National Quality Forum—Evidence (subcriterion 1a)**

**Measure Number** (*if previously endorsed*)**:** 1667

**Measure Title**: Pediatric Kidney Disease: ESRD Patients Receiving Dialysis: Hemoglobin Level < 10g/dL

**IF the measure is a component in a composite performance measure, provide the title of the Composite Measure here:** Click here to enter composite measure #/ title

**Date of Submission**: 2/27/2015

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| **Instructions**  *For composite performance measures:*  *A separate evidence form is required for each component measure unless several components were studied together.*  *If a component measure is submitted as an individual performance measure, attach the evidence form to the individual measure submission.*   * Respond to all questions as instructed with answers immediately following the question. All information needed to demonstrate meeting the evidence subcriterion (1a) must be in this form. An appendix of *supplemental* materials may be submitted, but there is no guarantee it will be reviewed. * If you are unable to check a box, please highlight or shade the box for your response. * Maximum of 10 pages (*incudes questions/instructions*; minimum font size 11 pt; do not change margins). ***Contact NQF staff if more pages are needed.*** * Contact NQF staff regarding questions. Check for resources at [Submitting Standards webpage](http://www.qualityforum.org/Measuring_Performance/Submitting_Standards.aspx). |

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| **Note: The information provided in this form is intended to aid the Steering Committee and other stakeholders in understanding to what degree the evidence for this measure meets NQF’s evaluation criteria.**   1a. Evidence to Support the Measure Focus The measure focus is evidence-based, demonstrated as follows:   * Health outcome: [**3**](#Note3) a rationale supports the relationship of the health outcome to processes or structures of care. Applies to patient-reported outcomes (PRO), including health-related quality of life/functional status, symptom/symptom burden, experience with care, health-related behavior. * Intermediate clinical outcome: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4)that the measured intermediate clinical outcome leads to a desired health outcome. * Process: [**5**](#Note5) a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured process leads to a desired health outcome. * Structure: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured structure leads to a desired health outcome. * Efficiency: [**6**](#Note6) evidence not required for the resource use component.   **Notes**  **3.** Generally, rare event outcomes do not provide adequate information for improvement or discrimination; however, serious reportable events that are compared to zero are appropriate outcomes for public reporting and quality improvement.  **4.** The preferred systems for grading the evidence are the U.S. Preventive Services Task Force (USPSTF) [grading definitions](http://www.uspreventiveservicestaskforce.org/uspstf/grades.htm) and [methods](http://www.uspreventiveservicestaskforce.org/methods.htm), or Grading of Recommendations, Assessment, Development and Evaluation [(GRADE) guidelines](http://www.gradeworkinggroup.org/publications/index.htm).  **5.** Clinical care processes typically include multiple steps: assess → identify problem/potential problem → choose/plan intervention (with patient input) → provide intervention → evaluate impact on health status. If the measure focus is one step in such a multistep process, the step with the strongest evidence for the link to the desired outcome should be selected as the focus of measurement. Note: A measure focused only on collecting PROM data is not a PRO-PM.  **6.** Measures of efficiency combine the concepts of resource use and quality (see NQF’s [Measurement Framework: Evaluating Efficiency Across Episodes of Care](http://www.qualityforum.org/Publications/2010/01/Measurement_Framework__Evaluating_Efficiency_Across_Patient-Focused_Episodes_of_Care.aspx); [AQA Principles of Efficiency Measures](http://www.aqaalliance.org/files/PrinciplesofEfficiencyMeasurementApril2006.doc)). |

**1a.1.This is a measure of**: (*should be consistent with type of measure entered in De.1*)

Outcome

Health outcome: Decreasing associated illness and improving quality of life. See 1a.2

Patient-reported outcome (PRO): Click here to name the PRO

*PROs include HRQoL/functional status, symptom/symptom burden, experience with care, health-related behaviors*

Intermediate clinical outcome (*e.g., lab value*): Decreasing associated illness and improving quality of life. See 1a.2

Process: Click here to name the process

Structure: Click here to name the structure

Other: Click here to name what is being measured

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**HEALTH OUTCOME/PRO PERFORMANCE MEASURE**  *If not a health outcome or PRO, skip to* [*1a.3*](#Section1a3)

**1a.2.** **Briefly state or diagram the path between the health outcome (or PRO) and the healthcare structures, processes, interventions, or services that influence it.**

This measure captures the number of calendar months during which patients have a Hemoglobin level < 10g/dL, which is a measurement of a Hemoglobin level lower than the target range, an intermediate clinical outcome. Identifying patients with a Hemoglobin level lower than the target range is linked to improved health outcomes such as decreasing the incidence of an associated illness and attaining the highest quality and quantity of life after onset of illness.

