



U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

The Supplementary Appendices for the

Medicare

Fee-for-Service

2016 Improper

Payments Report

APPENDIX ORGANIZATION

Note that the appendices have been reorganized. Table numbers do not correlate with table numbers in previous years' appendices.

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Appendix A: Summary of Projected Improper Payments Adjusted for A/B Rebill¹

Table A1: 2016 Improper Payment Rates and Projected Improper Payments by Claim Type (Dollars in Billions) (Adjusted for Impact of A/B Rebilling)

Claim Type	Claims Sampled	Claims Reviewed	Total Payment	Projected Improper Payment	Improper Payment Rate	95% Confidence Interval
Part A (Total)	29,756	21,999	\$272.3	\$26.4	9.7%	8.7% - 10.7%
Part A (Excluding Hospital IPPS)	8,666	7,509	\$157.5	\$22.0	14.0%	12.3% - 15.6%
Part A (Hospital IPPS)	21,090	14,490	\$114.8	\$4.4	3.8%	3.4% - 4.3%
Part B	17,580	16,999	\$93.3	\$10.9	11.7%	10.6% - 12.9%
DMEPOS	11,439	10,999	\$8.1	\$3.7	46.3%	44.3% - 48.2%
Overall	58,775	49,997	\$373.7	\$41.1	11.0%	10.2% - 11.8%

Table A2: Comparison of 2015 and 2016 National Improper Payment Rates by Error Category (Adjusted for Impact of A/B Rebilling)

Error Category	2015	2016				
	Total	Total	Part A Excluding Hospital IPPS	Part A Hospital IPPS	Part B	DMEPOS
No Documentation	0.2%	0.1%	0.0%	0.0%	0.1%	0.0%
Insufficient Documentation	8.1%	7.2%	4.2%	0.1%	2.0%	0.8%
Medical Necessity	2.1%	2.2%	1.4%	0.7%	0.1%	0.0%
Incorrect Coding	1.3%	1.1%	0.1%	0.3%	0.7%	0.0%
Other	0.4%	0.4%	0.1%	0.1%	0.0%	0.2%
Total	12.1%	11.0%	5.9%	1.2%	2.9%	1.0%

¹ Adjusted for Medicare Part A to B rebilling of denied inpatient hospital claims.

Table A3: Improper Payment Rate Categories by Percentage of 2016 National Improper Payments (Adjusted for Impact of A/B Rebilling)

Error Category	Percent of 2016 National Improper Payment Rate
No Documentation	1.3%
Insufficient Documentation	65.2%
Medical Necessity	19.8%
Incorrect Coding	10.2%
Other	3.5%
Total	100.0%

Table A4: Improper Payment Rates and Projected Improper Payments by Claim Type and Over/Under Payments (Dollars in Billions) (Adjusted for Impact of A/B Rebilling)

Claim Type	Overall Improper Payments			Overpayments		Underpayments	
	Total Amount Paid	Improper Payment Amount	Improper Payment Rate	Improper Payment Amount	Improper Payment Rate	Improper Payment Amount	Improper Payment Rate
Part A (Total)	\$272.3	\$26.4	9.7%	\$25.7	9.4%	\$0.7	0.3%
Part A (Excluding Hospital IPPS)	\$157.5	\$22.0	14.0%	\$22.0	13.9%	\$0.0	0.0%
Part A(Hospital IPPS)	\$114.8	\$4.4	3.8%	\$3.8	3.3%	\$0.7	0.6%
Part B	\$93.3	\$10.9	11.7%	\$10.4	11.2%	\$0.5	0.6%
DMEPOS	\$8.1	\$3.7	46.3%	\$3.7	46.1%	\$0.0	0.1%
Total	\$373.7	\$41.1	11.0%	\$39.8	10.7%	\$1.2	0.3%

**Table A5: 2016 Projected Improper Payments by Type of Error and Clinical Setting
(Dollars in Billions) (Adjusted for Impact of A/B Rebilling)**

