On24 for a better webinar experience!

A great company is showing what interesting applications a fantastic product can bring for motivated users.

Media player

Resources

Have a question? Let us know here!

Meet our speaker!

We want to hear from you survey!

Menu Bar
3M’s approach to providing payer solutions across the continuum of health care

Miki Patterson, PhD, NP
3M AM-PPC Product Owner

Jessie Murphy, MHA
3M Methodology Consultant
Housekeeping

- On24 Webinar Platform for a better user experience!
- Use Google Chrome and close out of VPN/multiple tabs
- Check speaker settings and refresh if you are having audio issues
- Ability to move engagement sections
- Ask questions!
- Engagement tools and CC available
- Check the resources section
- Complete the survey

The information, guidance, and other statements provided by 3M are based upon experience and information 3M believes to be reliable, but the accuracy, completeness, and representative nature of such information is not guaranteed. Such information is intended for people with knowledge and skills sufficient to assess and apply their own informed judgment to the information and is not a substitute for the user’s own analysis. The participant and/or participant’s organization are solely responsible for any compliance and reimbursement decisions, including those that may arise in whole or in part from participant’s use of or reliance upon information contained in this presentation. 3M disclaims all responsibility for any use made of such information. No license under any 3M or third-party intellectual property rights is granted or implied with this information.

3M and its authorized third parties will use your personal information according to 3M’s privacy policy. This meeting may be recorded. If you do not consent to being recorded, please exit the meeting when the recording begins.
3M team introductions and agenda

1. Overview of 3M client experience

2. Facility payment and quality grouper application

3. Population health grouper application in value-based care

4. Bundled program analytics

5. NEW 3M™ Ambulatory Potentially Preventable Complications
The 3M client experience

- **States/international**
  - e.g., state Medicaid agencies, international health administrators

- **Payers**
  - e.g., Medicaid Managed Care Organizations (MCOs), commercial payers

- **Business partners**
  - e.g., Consulting firms, data analytics vendors, EHR companies

- **Providers**
  - e.g., Physicians, hospitals, ACOs/IPAs

Decades of experience collaborating with...
## Methodology Consulting: Areas of Expertise

### Value-based Programs
- Program strategy and design recommendations
- Target development
- Implementation
- Performance monitoring
- ACO operations and analytics
- Provider communication/contracting

### Facility Payment and Quality
- Quality measure opportunity identification
- Payment reimbursement design and modeling
- Payment rate standardization guidance
- Analytics support
- Network performance and development

### Population Health
- Program strategy
- Population segmentation
- Episodes of care
- Care management targeting
- SDoH guidance
- Performance monitoring strategy/support
- Analytics support

### Strategy
- Health plan/product operations
- Strategic opportunity analysis
- New program innovation and piloting
- Client support for state program adoption of 3M methodologies
- 3M methodology implementation and use support

---

Integrating 3M’s Grouper Methodologies
# 3M clinical classification methodologies

<table>
<thead>
<tr>
<th>Health care for insight, risk adjustment and payment</th>
<th>Applicability</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>3M™ All Patient Refined Diagnosis Related Groups (APR DRGs)</td>
<td>Inpatient admission</td>
<td>Includes four severity of illness subclasses</td>
</tr>
<tr>
<td>3M™ Enhanced Ambulatory Patient Groups (EAPGs)</td>
<td>Ambulatory visit</td>
<td>Hospital outpatient, ambulatory surgical center and other clinics</td>
</tr>
<tr>
<td>3M™ Clinical Risk Groups (CRGs)</td>
<td>Population health</td>
<td>Person health status</td>
</tr>
<tr>
<td>3M™ Patient-focused Episodes (PFEs)</td>
<td>Episode of care</td>
<td>Includes hospital, professional, pharmacy and other</td>
</tr>
<tr>
<td>3M™ International Refined DRG (IR-DRGs)</td>
<td>Inpatient admission, ambulatory visit</td>
<td>Applicable outside U.S.</td>
</tr>
<tr>
<td>Functional Status Groups (FSGs)</td>
<td>Population health</td>
<td>Included within 3M CRGs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Public reporting, payment adjustment and quality improvement</th>
<th>Applicability</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>3M™ Potentially Preventable Complications (PPCs)*</td>
<td>Inpatient hospital care</td>
<td>Complications and adverse events during inpatient admissions.</td>
</tr>
<tr>
<td>3M™ Ambulatory Potentially Preventable Complications (AM-PPCs)*</td>
<td>Elective outpatient procedures</td>
<td>Complications and adverse events following elective outpatient procedures</td>
</tr>
<tr>
<td>3M™ Potentially Preventable Readmissions (PPRs)*</td>
<td>Inpatient hospital care, population health</td>
<td>Includes PPR ED: Potentially Preventable Revisits to the ED</td>
</tr>
<tr>
<td>3M™ Potentially Preventable Admissions (PPAs)*</td>
<td>Population health</td>
<td>Included as part of 3M PFEs</td>
</tr>
<tr>
<td>3M™ Potentially Preventable Emergency Department Visits (PPVs)*</td>
<td>Population health</td>
<td>Included as part of 3M PFEs</td>
</tr>
<tr>
<td>3M™ Potentially Preventable Services (PPSs)*</td>
<td>Population health</td>
<td>Included as part of 3M PFEs</td>
</tr>
<tr>
<td>Risk of Mortality (ROM)</td>
<td>Inpatient hospital care</td>
<td>Included within 3M APR DRGs and 3M IR-DRGs</td>
</tr>
</tbody>
</table>

*3M PPCs, AM-PPC, PPRs, PPAs, PPVs, PPSs are the 3M Potentially Preventable Events (PPEs)
Facility payment and quality grouper application
3M APR DRG and EAPG groupers

Supports stabilization of inpatient and outpatient payment variation

Provides options for refined payment processing and editing

Pushes value-based care programs in rewarding quality and efficiency
# Medicare pricing modeling