**1a.2.1.** **State the rationale supporting the relationship between the health outcome (or PRO) to at least one healthcare structure, process, intervention, or service (*i.e., influence on outcome/PRO*).**

The guideline recommendation supporting this measure, focuses on a specific patient population including dialysis and nondialysis patients with CKD receiving ESA therapy. This measure specifically focuses on patients with ESRD who are receiving hemodialysis or peritoneal dialysis. The ESRD population has severe kidney disease and are usually receiving dialysis. Therefore, the measure development work group thought it would be most beneficial to focus on this subset of patients. Although this measure does not address patients receiving ESA therapy, the same target range of 11.0 to 12.0 g/dL is being used for this patient population. The measure focuses on capturing those patients who do not achieve a Hemoglobin level within this specified target range.

*Note: For health outcome/PRO performance measures, no further information is required; however, you may provide evidence for any of the structures, processes, interventions, or service identified above.*

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**intermediate outcome, PROCESS, or STRUCTURE PERFORMANCE measure**

**1a.3.****Briefly state or diagram the path between structure, process, intermediate outcome, and health outcomes**. Include all the steps between the measure focus and the health outcome.

**1a.3.1.** **What is the source of the systematic review of the body of evidence that supports the performance measure?**

Clinical Practice Guideline recommendation – ***complete sections*** [***1a.4***](#Section1a4)***, and*** [***1a.7***](#Section1a7)

US Preventive Services Task Force Recommendation – ***complete sections*** [***1a.5***](#Section1a5) ***and*** [***1a.7***](#Section1a7)

Other systematic review and grading of the body of evidence (*e.g., Cochrane Collaboration, AHRQ Evidence Practice Center*) – ***complete sections*** [***1a.6***](#Section1a6) ***and*** [***1a.7***](#Section1a7)

Other – ***complete section*** [***1a.8***](#Section1a8)

*Please complete the sections indicated above for the source of evidence. You may skip the sections that do not apply.*

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**1a.4. CLINICAL PRACTICE GUIDELINE RECOMMENDATION**

**1a.4.1.** **Guideline citation** (*including date*) and **URL for guideline** (*if available online*):

National Kidney Foundation. KDOQI Clinical Practice Guidelines and Clinical Practice Recommendations for Anemia in Chronic Kidney Disease: 2007 Update of Hemoglobin Target. Am J Kidney Dis 50, No 3 (September), 2007.

<http://www2.kidney.org/professionals/KDOQI/guidelines_anemiaUP/guide2.htm> <http://www2.kidney.org/professionals/KDOQI/guidelines_anemiaUP/guide1.htm#rationale211>

**1a.4.2.** **Identify guideline recommendation number and/or page number** and **quote verbatim, the specific guideline recommendation**.

**2.1.1 Lower limit of Hb: (FULLY APPLICABLE TO CHILDREN)  
In patients with CKD, Hb level should be 11.0 g/dL or greater. (MODERATELY STRONG RECOMMENDATION) [http://www2.kidney.org/professionals/KDOQI/guidelines\_anemia/ped21original.htm]**

**2.1.1 (FULLY APPLICABLE TO CHILDREN) In the opinion of the Work Group, selection of the Hb target and selection of the Hb level at which ESA therapy is initiated in the individual pediatric patient should include consideration of potential benefits (including improvement in quality of life, school attendance/ performance, and avoidance of transfusion) and potential harms (including the risk of life-threatening adverse events). (Clinical Practice RECOMMENDATION)****2.1.2 (FULLY APPLICABLE TO CHILDREN) In the opinion of the Work Group, in pediatric dialysis and nondialysis patients with CKD receiving ESA therapy, the selected Hb target should generally be in the range of 11.0 to 12.0 g/dL. (Clinical Practice RECOMMENDATION)****2.1.3 (APPLICABLE TO CHILDREN, BUT NEEDS MODIFICATION) In dialysis and nondialysis patients with CKD receiving ESA therapy, the Hb target should not be greater than 13.0 g/dL. (Clinical Practice RECOMMENDATION)**

In the opinion of the Work Group, in pediatric dialysis and nondialysis patients with CKD receiving ESA therapy, the selected Hb target should generally be in the range of 11.0 to 12.0 g/dL.