Error Category	DMEPOS	Home Health Agencies	Hospital Outpatient Departments	Acute Inpatient Hospitals	Physician Services (All Settings)	Skilled Nursing Facilities	Other Clinical Settings	Overall
No Documentation	\$0.0	\$0.0	\$0.1	\$0.0	\$0.3	\$0.0	\$0.0	\$0.5
Insufficient Documentation	\$3.0	\$7.4	\$5.9	\$0.9	\$5.5	\$2.1	\$2.0	\$26.8
Medical Necessity	\$0.1	\$0.2	\$0.6	\$7.0	\$0.1	\$0.0	\$0.1	\$8.1
Incorrect Coding	\$0.0	\$0.0	\$0.1	\$1.0	\$2.7	\$0.3	\$0.1	\$4.2
Other	\$0.6	\$0.1	\$0.1	\$0.2	\$0.1	\$0.4	\$0.0	\$1.4
Total	\$3.7	\$7.7	\$6.8	\$9.1	\$8.7	\$2.8	\$2.3	\$41.1

**Table A6: Summary of National Improper Payment Rates by Year and by Error Category
(Adjusted for Impact of A/B Rebilling)**

Fiscal Year and Rate Type (Net/Gross)		No Doc Errors	Insufficient Document Errors	Medical Necessity Errors	Incorrect Coding Errors	Other Errors	Improper Payment Rate	Correct Payment Rate
1996 ²	Net	1.9%	4.5%	5.1%	1.2%	1.1%	13.8%	86.2%
1997	Net	2.1%	2.9%	4.2%	1.7%	0.5%	11.4%	88.6%
1998	Net	0.4%	0.8%	3.9%	1.3%	0.7%	7.1%	92.9%
1999	Net	0.6%	2.6%	2.6%	1.3%	0.9%	8.0%	92.0%
2000	Net	1.2%	1.3%	2.9%	1.0%	0.4%	6.8%	93.2%
2001	Net	0.8%	1.9%	2.7%	1.1%	-0.2%	6.3%	93.7%
2002	Net	0.5%	1.3%	3.6%	0.9%	0.0%	6.3%	93.7%
2003	Net	5.4%	2.5%	1.1%	0.7%	0.1%	9.8%	90.2%
2004 ³	Gross	3.1%	4.1%	1.6%	1.2%	0.2%	10.1%	89.9%
2005	Gross	0.7%	1.1%	1.6%	1.5%	0.2%	5.2%	94.8%
2006	Gross	0.6%	0.6%	1.4%	1.6%	0.2%	4.4%	95.6%
2007	Gross	0.6%	0.4%	1.3%	1.5%	0.2%	3.9%	96.1%
2008	Gross	0.2%	0.6%	1.4%	1.3%	0.1%	3.6%	96.4%
2009	Gross	0.2%	4.3%	6.3%	1.5%	0.1%	12.4%	87.6%
2010	Gross	0.1%	4.6%	4.2%	1.6%	0.1%	10.5%	89.5%
2011 ⁴	Gross	0.2%	4.3%	3.0%	1.0%	0.1%	8.6%	91.4%
2012 ⁵	Gross	0.2%	5.0%	1.9%	1.3%	0.1%	8.5%	91.5%
2013 ⁵	Gross	0.2%	6.1%	2.2%	1.5%	0.2%	10.1%	89.9%
2014 ⁵	Gross	0.1%	8.2%	2.7%	1.6%	0.2%	12.7%	87.3%
2015 ⁵	Gross	0.2%	8.1%	2.1%	1.3%	0.4%	12.1%	87.9%
2016 ⁵	Gross	0.1%	7.2%	2.2%	1.1%	0.4%	11.0%	89.0%

² FY 1996-2003 Improper payments were calculated as Overpayments - Underpayments

³ FY 2004-2016 Improper payments were calculated as Overpayments + Underpayments

⁴ The FY 2011 improper payment rate reported in this table is adjusted for the prospective impact of late appeals and documentation.

⁵ The FY 2012- 2016 improper payment rates reported in this table are adjusted for the impact of denied Part A inpatient claims under Part B.

Appendix B: Summary of Projected Improper Payments Unadjusted for A/B Rebill

Table B1: 2016 Improper Payment Rates and Projected Improper Payments by Claim Type (Dollars in Billions) (Unadjusted for Impact of A/B Rebilling)

Claim Type	Claims Sampled	Claims Reviewed	Total Payment	Projected Improper Payment	Improper Payment Rate	95% Confidence Interval
Part A (Total)	29,756	21,999	\$272.3	\$27.2	10.0%	9.0% - 11.0%
Part A (Excluding Hospital IPPS)	8,666	7,509	\$157.5	\$22.0	14.0%	12.3% - 15.6%
Part A (Hospital IPPS)	21,090	14,490	\$114.8	\$5.2	4.5%	4.0% - 4.9%
Part B	17,580	16,999	\$93.3	\$10.9	11.7%	10.6% - 12.9%
DMEPOS	11,439	10,999	\$8.1	\$3.7	46.3%	44.3% - 48.2%
Overall	58,775	49,997	\$373.7	\$41.8	11.2%	10.4% - 12.0%