<table>
<thead>
<tr>
<th>CMS Medicare IPPS</th>
<th>CMS Medicare OPPS</th>
<th>Critical access hospitals (CAHs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Prices at levels Medicare would pay under MSDRGs</td>
<td>• Prices visits at levels Medicare would pay under APCs</td>
<td>• Are not included in IPPS or OPPS price</td>
</tr>
<tr>
<td>• Covers acute hospitals</td>
<td>• Covers acute hospitals</td>
<td>• Computed Medicare reimbursement based on costing for the case x 101%</td>
</tr>
</tbody>
</table>

© 3M 2023. All Rights Reserved.
Impacts of 3M APR DRG and 3M EAPG groupers

- Benchmarking
- Rate setting
- Contracting
- Claim editing

Analytical support
3M approach to facility programs

- Meaningful measurement
- Clinically based
- Risk adjusted

- PPR: 3M Potentially Preventable Readmission
- PPR-ED: 3M Potentially Preventable Readmission - Emergency Department
- PPC: 3M Potentially Preventable Complications
- AM-PPC: 3M Ambulatory Potentially Preventable Complications

NEW grouper for 2023
### Impacts of mental health on payment

#### Impacts of the Presence Mental Health & Substance Abuse*

<table>
<thead>
<tr>
<th>Year</th>
<th>N PPR Allowed PMPM</th>
<th>Y PPR Allowed PMPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>$9</td>
<td>$44</td>
</tr>
<tr>
<td>2020</td>
<td>$11</td>
<td>$45</td>
</tr>
<tr>
<td>2021</td>
<td>$12</td>
<td>$40</td>
</tr>
</tbody>
</table>

*Yr/Yr compare of chronic population PPR utilization. Chronic defined as any patient with CRG status 5 or greater.


---

**Targeted approach to improvement**

**Leverage behavioral health services**

**Focused transitions of care**

© 3M 2023. All Rights Reserved.
## PPC network hospital profile

### % Difference from expected across three network hospitals

<table>
<thead>
<tr>
<th>Network hospitals</th>
<th>Hospital A</th>
<th>Hospital B</th>
<th>Hospital C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candidate cases</td>
<td>4,494</td>
<td>3,522</td>
<td>3,856</td>
</tr>
<tr>
<td>Observed case count</td>
<td>633</td>
<td>405</td>
<td>530</td>
</tr>
<tr>
<td>Expected case count</td>
<td>642</td>
<td>345</td>
<td>563</td>
</tr>
<tr>
<td>% Difference from expected</td>
<td>-1.41%</td>
<td>17.39%</td>
<td>-5.86%</td>
</tr>
</tbody>
</table>

### % Diff. from expected Hospital B by PPC Group

<table>
<thead>
<tr>
<th>PPC group</th>
<th>% Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infectious complications</td>
<td>17.85%</td>
</tr>
<tr>
<td>Perioperative complications</td>
<td>2.45%</td>
</tr>
<tr>
<td>Malfunctions, reactions, etc.</td>
<td>1.15%</td>
</tr>
</tbody>
</table>

### % Diff. from expected Hospital B by complication

<table>
<thead>
<tr>
<th>PPC</th>
<th>% Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clostridium Difficile Colitis</td>
<td>45.12%</td>
</tr>
<tr>
<td>Septicemia and severe infections</td>
<td>4.52%</td>
</tr>
<tr>
<td>Gastrointestinal complications</td>
<td>2.75%</td>
</tr>
</tbody>
</table>

Data is for illustrative purposes only and does not come from a specific data source.
Population health / VBC grouper application
"Uncontrolled variation is the enemy of quality."
-W. Edwards Deming
The foundation for value-based care

**Quality**
- Preventable groupers/expected rates
- Preventative care
- Chronic care management
- Consistency of care

**Cost**
- Budget setting process
- PMPM trends by place of service
- Financial trends over time
- Preventable spend patterns

**Risk**
- 3M CRG
- CMS hierarchical condition categories (HCC)
- Budget risk scores and population segmentation
- Risk-adjusted preventable spend
Program types

Based on our client’s value-based program goals, our team advises on various types of alternative payment models:

- Quality P4P Programs
- Shared Savings/Risk
- Bundled Payment Programs
- Capitation Models
Foundation of population health and VBC program design

Client background → Client program goal → Program design → Model and reporting development → Program implementation and support

3M population health and VBC consulting
Program design

Services
- What services are eligible?
- How are services defined?
- Exclusions?

Membership
- What members are eligible?
  e.g., LOB, products, member months, COB, risk pool, employer groups
- Determine attribution method

Physicians
- Which physicians should be measured?
- Specialty inclusion/exclusions

Measurement basis
- Program type
- Base and measurement periods; runout
- Outliers
Risk stratification and segmentation

Total medical and preventable spend by population health segment

- Non-User
- Healthy
- At Risk
- Multiple Minor Chronic
- Significant Acute
- Critical
- Minor Chronic
- Moderate Chronic
- Complex Chronic
- Multiple Complex Chronic

PPEs:
Spend on potentially preventable events (including admissions, ED visits, readmissions, etc.) can be reduced in more complex population with more adequate patient coordination.

CRGs:
Segment the population by complexity to identify the subset of members with the highest spend on potentially preventable events.

Reporting and analytics:
Care management reporting, designing effective reporting for provider data sharing, drilling into to drivers of healthcare spend.

Data is for illustrative purposes only and does not come from a specific data source.

© 3M 2023. All Rights Reserved.
Harnessing potentially preventable events
Identifying the most vulnerable patients and improving population health strategy

New mother readmitted for wound complications following a c-section ten days prior
How: 3M PPRs

Paraplegic with inpatient complication due to lack of appropriate wound care during hospital stay
How: 3M PPCs

Community struggling with high pediatric ED use for services more appropriate treated in office
How: 3M PPVs

Data is for illustrative purposes only and does not come from a specific data source.
Supporting payers and providers in population health
Connecting data to create actionable results

<table>
<thead>
<tr>
<th>% Reduction in PPRs</th>
<th># of PPR cases</th>
<th>Potential savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>5%</td>
<td>13</td>
<td>$267,808</td>
</tr>
<tr>
<td>10%</td>
<td>25</td>
<td>$535,616</td>
</tr>
<tr>
<td>15%</td>
<td>38</td>
<td>$803,424</td>
</tr>
<tr>
<td>20%</td>
<td>51</td>
<td>$1,071,233</td>
</tr>
</tbody>
</table>

Data is for illustrative purposes only and does not come from a specific data source.

