Status of Bundling of ESRD Services and Total Capitated Care of ESRD Patients (Bundling, P4P and Rationing)

The Renal Network, Inc
Nephrology Update 2008

J. Michael Lazarus, M.D.
Chief Medical Officer
Fresenius Medical Care NA
Objectives

• Identify the status of these two CMS initiatives

• Discuss the current and future impact on patients, physicians and dialysis providers
  – Financial
  – Quality of Care
CMS ESRD Demo Project

• Objective is to improve ESRD patient outcomes and reduce total patient care costs to Medicare
• Operates as a Medicare Advantage Special Needs Health Plan
  – SNP’s are a form of Medicare Advantage Plan for people with chronic conditions
  – Offer targeted benefits to address the chronic conditions covered
  – Directs patients to providers who participate with the plan & are well positioned to treat the chronic conditions
• Fee for Service Plan
• Risk adjusted payment system (per co-morbidities)
• Physician Bonuses for achieving Quality Targets and Reduced Hospitalization
  – 2006 Avg Bonus Payout to Participating Groups = $100/month for each patient enrolled
# Patient Benefits of Fresenius Health Plan

## Fee for Service Medicare
- Medicare A & B Benefits

## Fresenius Health Plan
- Medicare A & B Benefits
- **PLUS**...
  - Personal DM Care Manager
  - Home Health Monitoring
  - Diabetic Supplies
  - Nutritional Supplements
  - Vascular Access – Transportation
  - Dental & Vision Benefit
Demographics

- Enrollment reached 550 patients by year end 2006 and 900 patients by mid-year 2007 (10 markets) and 1400 by end of 2008.
- 54% male
- 46% female
- 54% African American
- Mean age of 58 years
- 98% on hemodialysis
Disease Management Program Focus

• Prevent Hospitalization from CHF
  – Cardiocom
  – Patient education re excessive interdialytic weight gains and
• Infection
  – Immunizations
  – Reduction in CVC’s
  – Reduction in foot ulcers and amputation
  – Dental exam
• Vascular Access
  – Fistula placement
  – Reduction in CVC’s
• Nutrition
  – Supplements
• Diabetes Care
  – Free Glucometers
  – Unlimited Testing Supplies
  – Reduction in foot ulcers and amputation
  – Annual Eye exams
Remote Home Monitoring Program

Fluid weight monitoring and daily clinical contact

- Patients weigh themselves daily
- Telescale automatically transmits weight to FMCHP Call Center
- System prompts answers to health questions (i.e. Are you short of breath, do you have a fever?) and transmits to the Nurse Care Manager.
- System tracks estimated dry weight for each member, flags members whose weight gain puts them at increased risk of developing heart failure
- If a potential problem is identified, the Care Manager will contact patient and other members of the health care team – Not 911 system
Nutritional Supplements

• ~ 50% of the patients have qualified for supplements
• 24 cans or 1 case of supplements per month of Boost Plus or Glucerna
• Supplies sent to patients home
• Meaningful improvement for patients with ALB between 3.8 – 3.4
• Program has been well received
CMS ESRD Demo Project: Results to Date

- Medical loss ratio of approximately 89% achieved
- Quality indicators surpassed national averages and generally met improvement targets
- Approximately 50% of patients qualified and received nutritional support
- Hospital admissions below USRDS historical levels and averaged 1.5 admission per patient per year (PPPY) for first eighteen months of the demo project
- 52% use an AV fistula only 6% permanent catheters
- 9.8 deaths per 100 patient years
ESRD Bundled Payment Demonstration (MMA §623e)

Advisory Board:
First Meeting Agenda

February 16, 2005
Welcome

Introduction of Members

- **Robert Rubin, MD** (co-chair)
  Clinical Professor of Medicine
  Georgetown University School of Medicine

- **Brady Augustine** (co-chair)
  Centers for Medicare & Medicaid Services

- **John Burkart, MD**
  Professor of Internal Medicine/Nephrology
  Wake Forest University

- **Thomas Cantor**
  Biochemist
  President & Owner
  Scantibodies Laboratory

- **Paula Cuellar, RN**
  Dialysis Care Center Director
  University of Chicago Hospitals

- **Paul Eggers, PhD**
  Program Director for Kidney & Urology Epidemiology
  NIDDK/National Institute of Health