Table B2: Comparison of 2015 and 2016 National Improper Payment Rates by Error Category (Unadjusted for Impact of A/B Rebilling)

Error Category	2015	2016				
	Total	Total	Part A Excluding Hospital IPPS	Part A Hospital IPPS	Part B	DMEPOS
No Documentation	0.2%	0.1%	0.0%	0.0%	0.1%	0.0%
Insufficient Documentation	8.2%	7.2%	4.2%	0.1%	2.0%	0.8%
Medical Necessity	2.5%	2.4%	1.4%	0.9%	0.1%	0.0%
Incorrect Coding	1.3%	1.1%	0.1%	0.3%	0.7%	0.0%
Other	0.4%	0.4%	0.1%	0.1%	0.0%	0.2%
Total	12.5%	11.2%	5.9%	1.4%	2.9%	1.0%

Table B3: Improper Payment Rate Categories by Percentage of 2016 National Improper Payments (Unadjusted for Impact of A/B Rebilling)

Error Category	Percent of 2016 National Improper Payment Rate
No Documentation	1.3%
Insufficient Documentation	64.1%
Medical Necessity	21.2%
Incorrect Coding	10.1%
Other	3.4%
Total	100.0%

Table B4: Improper Payment Rates and Projected Improper Payments by Claim Type and Over/Under Payments (Dollars in Billions) (Unadjusted for Impact of A/B Rebilling)

Claim Type	Overall Improper Payments			Overpayments		Underpayments	
	Total Amount Paid	Projected Improper Payments	Improper Payment Rate	Projected Improper Payments	Improper Payment Rate	Projected Improper Payments	Improper Payment Rate
Part A (Total)	\$272.3	\$27.2	10.0%	\$26.5	9.7%	\$0.7	0.3%
Part A (Excluding Hospital IPPS)	\$157.5	\$22.0	14.0%	\$22.0	13.9%	\$0.0	0.0%
Part A(Hospital IPPS)	\$114.8	\$5.2	4.5%	\$4.5	3.9%	\$0.7	0.6%
Part B	\$93.3	\$10.9	11.7%	\$10.4	11.2%	\$0.5	0.6%
DMEPOS	\$8.1	\$3.7	46.3%	\$3.7	46.1%	\$0.0	0.1%
Total	\$373.7	\$41.8	11.2%	\$40.6	10.9%	\$1.2	0.3%

**Table B5: 2016 Projected Improper Payments by Type of Error and Clinical Setting
(Dollars in Billions) (Unadjusted for Impact of A/B Rebilling)**

Error Category	DMEPOS	Home Health Agencies	Hospital Outpatient Departments	Acute Inpatient Hospitals	Physician Services (All Settings)	Skilled Nursing Facilities	Other Clinical Settings	Overall
No Documentation	\$0.0	\$0.0	\$0.1	\$0.0	\$0.3	\$0.0	\$0.0	\$0.5
Insufficient Documentation	\$3.0	\$7.4	\$5.9	\$0.9	\$5.5	\$2.1	\$2.0	\$26.8
Medical Necessity	\$0.1	\$0.2	\$0.6	\$7.7	\$0.1	\$0.0	\$0.1	\$8.9
Incorrect Coding	\$0.0	\$0.0	\$0.1	\$1.0	\$2.7	\$0.3	\$0.1	\$4.2
Other	\$0.6	\$0.1	\$0.1	\$0.2	\$0.1	\$0.4	\$0.0	\$1.4
Total	\$3.7	\$7.7	\$6.8	\$9.9	\$8.7	\$2.8	\$2.3	\$41.8

**Table B6: Summary of National Improper Payment Rates by Year and by Error Category
(Unadjusted for Impact of A/B Rebilling)**