© 3M 2023. All Rights Reserved.
Analyzing drivers of utilization
3M™ Potentially Preventable Events

Disease cohort
- CRGs (e.g., Primary EDC)
- Specialist ordering Patterns
- RX utilization/adherence

Geography
- Rural vs. urban
- Regional differences

Population trends
- Age group patterns
- Gender patterns
- Seasonal ordering Patterns

Quality of care
- Medical policies
- Outflow
- Overuse
PPS analysis using 3M EAPGs in rehabilitation service line

Over 70% of physical therapy spend in this population is occurring outside of the ACO.

Data is for illustrative purposes only and does not come from a specific data source.
Providing insight to drive clinical decision making

Medication adherence reporting

### Asthma medication adhere example

<table>
<thead>
<tr>
<th>Provider practice</th>
<th># of Asthma members</th>
<th>% RX adherence</th>
<th>PPV count</th>
<th>PPV PKPY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provider A</td>
<td>157</td>
<td>75%</td>
<td>15</td>
<td>96</td>
</tr>
<tr>
<td>Provider B</td>
<td>210</td>
<td>90%</td>
<td>10</td>
<td>48</td>
</tr>
<tr>
<td>Provider C</td>
<td>180</td>
<td>84%</td>
<td>11</td>
<td>61</td>
</tr>
</tbody>
</table>

Data is for illustrative purposes only and does not come from a specific data source.
Bundled program analytics
Why are episodes important?

Episodes are a critical tool that can be used to identify and measure sources of variation that impact cost, quality and outcomes.

Episodes promote:
- Transparency and communication
- Performance improvement
- Coordinated, whole person care
- Better patient-experience
Case study: Maternal care

3M PFEs capture a holistic patient-centered view across the entire continuum of maternal care.

First instance of pregnancy episode
Diagnostic category (EDC)

Antepartum care Delivery Postpartum care

PFE cohort

PFE event

Up to 90 days
Event profile of allowed amount by episode window

Data is for illustrative purposes only and does not come from a specific data source.
Cesarean rates compared to patient acuity

Community care has the second highest cesarean rate but the lowest % of high/intermediate risk pregnancies.

Data is for illustrative purposes only and does not come from a specific data source.

© 3M 2023. All Rights Reserved.
3M AM-PPCs
Current opportunities and challenges

Ambulatory care is one of the fastest growing and a higher margin segment in healthcare industry.

70% procedures performed in outpatient settings.

Limited outcomes/safety quality measurement systems.

Impact of patient safety has multiple costs, “complications are the strongest indicator of costs.”

Source:
1. Walking out of the hospital | McKinsey
2. July 2017 report from the Centers for Medicare & Medicaid Services (CMS)
3. The Impact of Complications on Costs of Major Surgical Procedures: Annals of Surgery (lww.com)
Harmful events (e.g., accidental laceration) or negative outcomes (e.g., sepsis) that develop after an elective procedure was performed in the ambulatory care setting and that may result from processes of care and treatment rather than from natural progression of an underlying illness and are therefore potentially preventable.

Source: 3M AM-PPC Definitions Manual
Logic to developing 3M AM-PPCs

93 procedure groups

2900 procedures with a risk for a complication
Started anatomically
Risk / complexity grouping
Clinical procedure risk hierarchy
Service line
Chained – 30 days
Examples: Colonoscopies, upper GI endoscopy, cataracts, arthroscopies, biopsies
Logic to developing 3M AM-PPCs

35 complication groups

~1500 unique complications
Complications plausibly related to procedure
Timing limits
Examples: Sepsis, UTI, bleeding, wound dehiscence, infection
Logic to developing 3M AM-PPCs

Four complication types

Type 1 AM-PPC found in emergency department
Type 2 AM-PPC found POA on inpatient admission
Type 3 AM-PPC found in outpatient encounter
Type 4 complication is an inpatient claim that contains an ambulatory procedure resulting in a complication and inpatient admission- 72 hour rule

Medicare and national benchmarks (ED and IP only)
3M AM-PPC: Risk adjustment approach
First at procedure level

- Age
- Disability status
- Oncology
- Correlated with chronic conditions

Source: 3M AM-PPC Definitions Manual
Samples of complications

- **Lung issues**
  - Pneumonia and Other lung infections
  - Aspiration Pneumonia
  - Pulmonary Embolism
  - Other pulmonary and chest complications

- **Bleeding Hematoma**
  - Post-Hemorrhagic and other Acute Anemia
  - Other Hemorrhage and Hematoma
  - Venous Thrombosis

- **Infection Sepsis**
  - Septicemia and severe infections
  - CLABSI, UTI
  - Infection, inflam. compl. of devices, implants or grafts
  - (Specific examples: Cardiac, vascular. GU, GI, eye, musculoskeletal)

- **Mechanical complications**
  - Mechanical compl. of device, implant and graft
  - (Specific examples: Cardiac, vascular, GU, GI, eye, musculoskeletal)
Sample procedure directed complications

101 Post-procedural infections of eye and adnexa
102 Post-procedural complications of eye and adnexa
110 Pulmonary/cardiovascular - Hemorrhage and hematoma
112 Genitourinary/abdominal - Hemorrhage and Hematoma
114 Musculoskeletal - Hemorrhage and Hematoma
120 GI and Hepatobiliary - Mechanical compl. of device, implant or graft
121 GU and Hepatobiliary - Infect., inflam compl. of devices, implants or grafts
122 Genitourinary - Mechanical compl. of device, implant or graft
123 Vascular - Mechanical compl. of device, implant or graft
124 Vascular - Infection, inflam. compl. of devices, implants or grafts
125 Cardiac - Infection, inflam. compl. of devices, implants or grafts
126 Cardiac - Mechanical compl. of device, implant or graft
# Top 20 PSGs 3M AM-PPC rates 19/20 Medicare FFS HOPD