**1a.4.3.** **Grade assigned to the quoted recommendation with definition of the grade:**

Moderately strong

Moderately strong – It is recommended that clinicians routinely follow this guideline for eligible patients. There is at least moderately high-quality evidence that the practice results in net medical benefit to the patient.

**1a.4.4. Provide all other grades and associated definitions for recommendations in the grading system.** (*Note: If separate grades for the strength of the evidence, report them in section 1a.7.*)

A modified version of the GRADE criteria was used to grade the strength of the guideline recommendations. The modified language is below.

Strong – It is strongly recommended that clinicians routinely follow the guideline for eligible patients. There is high-quality evidence that the practice results in net medical benefit to the patient.

Moderately strong – It is recommended that clinicians routinely follow this guideline for eligible patients. There is at least moderately high-quality evidence that the practice results in net medical benefit to the patient.

Clinical Practice Recommendation (CPRs) – Based on consensus of the [NKF] Work Group that following the recommendations might improve health outcomes.

**1a.4.5. Citation and URL for methodology for grading recommendations** (*if different from 1a.4.1*)**:**

**1a.4.6. If guideline is evidence-based (rather than expert opinion), are the details of the quantity, quality, and consistency of the body of evidence available (e.g., evidence tables)?**

Yes **→ *complete section*** [***1a.7***](#Section1a7)

No **→ *report on another systematic review of the evidence in sections*** [***1a.6***](#Section1a6) ***and*** [***1a.7***](#Section1a7)***; if another review does not exist, provide what is known from the guideline review of evidence in*** [***1a.7***](#Section1a7)

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**1a.5.** **UNITED STATES PREVENTIVE SERVICES TASK FORCE RECOMMENDATION**

**1a.5.1.** **Recommendation citation** (*including date*) and **URL for recommendation** (*if available online*):

**1a.5.2.** **Identify recommendation number and/or page number** and **quote verbatim, the specific recommendation**.

**1a.5.3.** **Grade assigned to the quoted recommendation with definition of the grade**:

**1a.5.4. Provide all other grades and associated definitions for recommendations in the grading system.** (*Note: the* *grading system for the evidence should be reported in section 1a.7.*)

**1a.5.5. Citation and URL for methodology for grading recommendations** (*if different from 1a.5.1*)**:**

***Complete section*** [***1a.7***](#Section1a7)

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**1a.6. OTHER SYSTEMATIC REVIEW OF THE BODY OF EVIDENCE**

**1a.6.1.** **Citation** (*including date*) and **URL** (*if available online*):

**1a.6.2.** **Citation and** **URL for methodology for evidence review and grading** (*if different from 1a.6.1*)**:**

***Complete section*** [***1a.7***](#Section1a7)

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**1a.7. FINDINGS FROM SYSTEMATIC REVIEW OF BODY OF THE EVIDENCE supporting the measure**

*If more than one systematic review of the evidence is identified above, you may choose to summarize the one (or more) for which the best information is available to provide a summary of the quantity, quality, and consistency of the body of evidence. Be sure to identify which review is the basis of the responses in this section and if more than one, provide a separate response for each review.*

**1a.7.1.** **What was the specific structure, treatment, intervention, service, or intermediate outcome addressed in the evidence review?**

New findings, new agents, and the need for an expanded scope prompt the need for a comprehensive revision of existing NKF-KDOQI CPGs for the Treatment of Anemia in CKD. In preparing the current guidelines, the Anemia Work Group members broadened our inquiry to include all stages of CKD, identify areas of concern to current practitioners, adopt a structured intensive evidence review process not previously used, apply that process to both newly available literature and literature examined in the development of previous guideline versions, formulate conclusions that distinguish evidence-based guidelines from expert-opinion–based clinical practice recommendations (CPRs), and present both guidelines and recommendations in a new format to more clearly describe what is not known. To ensure that the next update profits from evidence we currently lack, we identified limitations of currently available evidence and, in a subsequent report, will identify priorities for needed research. [NKF workgroup] address the target population of patients with CKD stages 1 to 5 not on dialysis therapy, on hemodialysis (HD) or peritoneal dialysis (PD) therapy, or with a kidney transplant in the full range of practice settings in which they are encountered. However, the evidence continues to derive disproportionately from findings in facility-based HD patients.