- **Bonnie Greenspan, RN**
  Health Care Consultant

- **J. Michael Lazarus, MD**
  Chief Medical Office & Senior Vice President of Clinical Quality
  Fresenius Medical Care

- **William Owen Jr., MD**
  Adjunct Professor of Medicine
  Duke University School of Medicine
  Senior Scholar
  Fuqua School of Business

- **Nancy Ray**
  Research Director
  Medicare Payment Advisory Commission

- **Kris Robinson**
  Executive Director
  American Association of Kidney Patient

- **Jay Wish, MD**
  President
  ESRD Networks 9 and 10

ESRD Bundled Payment Demonstration (MMA §623e)  
February 16, 2005
Charter / Timelines

Advisory Board Topics

- The scope of the bundle (what’s included)
- Case mix adjustment
- Consolidated billing & payment
- Quality payment incentives (P4P)
- Role of disease management
- Selection criteria for demonstration sites
Charter / Timelines

**Project Timeline: 2005**

- **February — June 2005**
  - Meeting 1: Scope / Overview
  - Meeting 2: Case Mix / Quality
  - Meeting 3: Demonstration Design / Parameters
- **June 2005**
  - Solicitation Clearance Process
- **July 2005**
  - Publication of Solicitation
- **September 2005**
  - Meeting 4: Evaluation Design / Implementation Review
- **October 2005**
  - Receipt of Proposals
- **November 2005**
  - Recommend Awards for Administrator Approval
- **December 2005**
  - Clearance Process for Demonstration Awards
- **January 2006**
  - Statutory Implementation Date

ESRD Bundled Payment Demonstration (MMA §623e)  February 16, 2005
Report to Congress

A Design for a Bundled End Stage Renal Disease Prospective Payment System

Michael O. Leavitt
Secretary of Health and Human Services
2007
Elements of a Bundled PPS

- Encourages providers to more efficiently furnish services and ensure the quality of services furnished to beneficiaries, particularly that they receive all medically necessary services
- Requires a scope of services and a unit of payment
- Payment units must have case-mix adjustments
- Require geographic adjustments
- Special adjustments for outlier cases or special characteristics
- Must consider design and implementation issues unique to particular type of service:
  - Hospital based vs independent
  - Oral part D drugs vs Part B IV drugs
  - Lab provided by independent labs
  - Payment for Home therapies
  - Consideration of Pediatric facilities
  - Payment for patient training
  - Beneficiary coinsurance for a bundle
- Involves numerous operational, administrative and systems issues that require time to implement
- Setting of initial payment rates and a process for considering future changes and updates
  - Based on expenditures that occurred under the prior system and/or projected costs
Expanded Bundle 1

• Composite rate Services
• ESRD-related Injectable Drugs
• ESRD-related Laboratory Services
• Other Dialysis-related Services
• Physicians’ Services
• Vascular Access Services
• ESRD-related Outpatient Hospital Services
Expanded Bundle 2

- Composite rate Services
- ESRD-related Injectable Drugs
- ESRD-related Laboratory Services
- Other Dialysis-related Services
Unit of Payment

• Per Treatment Unit vs Per Month Unit

– How is a “Treatment Unit” defined?
– How is a “Month Unit” defined?
Pertinent References


# KECC 2004 Report to Medicare

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Composite Rate Multiplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pediatrics (age &lt; 18)</td>
<td>1.62 *</td>
</tr>
<tr>
<td>18-44</td>
<td>1.223</td>
</tr>
<tr>
<td>45-59</td>
<td>1.055</td>
</tr>
<tr>
<td>60-69 (reference group)</td>
<td>1.000</td>
</tr>
<tr>
<td>70-79</td>
<td>1.094</td>
</tr>
<tr>
<td>80+</td>
<td>1.174</td>
</tr>
</tbody>
</table>

**Body Surface Area (BSA)**
(per 0.1 m² change in BSA from national average of 1.84)
1.037

**Low Body Mass Index**
(< 18.5kg/m²)
1.112

* Developed by CMS. The age, BSA, and BMI multipliers do not apply under the basic case-mix adjustment for patients under age 18.
Table 8. Proposed case-mix adjustment for an expanded bundle (EB) of composite rate (CR) and separately billable (SB) services