<table>
<thead>
<tr>
<th>PSG</th>
<th>Description</th>
<th>At-Risk procedures</th>
<th>ED complications</th>
<th>IP complications</th>
<th>AM-PPC rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>Upper Gastrointestinal Endoscopy Procedures</td>
<td>1,438,611</td>
<td>7,594</td>
<td>23,019</td>
<td>1.9%</td>
</tr>
<tr>
<td>85</td>
<td>Lower Gastrointestinal Endoscopy Procedures</td>
<td>1,168,141</td>
<td>6,102</td>
<td>9,290</td>
<td>1.2%</td>
</tr>
<tr>
<td>99</td>
<td>Spine Injection Procedures</td>
<td>1,150,443</td>
<td>2,546</td>
<td>7,017</td>
<td>0.7%</td>
</tr>
<tr>
<td>53</td>
<td>Coronary Angiography Procedures</td>
<td>564,725</td>
<td>2,214</td>
<td>9,184</td>
<td>1.8%</td>
</tr>
<tr>
<td>103</td>
<td>Routine Cataract Procedures</td>
<td>487,922</td>
<td>114</td>
<td>938</td>
<td>0.2%</td>
</tr>
<tr>
<td>91</td>
<td>Lower Genitourinary Procedures</td>
<td>480,719</td>
<td>10,122</td>
<td>11,535</td>
<td>3.9%</td>
</tr>
<tr>
<td>84</td>
<td>Colonoscopy Screening Procedures</td>
<td>301,792</td>
<td>696</td>
<td>901</td>
<td>0.4%</td>
</tr>
<tr>
<td>60</td>
<td>Dialysis Shunt Procedures</td>
<td>253,216</td>
<td>7,285</td>
<td>11,456</td>
<td>6.7%</td>
</tr>
<tr>
<td>74</td>
<td>Upper Airway Endoscopy Procedures</td>
<td>252,147</td>
<td>1,161</td>
<td>3,079</td>
<td>1.5%</td>
</tr>
<tr>
<td>55</td>
<td>Pacemaker/AICD Procedures</td>
<td>248,479</td>
<td>2,932</td>
<td>4,716</td>
<td>2.8%</td>
</tr>
<tr>
<td>61</td>
<td>Periph Vasc Access - Tunn PICC w Pump or Port</td>
<td>226,955</td>
<td>1,274</td>
<td>7,908</td>
<td>3.8%</td>
</tr>
<tr>
<td>39</td>
<td>Breast Biopsy and Localization Procedures</td>
<td>219,378</td>
<td>409</td>
<td>588</td>
<td>0.2%</td>
</tr>
<tr>
<td>13</td>
<td>Knee Arthroplasty Procedures</td>
<td>218,660</td>
<td>2,544</td>
<td>3,719</td>
<td>2.6%</td>
</tr>
<tr>
<td>56</td>
<td>Percut.Transluminal Coronary Angioplasty (PTCA)</td>
<td>218,434</td>
<td>1,624</td>
<td>3,779</td>
<td>2.3%</td>
</tr>
<tr>
<td>34</td>
<td>Facial and ENT Procedures</td>
<td>190,112</td>
<td>1,255</td>
<td>1,312</td>
<td>1.1%</td>
</tr>
<tr>
<td>94</td>
<td>Upper Genitourinary Stent &amp; Guidewire Procedures</td>
<td>174,908</td>
<td>5,619</td>
<td>9,664</td>
<td>7.6%</td>
</tr>
<tr>
<td>44</td>
<td>Female Genital System Procedures</td>
<td>160,185</td>
<td>3,208</td>
<td>2,031</td>
<td>2.8%</td>
</tr>
<tr>
<td>43</td>
<td>Male Genital System Procedures</td>
<td>158,095</td>
<td>5,934</td>
<td>4,793</td>
<td>6.1%</td>
</tr>
<tr>
<td>48</td>
<td>Inguinal and Hydrocele Hernia Procedures</td>
<td>156,426</td>
<td>2,048</td>
<td>1,765</td>
<td>2.1%</td>
</tr>
<tr>
<td>63</td>
<td>Perip Vasc - Percutan Transluminal Angioplasty</td>
<td>129,983</td>
<td>1,873</td>
<td>5,038</td>
<td>4.7%</td>
</tr>
</tbody>
</table>
## Top 20 PSGs 3M AM-PPC Rates 19/20 Medicare FFS HOPD