Fiscal Year and Rate Type (Net/Gross)		No Doc Errors	Insufficient Document Errors	Medical Necessity Errors	Incorrect Coding Errors	Other Errors	Improper Payment Rate	Correct Payment Rate
1996 ⁶	Net	1.9%	4.5%	5.1%	1.2%	1.1%	13.8%	86.2%
1997	Net	2.1%	2.9%	4.2%	1.7%	0.5%	11.4%	88.6%
1998	Net	0.4%	0.8%	3.9%	1.3%	0.7%	7.1%	92.9%
1999	Net	0.6%	2.6%	2.6%	1.3%	0.9%	8.0%	92.0%
2000	Net	1.2%	1.3%	2.9%	1.0%	0.4%	6.8%	93.2%
2001	Net	0.8%	1.9%	2.7%	1.1%	-0.2%	6.3%	93.7%
2002	Net	0.5%	1.3%	3.6%	0.9%	0.0%	6.3%	93.7%
2003	Net	5.4%	2.5%	1.1%	0.7%	0.1%	9.8%	90.2%
2004 ⁷	Gross	3.1%	4.1%	1.6%	1.2%	0.2%	10.1%	89.9%
2005	Gross	0.7%	1.1%	1.6%	1.5%	0.2%	5.2%	94.8%
2006	Gross	0.6%	0.6%	1.4%	1.6%	0.2%	4.4%	95.6%
2007	Gross	0.6%	0.4%	1.3%	1.5%	0.2%	3.9%	96.1%
2008	Gross	0.2%	0.6%	1.4%	1.3%	0.1%	3.6%	96.4%
2009	Gross	0.2%	4.3%	6.3%	1.5%	0.1%	12.4%	87.6%
2010	Gross	0.1%	4.6%	4.2%	1.6%	0.1%	10.5%	89.5%
2011	Gross	0.2%	5.0%	3.4%	1.2%	0.1%	9.9%	90.1%
2012	Gross	0.2%	5.0%	2.6%	1.3%	0.1%	9.3%	90.7%
2013	Gross	0.2%	6.1%	2.8%	1.5%	0.2%	10.7%	89.3%
2014	Gross	0.1%	8.2%	3.6%	1.6%	0.2%	13.6%	86.4%
2015	Gross	0.2%	8.2%	2.5%	1.3%	0.4%	12.5%	87.5%
2016	Gross	0.1%	7.2%	2.4%	1.1%	0.4%	11.2%	88.8%

⁶ FY 1996-2003 Improper payments were calculated as Overpayments - Underpayments

⁷ FY 2004-2016 Improper payments were calculated as Overpayments + Underpayments

Table B7: Projected Improper Payments by Length of Stay (Unadjusted for Impact of A/B Rebilling)

Part A Inpatient PPS Length of Stay	Claims Reviewed	Improper Payment Rate	Projected Improper Payment	Percent of Overall Improper Payments
All CERT	49,997	11.2%	\$41.8	100.0%
Overall Part A(Hospital IPPS)	14,490	4.5%	\$5.2	12.3%
0 or 1 day	1,689	18.6%	\$1.3	3.2%
2 days	2,315	7.1%	\$0.9	2.1%
3 days	2,485	4.5%	\$0.7	1.8%
4 days	1,739	3.4%	\$0.4	1.0%
5 days	1,286	2.9%	\$0.3	0.7%
More than 5 days	4,976	2.7%	\$1.5	3.6%

Table B8: Projected Improper Payments by State (Dollars in Millions) (Unadjusted for Impact of A/B Rebilling)

State	Projected Improper Payments	Improper Payment Rate	Claims Reviewed	95% Confidence Interval	Percent of Overall Improper Payments
CA	\$4,790.9	13.6%	3,994	9.0% - 18.2%	11.5%
TX	\$4,383.2	17.5%	3,581	14.8% - 20.2%	10.5%
FL	\$3,417.2	12.9%	3,870	10.9% - 14.9%	8.2%
PA	\$2,215.0	12.9%	2,132	10.3% - 15.6%	5.3%
IL	\$1,949.9	13.1%	2,216	10.2% - 16.0%	4.7%
OH	\$1,595.4	12.4%	1,819	9.5% - 15.2%	3.8%
NJ	\$1,587.8	12.7%	1,640	10.2% - 15.2%	3.8%
NY	\$1,501.6	6.3%	2,898	4.8% - 7.9%	3.6%
NC	\$1,445.0	11.8%	1,791	8.3% - 15.4%	3.5%
GA	\$1,390.9	13.6%	1,478	10.2% - 17.1%	3.3%
VA	\$1,334.9	15.0%	1,280	11.7% - 18.4%	3.2%
MI	\$1,212.0	9.4%	1,880	7.5% - 11.4%	2.9%
LA	\$1,178.0	18.1%	816	12.1% - 24.0%	2.8%
IN	\$993.1	11.7%	1,221	8.6% - 14.7%	2.4%
TN	\$938.0	7.8%	1,461	5.2% - 10.4%	2.2%
MD	\$896.5	9.0%	1,115	6.8% - 11.1%	2.1%
SC	\$867.9	18.8%	836	14.4% - 23.1%	2.1%
KY	\$776.7	13.6%	869	9.8% - 17.4%	1.9%
MO	\$774.1	9.7%	1,135	6.7% - 12.7%	1.9%