<table>
<thead>
<tr>
<th>Variable</th>
<th>Composite rate services</th>
<th>Separately billable services</th>
<th>Proposed case-mix adjustment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mult&lt;sub&gt;CR&lt;/sub&gt;</td>
<td>p</td>
<td>Mult&lt;sub&gt;SB&lt;/sub&gt;</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;18</td>
<td>1.421</td>
<td>&lt;0.0001</td>
<td>0.449</td>
</tr>
<tr>
<td>18-44</td>
<td>1.314</td>
<td>&lt;0.0001</td>
<td>1.005</td>
</tr>
<tr>
<td>45-59</td>
<td>1.014</td>
<td>0.6951</td>
<td>0.991</td>
</tr>
<tr>
<td>60-69</td>
<td>1.000</td>
<td>ref</td>
<td>1.000</td>
</tr>
<tr>
<td>70-79</td>
<td>1.059</td>
<td>0.0929</td>
<td>0.962</td>
</tr>
<tr>
<td>80+</td>
<td>1.230</td>
<td>&lt;0.0001</td>
<td>0.931</td>
</tr>
<tr>
<td>Female</td>
<td>1.049</td>
<td>0.0315</td>
<td>1.163</td>
</tr>
<tr>
<td>Body surface area (per 0.1 m²)</td>
<td>1.034</td>
<td>&lt;0.0001</td>
<td>1.038</td>
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<tr>
<td>Underweight (BMI &lt;18.5)</td>
<td>1.066</td>
<td>0.3059</td>
<td>1.031</td>
</tr>
<tr>
<td>Duration of renal replacement therapy: &lt;4 months</td>
<td>1.605</td>
<td>&lt;0.0001</td>
<td>1.445</td>
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<tr>
<td>Alcohol/drug dependence (any)</td>
<td>1.121</td>
<td>0.0003</td>
<td>1.125</td>
</tr>
<tr>
<td>Cardiac arrest: (any)</td>
<td>1.000</td>
<td>n.s.</td>
<td>1.090</td>
</tr>
<tr>
<td>Pericarditis (from 0-3 months ago)</td>
<td>1.000</td>
<td>n.s.</td>
<td>1.609</td>
</tr>
<tr>
<td>HIV/AIDS (any)</td>
<td>1.000</td>
<td>n.s.</td>
<td>1.125</td>
</tr>
<tr>
<td>Hepatitis B (any)</td>
<td>1.000</td>
<td>n.s.</td>
<td>1.041</td>
</tr>
<tr>
<td>Specified infection (from 0-3 months ago)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Septicemia</td>
<td>1.071</td>
<td>0.0052</td>
<td>1.701</td>
</tr>
<tr>
<td>Bacterial pneumonia and other pneumonias/opportunistic infections</td>
<td>1.000</td>
<td>n.s.</td>
<td>1.469</td>
</tr>
<tr>
<td>Gastro-intestinal tract bleeding (from 0-3 months ago)</td>
<td>1.000</td>
<td>n.s.</td>
<td>1.884</td>
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<tr>
<td>Hereditary hemolytic or sickle cell anemias (any)</td>
<td>1.000</td>
<td>n.s.</td>
<td>1.155</td>
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<tr>
<td>Cancer since 1999 (any diagnosis, excluding non-melanoma skin cancer)</td>
<td>1.000</td>
<td>n.s.</td>
<td>1.088</td>
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<tr>
<td>Myelodysplastic syndrome (any)</td>
<td>1.000</td>
<td>n.s.</td>
<td>1.280</td>
</tr>
<tr>
<td>Monoclonal gammopathy (any)</td>
<td>1.382</td>
<td>0.0009</td>
<td>1.099</td>
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</table>

*The proposed case-mix multipliers for an expanded bundle were calculated as Mult<sub>ES</sub>=0.661*Mult<sub>CR</sub>+0.339*Mult<sub>SB</sub>.