**1a.7.2.** **Grade assigned for the quality of the quoted evidence with definition of the grade**:

n/a

**1a.7.3. Provide all other grades and associated definitions for strength of the evidence in the grading system.**

**1a.7.4.** **What is the time period covered by the body of evidence? (*provide the date range, e.g., 1990-2010*). Date range**: 1982-2005

**QUANTITY AND QUALITY OF BODY OF EVIDENCE**

**1a.7.5.****How many and what type of study designs are included in the body of evidence**? (*e.g., 3 randomized controlled trials and 1 observational study*)

For systematic review topics, the literature searches yielded 2,756 citations. Of these, 137 articles were reviewed in full. An additional 19 were added by Work Group members. A total of 83 were extracted and of these, 51 studies are included in Summary tables [within the guideline].

**1a.7.6.** **What is the overall quality of evidence across studies in the body of evidence**? (*discuss the certainty or confidence in the estimates of effect particularly in relation to study factors such as design flaws, imprecision due to small numbers, indirectness of studies to the measure focus or target population*)

The NKF Work Group] refers the reader to the prior rationale outlining the [NKF] Work Group’s understanding of the unique factors to be considered in the selection of the Hb target in the pediatric CKD population [published in the 2006 KDOQI Clinical Practice Guidelines and Clinical Practice Recommendations for Anemia in Chronic Kidney Disease]. Please see below:

Determination of Hb targets in pediatric patients resists definitive recommendation. QOL, so significant to the development of the child and life of the family, lends urgency to the consideration of higher Hb level thresholds. However, evidence lacks both quality and quantity, rendering assessment of both benefit and risk uncertain. Age-specific variation in normal Hb levels introduces further uncertainty. Finally, given key metabolic, growth, developmental, and psychological differences between children and adults, exclusive reliance on evidence in adults is inappropriate.(2006)

The [NKF] Work Group presents lower and upper targets for Hb levels in children using values in adults for reference. However, we add 2 significant qualifications. The first is that both the lower and upper Hb targets serve only as opinion-based CPRs, in keeping with the lack of pediatric-specific evidence. The second is that medical decision making to set Hb targets in individual patients should be informed by available evidence that is uniquely pediatric. Consideration should be given, for example, to the potential need to make adjustments for the normal age-specific Hb distribution. In weighing the potential QOL benefits of Hb targets, the available evidence in adults should be enriched by consideration of QOL issues that are crucial to children, including neurocognitive development, school attendance, exercise capacity, and family support.(2006)

A single RCT provides evidence for the benefit of treatment of anemia with ESA compared with placebo. In a blinded crossover trial of 11 children aged between 2.3 and 12.3 years, undergoing HD or PD, and with a baseline Hb level between 4.3 and 8.1 g/dL, patients were assigned to either ESA therapy (Hb > 10 g/dL) or placebo for 24 weeks. Seven patients completed both trial arms. ESA therapy was associated with partial correction of an elevated cardiac index by 6 months and a significant reduction in left ventricular mass by 12 months.

Two observational studies have examined the relationship between anemia and LVH in children with CKD. In these studies, patients with severe LVH (left ventricular mass index > 51 g/m2) showed a statistically lower Hb level than those without LVH (Hb, 9.5 ± 1.8 versus 10.9 ± 2.3 g/dL; P = 0.027). Left ventricular compliance also was related to Hb level in children (r = –0.65; P = 0.02). The findings suggest that severe anemia in children with CKD stage 5 leads to chronic increases in cardiac workload and a consequent increase in both left ventricular end-diastolic volume and mass.

In this RCT, exercise capacity improved with ESA treatment (mean achieved Hb, 11.2 g/dL; range, 9.5 to 14.2 g/dL) compared with placebo control. Measures of capacity significantly affected included a 2-minute walking test (n = 7) and a formal treadmill testing using the Bruce protocol, full (n = 3) or modified (n = 3). Distance walked, in meters, approached but did not reach statistical significance in the ESA arm of the crossover, P = 0.06; similar results were seen from both the regular or modified treadmill data, P = 0.07.