<table>
<thead>
<tr>
<th>PSG</th>
<th>Description</th>
<th>At-risk procedures</th>
<th>ED complications</th>
<th>IP complications</th>
<th>AM-PPC rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>Upper Gastrointestinal Endoscopy Procedures</td>
<td>1,438,611</td>
<td>7,594</td>
<td>23,019</td>
<td>1.9%</td>
</tr>
<tr>
<td>85</td>
<td>Lower Gastrointestinal Endoscopy Procedures</td>
<td>1,168,141</td>
<td>6,102</td>
<td>9,290</td>
<td>1.2%</td>
</tr>
<tr>
<td>99</td>
<td>Spine Injection Procedures</td>
<td>1,150,443</td>
<td>2,546</td>
<td>7,017</td>
<td>0.7%</td>
</tr>
<tr>
<td>53</td>
<td>Coronary Angiography Procedures</td>
<td>564,725</td>
<td>2,214</td>
<td>9,184</td>
<td>1.8%</td>
</tr>
<tr>
<td>103</td>
<td>Routine Cataract Procedures</td>
<td>487,922</td>
<td>114</td>
<td>938</td>
<td>0.2%</td>
</tr>
<tr>
<td>91</td>
<td>Lower Genitourinary Procedures</td>
<td>480,719</td>
<td>10,122</td>
<td>11,535</td>
<td>3.9%</td>
</tr>
<tr>
<td>84</td>
<td>Colonoscopy Screening Procedures</td>
<td>301,792</td>
<td>696</td>
<td>901</td>
<td>0.4%</td>
</tr>
<tr>
<td>60</td>
<td>Dialysis Shunt Procedures</td>
<td>253,216</td>
<td>7,285</td>
<td>11,456</td>
<td>6.7%</td>
</tr>
<tr>
<td>74</td>
<td>Upper Airway Endoscopy Procedures</td>
<td>252,147</td>
<td>1,161</td>
<td>3,079</td>
<td>1.5%</td>
</tr>
<tr>
<td>55</td>
<td>Pacemaker/AICD Procedures</td>
<td>248,479</td>
<td>2,932</td>
<td>4,716</td>
<td>2.8%</td>
</tr>
<tr>
<td>61</td>
<td>Periph Vasc Access - Tunn PICC w Pump or Port</td>
<td>226,955</td>
<td>1,274</td>
<td>7,908</td>
<td>3.8%</td>
</tr>
<tr>
<td>39</td>
<td>Breast Biopsy and Localization Procedures</td>
<td>219,378</td>
<td>409</td>
<td>588</td>
<td>0.2%</td>
</tr>
<tr>
<td>13</td>
<td>Knee Arthroplasty Procedures</td>
<td>218,660</td>
<td>2,544</td>
<td>3,719</td>
<td>2.6%</td>
</tr>
<tr>
<td>56</td>
<td>Percut.Transluminal Coronary Angioplasty (PTCA)</td>
<td>218,434</td>
<td>1,624</td>
<td>3,779</td>
<td>2.3%</td>
</tr>
<tr>
<td>34</td>
<td>Facial and ENT Procedures</td>
<td>190,112</td>
<td>1,255</td>
<td>1,312</td>
<td>1.1%</td>
</tr>
<tr>
<td>94</td>
<td>Upper Genitourinary Stent &amp; Guidewire Procedures</td>
<td>174,908</td>
<td>5,619</td>
<td>9,664</td>
<td>7.6%</td>
</tr>
<tr>
<td>44</td>
<td>Female Genital System Procedures</td>
<td>160,185</td>
<td>3,208</td>
<td>2,031</td>
<td>2.8%</td>
</tr>
<tr>
<td>43</td>
<td>Male Genital System Procedures</td>
<td>158,095</td>
<td>5,934</td>
<td>4,793</td>
<td>6.1%</td>
</tr>
<tr>
<td>48</td>
<td>Inguinal and Hydrocele Hernia Procedures</td>
<td>156,426</td>
<td>2,048</td>
<td>1,765</td>
<td>2.1%</td>
</tr>
<tr>
<td>63</td>
<td>Perip Vasc - Percutan Transluminal Angioplasty</td>
<td>129,983</td>
<td>1,873</td>
<td>5,038</td>
<td>4.7%</td>
</tr>
</tbody>
</table>
## Top 20 PSGs 3M AM-PPC Rates 19/20 Medicare FFS HOPD