*A multiplier of 1.000 is used for factors that were not selected by the stepwise regression as having a statistically significant association with measures of resource use.*
Risk Adjustment

• Are patients aged 18 to 44 more difficult and costly to care for?
• Is BMI different from BSA? Should they be distinguished and used twice?
• Do physicians uniformly treat larger patients with larger dialyzers and more time or is treatment driven by KT/V?
• Why is DM not a risk factor? Is all Diabetes Mellitus the same?
• Have we ever submitted bills to Medicare based on the severity of patient illness or acuity or the demands on nursing staff?
• Can facility cost data be used in determining physician payment?
• Is Cardiac arrest the best measure of Cardiovascular disease and risk adjustment?
• Is Pericarditis relevant?
Base Payment Amount:
Under the estimation method used by the researchers, the base payment amount for combined composite rate and separately billable services was $234.66 per treatment ($151.48 + $83.18).

Wage Index Adjustment:
$234.66 \times 0.39278 \times 1.10 + (1-0.39278) = $101.3867 + $142.4902 = $243.88

<table>
<thead>
<tr>
<th>Measure of resource use</th>
<th>2002 Average</th>
<th>2003 Average</th>
<th>2004 Average</th>
<th>Pooled 2002-04 Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility composite rate costs(^2)</td>
<td>$162.03</td>
<td>$162.43</td>
<td>$161.55</td>
<td>$162.00</td>
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<tr>
<td>Patient separately billable Medicare</td>
<td>$80.01</td>
<td>$81.48</td>
<td>$87.61</td>
<td>$83.18</td>
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<tr>
<td>Allowable Payments (repriced)(^3)</td>
<td>809,208</td>
<td>282,049</td>
<td>809,208</td>
<td>282,049</td>
</tr>
</tbody>
</table>

\(^1\)Weighted by the number of hemodialysis-equivalent dialysis sessions.
\(^2\)Source: Medicare Cost Reports for independent and hospital-based dialysis facilities.
\(^3\)Source: Medicare dialysis patient claims. MAP amounts were repriced to reflect 2006Q1 payment rates for the top injectable drugs.

Total = $245.18

Patient Multipliers:
<table>
<thead>
<tr>
<th>Facility Type</th>
<th>Facilities</th>
<th>Facility Years</th>
<th>Average of Current Payments</th>
<th>Average of Proposed Payments</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urbanity</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Urban</td>
<td>3,162</td>
<td>3,276</td>
<td>3,420</td>
<td>9,858</td>
<td>$229.72</td>
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<tr>
<td>Rural</td>
<td>845</td>
<td>876</td>
<td>903</td>
<td>2,624</td>
<td>$228.09</td>
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<tr>
<td>Type</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Free standing</td>
<td>3,527</td>
<td>3,707</td>
<td>3,870</td>
<td>11,104</td>
<td>$237.08</td>
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<td>Hospital based</td>
<td>480</td>
<td>445</td>
<td>453</td>
<td>1,378</td>
<td>$244.62</td>
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<tr>
<td>Size (treatments per year)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Small (&lt;5,000)</td>
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<td>1,031</td>
<td>1,086</td>
<td>3,161</td>
<td>$233.58</td>
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<td>Medium (5,000 - 9,999)</td>
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<td>1,351</td>
<td>1,366</td>
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<td>Large (10,000+)</td>
<td>1,691</td>
<td>1,770</td>
<td>1,871</td>
<td>5,332</td>
<td>$239.45</td>
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<td>Owner**</td>
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<td>Regional Chain</td>
<td>244</td>
<td>270</td>
<td>270</td>
<td>784</td>
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<td>Independent</td>
<td>599</td>
<td>671</td>
<td>680</td>
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<td>98</td>
<td>239</td>
<td>478</td>
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<tr>
<td>Hospital-based</td>
<td>460</td>
<td>426</td>
<td>435</td>
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<td>LDO</td>
<td>2,563</td>
<td>2,687</td>
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<td><strong>Census Region</strong></td>
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<tr>
<td>East North Central</td>
<td>571</td>
<td>620</td>
<td>649</td>
<td>1,840</td>
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<tr>
<td>East South Central</td>
<td>337</td>
<td>333</td>
<td>363</td>
<td>1,053</td>
<td>$233.65</td>
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<td>Middle Atlantic</td>
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<td>491</td>
<td>513</td>
<td>1,498</td>
<td>$250.47</td>
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<tr>
<td>Mountain</td>
<td>213</td>
<td>220</td>
<td>234</td>
<td>667</td>
<td>$222.03</td>
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<tr>
<td>New England</td>
<td>130</td>
<td>131</td>
<td>135</td>
<td>396</td>
<td>$237.23</td>
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<td>Pacific</td>
<td>437</td>
<td>463</td>
<td>484</td>
<td>1,384</td>
<td>$237.11</td>
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<td>South Atlantic</td>
<td>970</td>
<td>1,012</td>
<td>1,038</td>
<td>3,040</td>
<td>$238.93</td>
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<tr>
<td>West North Central</td>
<td>282</td>
<td>291</td>
<td>305</td>
<td>878</td>
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<tr>
<td>West South Central</td>
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<td>571</td>
<td>602</td>
<td>1,726</td>
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<td><strong>State</strong></td>
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<tr>
<td>Other</td>
<td>3,997</td>
<td>4,142</td>
<td>4,310</td>
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<td>Alaska</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>6</td>
<td>$239.04</td>
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<tr>
<td>Hawaii</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>27</td>
<td>$226.36</td>
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<td><strong>IEF</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>non-IEF</td>
<td>3,960</td>
<td>4,106</td>
<td>4,276</td>
<td>12,342</td>
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<tr>
<td>IEF</td>
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<td>46</td>
<td>47</td>
<td>140</td>
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<td><strong>Current IEF</strong></td>
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<td>non-IEF</td>
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<td>3</td>
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<td>4</td>
<td>10</td>
<td>$207.97</td>
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<tr>
<td><strong>Modality</strong>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>All HD</td>
<td>2,188</td>
<td>2,184</td>
<td>2,301</td>
<td>6,673</td>
<td>$238.61</td>
</tr>
<tr>
<td>Small PD (&lt;5%)</td>
<td>448</td>
<td>462</td>
<td>434</td>
<td>1,344</td>
<td>$242.71</td>
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<tr>
<td>Large PD (5%+)</td>
<td>1,336</td>
<td>1,477</td>
<td>1,559</td>
<td>4,372</td>
<td>$236.33</td>
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</table>
Example 1—Relatively healthy ESRD patient with no co morbidities
John Smith, a 45 year old male, is 187.96 cm. (1.8796 m.) in height and weighs 95 kg. He has chronic glomerulonephritis and hypertension, underwent the creation of an AV fistula in 2000, and was diagnosed with ESRD in 2001. The patient also has secondary hyperparathyroidism.