In a nonrandomized interventional trial, 18 children with CKD stage 5 (15 patients, on HD or PD) and a Hb level less than 9.9 g/dL were administered IV or SC ESA until Hb level was greater than 9.9 g/dL; baseline Hb level of 6.5 ± 0.8 g/dL changed to a final level of 10.0 ± 0.6 g/dL; P = 0.001. Exercise time (treadmill with a modified Bruce protocol) increased significantly (before ESA, 10.3 ± 1.9 minutes; after ESA, 11.2 ± 1.9 minutes; P = 0.01), and resting oxygen consumption decreased from 7.8 ± 1.8 to 6.9 ± 1.4 mL/min/kg; P = 0.01 with the higher Hb level. However, there was no change in stroke volume, blood pressure, or any cardiac indices after the first month at the higher Hb level.

Similarly, a small cohort (n = 7) of HD patients showed an improvement in aerobic work capacity and effort tolerance, as evidenced by statistically significant changes in the workload reached, peak oxygen uptake, and average ventilatory anaerobic threshold after treatment of anemia with ESA (baseline Hb, 6.3 ± 0.9 g/dL versus final Hb, 11.2 ± 1.2 g/dL).

Finally, 10 children undergoing PD were evaluated before and 18 months after limited correction of anemia with ESA (baseline Hb, 5.9 ± 0.9 g/dL versus final Hb, 8.7 ± 1.5 g/dL). Patients showed a significant slowing of heart rate, P < 0.01, but no improvement for other cardiac parameters.(2006)

Furthermore, and as previously stated by the Work Group, we affirm the comments made regarding the choice of Hb target; in particular, that it should remain an opinion-based CPR and that any individual patient target should be chosen with consideration made for uniquely pediatric factors, including, but not restricted to, age and sex-specific Hb distribution, neurocognitive development, school attendance, exercise capacity, and family support.

With respect to adult data regarding the safety of targeting Hb levels greater than 13.0 g/dL; although the Work Group acknowledges similar concerns might exist in children, there are currently no studies to support an increased risk at Hb levels at or greater than 13.0 g/dL in this group. However, given the evidence that is available in relation to increased risk of cardiovascular death and coronary artery calcification in older children/young adults with CKD, it would seem prudent to carefully weigh the individual child’s likely benefit of an incremental increase in quality of life, school performance, or exercise tolerance from a Hb level greater than 13.0 g/dL, to their uncertain, but potentially devastating, risk of a myocardial event, stroke, or loss of venous access.

National Kidney Foundation. KDOQI Clinical Practice Guidelines and Clinical Practice Recommendations for Anemia in Chronic Kidney Disease: 2007 Update of Hemoglobin Target. Am J Kidney Dis 50, No 3 (September), 2007.

**ESTIMATES OF BENEFIT AND CONSISTENCY ACROSS STUDIES IN BODY OF EVIDENCE**

**1a.7.7.** **What are the estimates of benefit—magnitude and direction of effect on outcome(s) across studies in the body of evidence**? (*e.g., ranges of percentages or odds ratios for improvement/ decline across studies, results of meta-analysis, and statistical significance*)

There continues to be a lack of evidence to support the assignment of benefits and harms to any given level of Hb for an individual child. This difficulty is compounded by age and sex variation in Hb values in children and the need to address metabolic, growth, and developmental issues in children that are not part of the adult data sets.

Furthermore, and as previously stated by the [NKF] Work Group, we affirm the comments made regarding the choice of Hb target; in particular, that it should remain an opinion-based CPR and that any individual patient target should be chosen with consideration made for uniquely pediatric factors, including, but not restricted to, age and sex-specific Hb distribution, neurocognitive development, school attendance, exercise capacity, and family support.

With respect to adult data regarding the safety of targeting Hb levels greater than 13.0 g/dL; although the Work Group acknowledges similar concerns might exist in children, there are currently no studies to support an increased risk at Hb levels at or greater than 13.0 g/dL in this group. However, given the evidence that is available in relation to increased risk of cardiovascular death and coronary artery calcification in older children/young adults with CKD, it would seem prudent to carefully weigh the individual child’s likely benefit of an incremental increase in quality of life, school performance, or exercise tolerance from a Hb level greater than 13.0 g/dL, to their uncertain, but potentially devastating, risk of a myocardial event, stroke, or loss of venous access.