<table>
<thead>
<tr>
<th>PSG</th>
<th>Description</th>
<th>At-risk procedures</th>
<th>ED complications</th>
<th>IP complications</th>
<th>AM-PPC rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>Upper Gastrointestinal Endoscopy Procedures</td>
<td>1,438,611</td>
<td>7,594</td>
<td>23,019</td>
<td>1.9%</td>
</tr>
<tr>
<td>85</td>
<td>Lower Gastrointestinal Endoscopy Procedures</td>
<td>1,168,141</td>
<td>6,102</td>
<td>9,290</td>
<td>1.2%</td>
</tr>
<tr>
<td>99</td>
<td>Spine Injection Procedures</td>
<td>1,150,443</td>
<td>2,546</td>
<td>7,017</td>
<td>0.7%</td>
</tr>
<tr>
<td>53</td>
<td>Coronary Angiography Procedures</td>
<td>564,725</td>
<td>2,214</td>
<td>9,184</td>
<td>1.8%</td>
</tr>
<tr>
<td>103</td>
<td>Routine Cataract Procedures</td>
<td>487,922</td>
<td>114</td>
<td>938</td>
<td>0.2%</td>
</tr>
<tr>
<td>91</td>
<td>Lower Genitourinary Procedures</td>
<td>480,719</td>
<td>10,122</td>
<td>11,535</td>
<td>3.9%</td>
</tr>
<tr>
<td>84</td>
<td>Colonoscopy Screening Procedures</td>
<td>301,792</td>
<td>696</td>
<td>901</td>
<td>0.4%</td>
</tr>
<tr>
<td>60</td>
<td>Dialysis Shunt Procedures</td>
<td>253,216</td>
<td>7,285</td>
<td>11,456</td>
<td>6.7%</td>
</tr>
<tr>
<td>74</td>
<td>Upper Airway Endoscopy Procedures</td>
<td>252,147</td>
<td>1,161</td>
<td>3,079</td>
<td>1.5%</td>
</tr>
<tr>
<td>55</td>
<td>Pacemaker/AICD Procedures</td>
<td>248,479</td>
<td>2,932</td>
<td>4,716</td>
<td>2.8%</td>
</tr>
<tr>
<td>61</td>
<td>Periph Vasc Access - Tunn PICC w Pump or Port</td>
<td>226,955</td>
<td>1,274</td>
<td>7,908</td>
<td>3.8%</td>
</tr>
<tr>
<td>39</td>
<td>Breast Biopsy and Localization Procedures</td>
<td>219,378</td>
<td>409</td>
<td>588</td>
<td>0.2%</td>
</tr>
<tr>
<td>13</td>
<td>Knee Arthroplasty Procedures</td>
<td>218,660</td>
<td>2,544</td>
<td>3,719</td>
<td>2.6%</td>
</tr>
<tr>
<td>56</td>
<td>Percut.Transluminal Coronary Angioplasty (PTCA)</td>
<td>218,434</td>
<td>1,624</td>
<td>3,779</td>
<td>2.3%</td>
</tr>
<tr>
<td>34</td>
<td>Facial and ENT Procedures</td>
<td>190,112</td>
<td>1,255</td>
<td>1,312</td>
<td>1.1%</td>
</tr>
<tr>
<td>94</td>
<td>Upper Genitourinary Stent &amp; Guidewire Procedures</td>
<td>174,908</td>
<td>5,619</td>
<td>9,664</td>
<td>7.6%</td>
</tr>
<tr>
<td>44</td>
<td>Female Genital System Procedures</td>
<td>160,185</td>
<td>3,208</td>
<td>2,031</td>
<td>2.8%</td>
</tr>
<tr>
<td>43</td>
<td>Male Genital System Procedures</td>
<td>158,095</td>
<td>5,934</td>
<td>4,793</td>
<td>6.1%</td>
</tr>
<tr>
<td>48</td>
<td>Inguinal and Hydrocele Hernia Procedures</td>
<td>156,426</td>
<td>2,048</td>
<td>1,765</td>
<td>2.1%</td>
</tr>
<tr>
<td>63</td>
<td>Perip Vasc - Percutan Transluminal Angioplasty</td>
<td>129,983</td>
<td>1,873</td>
<td>5,038</td>
<td>4.7%</td>
</tr>
<tr>
<td>PSG</td>
<td>Description</td>
<td>At-risk procedures</td>
<td>ED complications</td>
<td>IP complications</td>
<td>AM-PPC rate</td>
</tr>
<tr>
<td>-----</td>
<td>------------------------------------------------------------</td>
<td>--------------------</td>
<td>------------------</td>
<td>------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>70</td>
<td>Upper Gastrointestinal Endoscopy Procedures</td>
<td>1,438,611</td>
<td>7,594</td>
<td>23,019</td>
<td>1.9%</td>
</tr>
<tr>
<td>85</td>
<td>Lower Gastrointestinal Endoscopy Procedures</td>
<td>1,168,141</td>
<td>6,102</td>
<td>9,290</td>
<td>1.2%</td>
</tr>
<tr>
<td>99</td>
<td>Spine Injection Procedures</td>
<td>1,150,443</td>
<td>2,546</td>
<td>7,017</td>
<td>0.7%</td>
</tr>
<tr>
<td>53</td>
<td>Coronary Angiography Procedures</td>
<td>564,725</td>
<td>2,214</td>
<td>9,184</td>
<td>1.8%</td>
</tr>
<tr>
<td>103</td>
<td>Routine Cataract Procedures</td>
<td>487,922</td>
<td>114</td>
<td>938</td>
<td>0.2%</td>
</tr>
<tr>
<td>91</td>
<td>Lower Genitourinary Procedures</td>
<td>480,719</td>
<td>10,122</td>
<td>11,535</td>
<td>3.9%</td>
</tr>
<tr>
<td>84</td>
<td>Colonoscopy Screening Procedures</td>
<td>301,792</td>
<td>696</td>
<td>901</td>
<td>0.4%</td>
</tr>
<tr>
<td>60</td>
<td>Dialysis Shunt Procedures</td>
<td>253,216</td>
<td>7,285</td>
<td>11,456</td>
<td>6.7%</td>
</tr>
<tr>
<td>74</td>
<td>Upper Airway Endoscopy Procedures</td>
<td>252,147</td>
<td>1,161</td>
<td>3,079</td>
<td>1.5%</td>
</tr>
<tr>
<td>55</td>
<td>Pacemaker/AICD Procedures</td>
<td>248,479</td>
<td>2,932</td>
<td>4,716</td>
<td>2.8%</td>
</tr>
<tr>
<td>61</td>
<td>Periph Vasc Access - Tunn PICC w Pump or Port</td>
<td>226,955</td>
<td>1,274</td>
<td>7,908</td>
<td>3.8%</td>
</tr>
<tr>
<td>39</td>
<td>Breast Biopsy and Localization Procedures</td>
<td>219,378</td>
<td>409</td>
<td>588</td>
<td>0.2%</td>
</tr>
<tr>
<td>13</td>
<td>Knee Arthroplasty Procedures</td>
<td>218,660</td>
<td>2,544</td>
<td>3,719</td>
<td>2.6%</td>
</tr>
<tr>
<td>56</td>
<td>Percut.Transluminal Coronary Angioplasty (PTCA)</td>
<td>218,434</td>
<td>1,624</td>
<td>3,779</td>
<td>2.3%</td>
</tr>
<tr>
<td>34</td>
<td>Facial and ENT Procedures</td>
<td>190,112</td>
<td>1,255</td>
<td>1,312</td>
<td>1.1%</td>
</tr>
<tr>
<td>94</td>
<td>Upper Genitourinary Stent &amp; Guidewire Procedures</td>
<td>174,908</td>
<td>5,619</td>
<td>9,664</td>
<td>7.6%</td>
</tr>
<tr>
<td>44</td>
<td>Female Genital System Procedures</td>
<td>160,185</td>
<td>3,208</td>
<td>2,031</td>
<td>2.8%</td>
</tr>
<tr>
<td>43</td>
<td>Male Genital System Procedures</td>
<td>158,095</td>
<td>5,934</td>
<td>4,793</td>
<td>6.1%</td>
</tr>
<tr>
<td>48</td>
<td>Inguinal and Hydrocele Hernia Procedures</td>
<td>156,426</td>
<td>2,048</td>
<td>1,765</td>
<td>2.1%</td>
</tr>
<tr>
<td>63</td>
<td>Perip Vasc - Percutan Transluminal Angioplasty</td>
<td>129,983</td>
<td>1,873</td>
<td>5,038</td>
<td>4.7%</td>
</tr>
</tbody>
</table>
Data by procedure subgroup (PSG) 70 Upper GI Endoscopy
Medicare HOPD 19/20

Total cases
1,438,611

ED 7,594

IP 23,019

Risk 1.9%

PSG 70 Upper GI Endoscopy Complications

- Infection, Inflammation and Clotting...
- Procedure Complication Without Mention of...
- Central Venous Catheter-Related Blood Stream...
- Hemorrhage & Hematoma
- Post-Procedural Infection and Deep Wound...
- Gastrointestinal & Hepatobiliary - Mechanical...
- Genitourinary & Hepatobiliary - Infection...
- Venous Thrombosis
- Pulmonary Embolism
- Other Complications of Medical/Surgical Care
- Genitourinary/Abdominal - Hemorrhage &...
- Moderate Infections
- Aspiration Pneumonia
- Post-Hemorrhagic and Other Acute Anemia
- Septicemia and Severe Infections
- Other Pulmonary and Chest Complications
- GI and Peritoneal Compl. or Significant Bleeding