Patient Multiplier = 1.1332

1.1332 x $243.88 = $276.36

Example 2—ESRD Patient with multiple co morbidities
Mary Livingston, a 66 year old female, is 167.64 cm. in height and weighs 105 kg. She has diabetes mellitus, a history of chronic Hepatitis B, parathyroidism, and liver cirrhosis. She was diagnosed with ESRD in 1995, esophageal varices in 2006, and had a diagnosis of upper gastrointestinal (GI) bleeding the previous month.

Patient Multiplier = 1.5676

1.5676 x $243.88 = $382.31

Example 3—Aged ESRD patient with low BMI (< 18.5 kg/m2) and history of hospitalization
Agnes Jones, an 82 year old female, is 160.02 cm. (1.6002 m.) in height and weighs 45.36 kg. She has longstanding type II diabetes mellitus and was diagnosed with ESRD in 2002. The patient has coronary artery disease and peripheral vascular disease. In January 2006 Ms. Jones began dialyzing with an upper arm AV fistula, which had been created in 2002. In March 2006, after an unsuccessful attempt to declot the AV fistula during hospitalization, Ms. Jones experienced additional bleeding complications, and has been dialyzed using a catheter ever since. Last month, the patient was again admitted to the hospital after suffering an observed cardiac arrest during outpatient dialysis. She was diagnosed with myocardial infarction, and underwent coronary artery angioplasty and coronary artery stent placement during that hospitalization. Ms. Jones was again admitted to the hospital on the 14th of the current month for congestive heart failure.

Patient Multiplier = 1.128

1.1504 x $243.88 = $280.56
kg/m², which is greater than the threshold value of 18.5, the cut-off for underweight status:

\[
\text{BMI} = \frac{\text{weight}_{\text{kg}}}{\text{height}(m^2)}
\]
\[
= \frac{95}{1.8796^2}
\]
\[
= \frac{95}{3.5329}
\]
\[
= 26.89
\]

Therefore, there is no case-mix adjustment for low BMI.