National Kidney Foundation. KDOQI Clinical Practice Guidelines and Clinical Practice Recommendations for Anemia in Chronic Kidney Disease: 2007 Update of Hemoglobin Target. Am J Kidney Dis 50, No 3 (September), 2007.

Anemia reduces physical capacity, well-being, neurocognitive function, and energy level and worsens quality of life both in predialysis and dialysis patients. Anemia also induces adaptive cardiovascular mechanisms to maintain tissue oxygen supply. This leads to left ventricular hypertrophy, left ventricular dilation, and myocardial ischemia, which are risk factors for cardiovascular disease and death. It is plausible that reversing anemia may reduce this risk.(1)

Aiming for a Hb target within narrow boundaries in ESA-treated patients requires frequent dose adjustments in many patients. More than 60% of patients receiving ESA therapy with Hb targets between 11.0 and 12.0 g/dL require between 6 and 9 dose changes per year. No comparative information is available to support evidence-based guidelines for the dosing and administration of ESA therapy to achieve a target Hb. However, descriptive information from quality improvement interventions and RCT treatment protocols may be helpful to practitioners in weighing options that may best fit patient needs and practice settings.(2)

1. Strippoli GFM, Craig JC, Manno C, Schena FP. Hemoglobin Targets for the Anemia of Chronic Kidney Disease: A Meta-analysis of Randomized, Controlled Trials. J Am Soc Nephrol 15:3154-3165, 2004.

2. National Kidney Foundation. KDOQI Clinical Practice Guidelines and Clinical Practice Recommendations for Anemia in Chronic Kidney Disease: 2007 Update of Hemoglobin Target. Am J Kidney Dis 50, No 3 (September), 2007.

**1a.7.8.** **What harms were studied and how do they affect the net benefit (benefits over harms)?**

There continues to be a lack of evidence to support the assignment of benefits and harms to any given level of Hb for an individual child. This difficulty is compounded by age and sex variation in Hb values in children and the need to address metabolic, growth, and developmental issues in children that are not part of the adult data sets.

**UPDATE TO THE SYSTEMATIC REVIEW(S) OF THE BODY OF EVIDENCE**

**1a.7.9.** **If new studies have been conducted since the systematic review of the body of evidence, provide for each new study: 1) citation, 2) description, 3) results, 4) impact on conclusions of systematic review**.

An analysis of the International Pediatric Peritoneal Dialysis Network registry between April 2007 and April 2011 of a total of 1394 pediatric patients age 1 month to 20 years (median age, 10.2 years; interquartile range [IQR], 3.9–14.4 years) from 81 pediatric dialysis centers in 30 countries found that 25% of patients had hemoglobin levels below target (10 g/dl or ,9.5 g/dl in children older or younger than 2 years, respectively). Low hemoglobin levels were associated with low urine output, low serum albumin, high parathyroid hormone, high ferritin, and the use of bio incompatible PD fluid. Erythropoiesis-stimulating agents (ESAs) were prescribed to 92% of patients, and neither the type of ESA nor the dosing interval appeared to affect efficacy. ESA sensitivity was positively associated with residual diuresis and serum albumin and inversely associated with serum parathyroid hormone and ferritin. The prevalence of hypertension and left ventricular hypertrophy increased with the degree of anemia. The study adds important pediatric information to the ongoing discussion about the “optimal” Hb target range in dialyzed patients receiving ESA. Despite the low overall mortality of dialyzed children, our global prospective data collection allowed a valid analysis of patient survival with respect to anemia management. A comparison of different achieved Hb ranges revealed a significant increase in patient mortality associated with a mean achieved Hb ,11 g/dl. This finding is in line with previous observational studies in adults and children.

Borzych-Duzalka, D., Bilginer, Y., Ha, I. S., Bak, M., Rees, L., Cano, F., ... & Schaefer, F. (2013). Management of anemia in children receiving chronic peritoneal dialysis. *Journal of the American Society of Nephrology*, *24*(4), 665-676.

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**1a.8 OTHER SOURCE OF EVIDENCE**

*If source of evidence is NOT from a clinical practice guideline, USPSTF, or systematic review, please describe the evidence on which you are basing the performance measure.*

**1a.8.1** **What process was used to identify the evidence?**

**1a.8.2.** **Provide the citation and summary for each piece of evidence.**