Total cases
1,438,611

ED
7,594

IP
23,019

Risk 1.9%
Data by facility/provider: Gastroenterology complications
Medicare HOPD 19/20

- Total cases: 3,227,388
- Complications: 54,189
- Risk: 1.68%

Bar chart showing the number of gastroenterology complications by facility.
Data by service line and PSG
Medicare FFS 19/20

- **17-Cervical Spine Procedures**
  - Total procedures: 5,016
  - Complication seen in ED: 50 ED
  - Complication inpatient admit: 79 IP
  - Risk IP and ED: 2.7%

- **16-Cervical Spine Fusion Proc.**
  - Total procedures: 31,017
  - Complication seen in ED: 262 ED
  - Complication inpatient admit: 429 IP
  - Risk IP and ED: 2.23%

- **20-Lumbar and Sacral Spine Proc.**
  - Total procedures: 131,619
  - Complication seen in ED: 869 ED
  - Complication inpatient admit: 2,284 IP
  - Risk IP and ED: 2.40%

- **19 – Lumbar and Sacral Spine Fusion**
  - Total procedures: 13,589
  - Complication seen in ED: 122 ED
  - Complication inpatient admit: 277 IP
  - Risk IP and ED: 2.94%
# Top 10 service line ortho PSGs (Medicare FFS 19/20)

<table>
<thead>
<tr>
<th>PSG</th>
<th>PSG_Description</th>
<th>Cases</th>
<th>ED counts</th>
<th>IP counts</th>
<th>OP counts</th>
<th>ED &amp; IP counts</th>
<th>Compl Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Total Knee Arthroplasty Procedures</td>
<td>231,215</td>
<td>2,655</td>
<td>3,818</td>
<td>2,231</td>
<td>6,473</td>
<td>2.80%</td>
</tr>
<tr>
<td>26</td>
<td>Foot (Mid/Fore) Procedures</td>
<td>135,317</td>
<td>837</td>
<td>2,547</td>
<td>2,872</td>
<td>3,384</td>
<td>2.50%</td>
</tr>
<tr>
<td>20</td>
<td>Lumbar and Sacral Spine Procedures</td>
<td>131,619</td>
<td>869</td>
<td>2,284</td>
<td>929</td>
<td>3,153</td>
<td>2.40%</td>
</tr>
<tr>
<td>1</td>
<td>Shoulder and Elbow Arthroscopy</td>
<td>97,128</td>
<td>241</td>
<td>343</td>
<td>325</td>
<td>584</td>
<td>0.60%</td>
</tr>
<tr>
<td>3</td>
<td>Knee Arthroscopy Procedures</td>
<td>96,584</td>
<td>448</td>
<td>384</td>
<td>538</td>
<td>832</td>
<td>0.86%</td>
</tr>
<tr>
<td>27</td>
<td>Foot (Hind/Ankle) and Lower Leg</td>
<td>78,641</td>
<td>515</td>
<td>1,250</td>
<td>1,101</td>
<td>1,765</td>
<td>2.24%</td>
</tr>
<tr>
<td>11</td>
<td>Primary Hip Arthroplasty Procedures</td>
<td>64,118</td>
<td>693</td>
<td>1,247</td>
<td>535</td>
<td>1,940</td>
<td>3.03%</td>
</tr>
<tr>
<td>24</td>
<td>Open Shoulder Procedures</td>
<td>47,509</td>
<td>258</td>
<td>427</td>
<td>349</td>
<td>685</td>
<td>1.44%</td>
</tr>
<tr>
<td>16</td>
<td>Cervical Spine Fusion Procedures</td>
<td>31,017</td>
<td>262</td>
<td>429</td>
<td>137</td>
<td>691</td>
<td>2.23%</td>
</tr>
<tr>
<td>2</td>
<td>Hand and Wrist Arthroscopy Procedures</td>
<td>25,825</td>
<td>41</td>
<td>62</td>
<td>99</td>
<td>103</td>
<td>0.40%</td>
</tr>
<tr>
<td>22</td>
<td>Thoracic Spine Procedures</td>
<td>24,719</td>
<td>225</td>
<td>663</td>
<td>408</td>
<td>888</td>
<td>3.59%</td>
</tr>
</tbody>
</table>
Complications of PSG 13 Total Knee Arthroplasty
Medicare FFS 19/20

- Infection, Inflammation and Clotting Complications of PV...
- Procedure Complication Without Mention of Misadventure
- Mechanical Complication of Device, Implant and Graft
- Septic Arthritis and Other Musculoskeletal Infections
- Aspiration Pneumonia
- Moderate Infections
- Other Complications of Medical/Surgical Care
- MSK- Mechan Compl. Device/Implant/Graft
- Other Pulmonary and Chest Complications
- Musculoskeletal - Hemorrhage & Hematoma
- Pneumonia and Other Lung Infections
- Pulmonary Embolism
- Hemorrhage & Hematoma
- Venous Thrombosis
- Septicemia and Severe Infections
- Post-Proce Infect & Deep Wound Disrupt
- MSK- Infect, Inflam Compl.. Devices/Implants/ Grafts
- Urinary Tract Infection
- Post-Hemorrhagic / Acute Anemia

Total cases: 231,215
ED: 2,655
IP: 3,818
Risk: 2.8%
Prevention: Post Hemorrhagic Anemia/ Acute Anemia

Best practice examples

**Pre-Op**
- Low hgb., hct.
- Preexisting anemia
- Nutrition deficit (iron, vit B12, folic acid)
- Anticoagulants (INR)
- Herbals / medications
- Ex. Erythropoietin. St John’s Wort

**Intra Op**
- Incision /exposure
- Hemodilution
- Hypotension
- Blood loss
  - (tourniquet)
- Cauterization
- Cell saver
- Transfusion
- Tranexamic acid