The formula for calculation of a patient’s BSA [21] is:

\[
\text{BSA} = 0.007184 \times \text{height}_{\text{cm}}^{0.725} \times \text{weight}_{\text{kg}}^{0.425}
\]

Mr. Smith’s BSA is computed as follows:

\[
\text{BSA} = 0.007184 \times 187.96^{0.725} \times 95^{0.425}
\]
\[
= 0.007184 \times 44.5346 \times 6.9268
\]
\[
= 2.2161
\]

However, the case-mix adjustment based on a patient’s BSA under the ESRD PPS reflects slightly different values from those used in connection with the basic case-mix methodology under the composite payment system [37]. A patient with the average BSA of 1.87 m² would not receive any upward or downward adjustment to the case-mix adjustment based on BSA. Patients having a BSA value above the 1.87 average would receive an upward adjustment, and those below 1.87 would receive a downward adjustment. Using the Table 8 multiplier of 1.035, Mr. Smith’s case-mix adjustment based on his BSA of 2.2161 is computed as follows:

\[
M_{\text{BSA}} = 1.035^{(2.2161-1.87)/0.1}
\]
\[
= 1.035^{0.3461}
\]
\[
= 1.1264
\]

Mr. Smith’s PM would reflect the applicable case-mix adjustments for both age and BSA and may be expressed as:

\[
\text{PM} = M_{\text{age}} \times M_{\text{BSA}}
\]
\[
= 1.006 \times 1.1264
\]
\[
= 1.1332
\]
Example 1—Relatively healthy ESRD patient with no co morbidities
John Smith, a 45 year old male, is 187.96 cm. (1.8796 m.) in height and weighs 95 kg. He has chronic glomerulonephritis and hypertension, underwent the creation of an AV fistula in 2000, and was diagnosed with ESRD in 2001. The patient also has secondary hyperparathyroidism.

Patient Multiplier = 1.1332
1.1332 x $243.88 = $276.36

Example 2—ESRD Patient with multiple co morbidities
Mary Livingston, a 66 year old female, is 167.64 cm. in height and weighs 105 kg. She has diabetes mellitus, a history of chronic Hepatitis B, parathyroidism, and liver cirrhosis. She was diagnosed with ESRD in 1995, esophageal varices in 2006, and had a diagnosis of upper gastrointestinal (GI) bleeding the previous month.

Patient Multiplier = 1.5676
1.5676 x $243.88 = $382.31

Example 3—Aged ESRD patient with low BMI (< 18.5 kg/m^2) and history of hospitalization
Agnes Jones, an 82 year old female, is 160.02 cm. (1.6002 m.) in height and weighs 45.36 kg. She has longstanding type II diabetes mellitus and was diagnosed with ESRD in 2002. The patient has coronary artery disease and peripheral vascular disease. In January 2006 Ms. Jones began dialyzing with an upper arm AV fistula, which had been created in 2002. In March 2006, after an unsuccessful attempt to declot the AV fistula during hospitalization, Ms. Jones experienced additional bleeding complications, and has been dialyzed using a catheter ever since. Last month, the patient was again admitted to the hospital after suffering an observed cardiac arrest during outpatient dialysis. She was diagnosed with myocardial infarction, and underwent coronary artery angioplasty and coronary artery stent placement during that hospitalization. Ms. Jones was again admitted to the hospital on the 14th of the current month for congestive heart failure.

Patient Multiplier = 1.128
1.1504 x $243.88 = $280.56
Example 3. An elderly ESRD patient with low BMI (< 18.5 kg/m²) and history of hospitalization.

Agnes Jones, an 82-year-old female, is 160.02 cm (5.94 ft) in height and weighs 45.36 kg. She has longstanding type II diabetes mellitus and was diagnosed with ESRD in 2002. The patient has coronary artery disease and peripheral vascular disease. In January 2006, Ms. Jones began dialyzing with an upper arm AV fistula, which had been created in 2002. In March 2006, after an unsuccessful attempt to decell the AV fistula during hospitalization, Ms. Jones experienced additional bleeding complications, and she was dialyzed using a catheter ever since. Last month, the patient was again admitted to the hospital after suffering a transient cardiac arrest during outpatient dialysis. She was diagnosed with myocardial infarction, and underwent coronary artery angioplasty and coronary artery stent placement during that hospitalization. Ms. Jones was again admitted to the hospital on the 14th of the current month for congestive heart failure.

We must first use Ms. Jones’ height and weight to determine if a case-mix adjustment for low BMI applies, and the magnitude of the case-mix adjustment for BSA. The patient’s BMI is computed as follows:

\[
\text{BMI} = \frac{\text{weight}}{\text{height}^2} \approx \frac{45.36}{1.6002^2} = 17.71
\]

Ms. Jones’ BMI is less than 18.5. Therefore, her PM will include a 5.4 percent case-mix adjustment for underweight status (Table 8).

The formula for calculation of a patient’s BSA [21] is:

\[
\text{BSA} = 0.007184 \times \text{height}^{-0.425} \times \text{weight}^{0.75}
\]

Ms. Jones’ BSA is computed as follows:

\[
\text{BSA} = 0.007184 \times 160.02^{-0.425} \times 45.36^{0.75} = 0.007184 \times 39.6302 \times 5.0592 = 1.4404
\]

Using the Table 8 multiplier of 1.035, Ms. Jones’ case-mix adjustment based on her BSA of 1.4404 is calculated as follows:

\[
M_{\text{BSA}} = \frac{1.035}{1.4404} = 0.722
\]

\[
M_{\text{BSA}} = \text{1.035} \times 0.722 = 0.744
\]

Because the patient’s small BSA of 1.4404 is less than the average of 1.87, Ms. Jones’ case-mix adjustment of 0.826 for BSA reflects a 3.74 percent decrease.

A review of Ms. Jones’ comorbidities in conjunction with Table 8 reveals that this patient’s PM must be calculated by using the case-mix adjuster for cardiac arrest. Therefore, the PM will include case-mix adjustments for age, gender, BSA, BMI, and cardiac arrest. Ms. Jones’ PM may be expressed as:

\[
\text{PM} = M_{\text{age}} \times M_{\text{gender}} \times M_{\text{BSA}} \times M_{\text{BMI}} \times M_{\text{cardiac arrest}}
\]

\[
= 1.128 \times 1.088 \times 0.826 \times 1.034 \times 1.031 = 1.1504
\]

For this patient there would be a 12.8 percent increase to the wage-index adjusted base rate of $243.88 based on age, an 8.8 percent increase related to gender, a 13.74 percent decrease for BSA, a 5.4 percent increase for costs associated with a low BMI, and a 3.1 percent increase for additional costs for treating a patient with a recent history of cardiac arrest. All of these factors combine to yield a PM of 1.1504. The 1.1504 PM is multiplied by the wage-index adjusted base rate of $243.88, resulting in an ESRD PPS per treatment payment of $280.56 (1.1504 x $243.88 = $280.56).
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Patient Multiplier = 1.128
1.1504 x $243.88 = $280.56
Quality Monitoring

• 1 page out of 118 devoted to Quality
• Based on Dialysis Facility Compare
• Additional 13 CPMs used by CMS
• CPM Data from a 5% sample
• Mechanism for reporting via CROWNWeb
Most Recent CMS CPMs

2. HD Adequacy CPM II: Method of Measurement of Delivered Hemodialysis Dose.
4. PD Adequacy CPM I: Measurement of Total Solute Clearance at Regular Intervals.
5. PD Adequacy CPM II: Calculate Weekly Kt/Vurea and Creatinine Clearance in a Standard Way.
6. PD Adequacy CPM III: Delivered Dose of Peritoneal Dialysis.
10. Anemia Management CPM I: Target Hemoglobin for Epoetin Therapy.
Concerns

• Rationing
• Cherry Picking
• Failure to correctly risk adjust
  – Use of cost reports with no history of clinical parameters being used to drive cost decisions
  – Improper use of BMI and BSA
  – Absence of Diabetes
  – Absence of significant cardiovascular diagnoses
• Lack of incentives for technological advancement
• Failure to select correct quality outcomes
• Failure to adequately consider technical/statistical variances and explain their weight (e.g. small size, outliers, etc)
• Failure to respond to opinion of medical experts and clinical data
Reasons to Participate

• “Chance” to assure annual update
• Ability to share in savings from reduced hospitalization
• Improved drug and lab utilization
• Possibility of improved patient outcomes
• Possibility of more efficient use of physician time and improved quality of practice