**Post Op**
- Follow up
- Dressing
  - Compression
- Neg pressure
- Ice /Cold therapy
- Iron

[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6686161/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6686161/)
Driving network performance by site of service (state level)

- The best performing facility/provider was 70% better than expected
- Worst performer was 70% worse than expected

Concentrate improvement here

Source: Statewide Medicaid claim dataset, grouped by ambulatory surgery providers and ranked according to actual to expected performance using 3M Ambulatory PPC Grouper
## Performance across health systems

### 3M AM-PPCs (demo system data)

<table>
<thead>
<tr>
<th></th>
<th>At-risk cases</th>
<th>Expected rate</th>
<th>Actual rate</th>
<th>Actual/ expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital Network</td>
<td>33,042</td>
<td>913</td>
<td>920</td>
<td>1.01</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>AM-PPC at-risk cases</th>
<th>Expected rate</th>
<th>Actual rate</th>
<th>Actual/ expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main HOPD</td>
<td>16,795</td>
<td>4,118</td>
<td>5,446</td>
<td>6,683</td>
</tr>
<tr>
<td>Regional hospital 1</td>
<td>428</td>
<td>133</td>
<td>159</td>
<td>193</td>
</tr>
<tr>
<td>Regional hospital 2</td>
<td></td>
<td></td>
<td>191</td>
<td>155</td>
</tr>
<tr>
<td>ASC</td>
<td></td>
<td></td>
<td></td>
<td>.80</td>
</tr>
</tbody>
</table>

*Data is for illustrative purposes only.*

© 3M 2023. All Rights Reserved.
## Network scorecard example

<table>
<thead>
<tr>
<th>Facility</th>
<th>At-risk cases</th>
<th>ED*</th>
<th>Inpatient*</th>
<th>Ambulatory</th>
<th>Actual/expected*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provider/ facility 1</td>
<td>4,739</td>
<td>35</td>
<td>31</td>
<td>117</td>
<td>1.24</td>
</tr>
<tr>
<td>Provider/ facility 2</td>
<td>3,631</td>
<td>21</td>
<td>22</td>
<td>70</td>
<td>1.45</td>
</tr>
<tr>
<td>Provider/ facility 3</td>
<td>2,374</td>
<td>14</td>
<td>16</td>
<td>48</td>
<td>0.99</td>
</tr>
<tr>
<td>Provider/ facility 4</td>
<td>2,029</td>
<td>15</td>
<td>14</td>
<td>63</td>
<td>0.77</td>
</tr>
<tr>
<td>Provider/ facility 5</td>
<td>1,428</td>
<td>12</td>
<td>8</td>
<td>17</td>
<td>1.20</td>
</tr>
<tr>
<td>Provider/ facility 6</td>
<td>1,358</td>
<td>7</td>
<td>5</td>
<td>21</td>
<td>1.25</td>
</tr>
<tr>
<td>Provider/ facility 7</td>
<td>1,237</td>
<td>5</td>
<td>8</td>
<td>25</td>
<td>1.46</td>
</tr>
<tr>
<td>Facility/ provider network</td>
<td>16,796</td>
<td>109</td>
<td>104</td>
<td>361</td>
<td>1.24</td>
</tr>
</tbody>
</table>

*Data is for illustrative purposes only.

*Only inpatient & ED claims are included in benchmarks.
State level data by service line conservative costs of complication
Medicare FFS 19/20

<table>
<thead>
<tr>
<th>Service Line</th>
<th>At Risk Cases</th>
<th>IP/ED Complications</th>
<th>Estimated Complication Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urology</td>
<td>21,306</td>
<td>1,144</td>
<td>$3,675,100</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>51,412</td>
<td>965</td>
<td>$3,100,063</td>
</tr>
<tr>
<td>Interventional Radiology</td>
<td>10,508</td>
<td>722</td>
<td>$2,319,425</td>
</tr>
<tr>
<td>Cardiology</td>
<td>15,769</td>
<td>439</td>
<td>$1,410,288</td>
</tr>
<tr>
<td>General Surgery</td>
<td>7,896</td>
<td>300</td>
<td>$963,750</td>
</tr>
<tr>
<td>Pulmonology</td>
<td>3,878</td>
<td>152</td>
<td>$488,300</td>
</tr>
<tr>
<td>Orthopedic Surgery</td>
<td>5,746</td>
<td>138</td>
<td>$443,325</td>
</tr>
<tr>
<td>Vascular Surgery</td>
<td>2,085</td>
<td>92</td>
<td>$295,550</td>
</tr>
<tr>
<td>Pain Management</td>
<td>7,627</td>
<td>48</td>
<td>$154,200</td>
</tr>
<tr>
<td>Spine Surgery</td>
<td>1,033</td>
<td>27</td>
<td>$86,738</td>
</tr>
<tr>
<td>Facial, Ear, Nose, and Throat Surgery</td>
<td>1,566</td>
<td>15</td>
<td>$48,188</td>
</tr>
<tr>
<td>Gynecology</td>
<td>608</td>
<td>0</td>
<td>$0</td>
</tr>
<tr>
<td>Hand and Wrist Surgery</td>
<td>648</td>
<td>0</td>
<td>$0</td>
</tr>
<tr>
<td>Ophthalmology Surgery</td>
<td>2,240</td>
<td>0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>132,322</strong></td>
<td><strong>4,042</strong></td>
<td><strong>$12,984,925</strong></td>
</tr>
</tbody>
</table>

- Cost estimates are based on our standard series reports under QOPM available at
  - https://www.3mhiscer.com/3m-research-and-commentary/.

© 3M 2023. All Rights Reserved.
Financial analysis of potential associated savings

Service Line / Provider 1
$617,309

Service Line / Provider 2
$317,709

Service Line / Provider 3
$563,913

Service Line / Provider 4
$913,134

Service Line / Provider 5
$1,379,051

Data is for illustrative purposes only.
Summary

3M AM-PPCs use cases:

• Promoting patient safety in the outpatient setting

• Address the growing need for ambulatory procedure standards of care

• Foundation for value-based care

• Illuminate areas for performance improvement
Check out the resources and complete the survey!
Thank you