State	Projected Improper Payments	Improper Payment Rate	Claims Reviewed	95% Confidence Interval	Percent of Overall Improper Payments
MA	\$667.4	4.6%	1,338	2.8% - 6.3%	1.6%
OK	\$612.2	11.0%	782	7.7% - 14.4%	1.5%
AL	\$595.5	11.5%	932	8.2% - 14.8%	1.4%
MS	\$583.8	14.9%	618	11.9% - 18.0%	1.4%
AZ	\$566.1	9.8%	846	6.3% - 13.2%	1.4%
AR	\$563.8	15.2%	635	11.7% - 18.8%	1.4%
WA	\$427.8	6.1%	789	3.0% - 9.2%	1.0%
NV	\$411.5	15.4%	374	11.1% - 19.8%	1.0%
CO	\$392.0	6.6%	601	1.8% - 11.4%	0.9%
NM	\$350.7	18.8%	251	9.3% - 28.2%	0.8%
IA	\$308.9	7.8%	562	4.6% - 11.0%	0.7%
KS	\$307.3	6.6%	561	3.5% - 9.8%	0.7%
MN	\$296.8	5.0%	702	2.3% - 7.6%	0.7%
CT	\$284.7	6.5%	621	4.9% - 8.1%	0.7%
WI	\$270.6	3.9%	801	1.9% - 6.0%	0.7%
ID	\$250.2	14.1%	241	9.9% - 18.3%	0.6%
NE	\$188.5	7.4%	384	3.0% - 11.8%	0.5%
WV	\$184.3	8.7%	380	5.8% - 11.7%	0.4%
MT	\$173.4	16.8%	144	5.6% - 28.0%	0.4%
US Territories	\$167.5	22.0%	104	7.9% - 36.1%	0.4%
OR	\$154.6	5.3%	378	2.8% - 7.6%	0.4%
DC	\$115.2	22.8%	88	16.5% - 29.1%	0.3%
NH	\$115.0	6.0%	280	3.8% - 8.1%	0.3%
UT	\$113.9	5.1%	286	2.4% - 7.8%	0.3%
PR	\$110.7	18.7%	114	13.5% - 23.9%	0.3%
DE	\$86.6	9.0%	173	4.6% - 13.3%	0.2%
ME	\$68.0	4.0%	265	2.3% - 5.7%	0.2%
WY	\$64.4	12.1%	83	6.2% - 18.0%	0.2%
SD	\$47.7	3.5%	169	1.5% - 5.4%	0.1%
AK	\$38.7	6.3%	70	5.9% - 6.7%	0.1%
RI	\$22.2	3.0%	139	0.7% - 5.2%	0.1%
ND	\$22.0	2.4%	131	1.8% - 2.9%	0.1%
VT	\$16.0	1.9%	123	1.3% - 2.4%	0.0%
All States	\$41,826.2	11.2%	49,997	10.4% - 12.0%	100.0%

Table B9: Projected Improper Payments by State – A/B (Excluding Home Health and Hospice) (Dollars in Millions) (Unadjusted for Impact of A/B Rebilling)

State	Projected Improper Payments	Improper Payment Rate	Claims Reviewed	95% Confidence Interval	Percent of Overall Improper Payments
CA	\$3,856.1	12.4%	3,027	7.2% - 17.6%	9.2%
TX	\$2,547.1	12.0%	2,592	9.9% - 14.1%	6.1%
FL	\$2,017.2	9.0%	2,985	7.3% - 10.7%	4.8%
PA	\$1,392.8	9.0%	1,647	6.7% - 11.4%	3.3%
NJ	\$1,214.7	10.8%	1,223	8.4% - 13.3%	2.9%
OH	\$1,121.8	10.2%	1,339	7.4% - 12.9%	2.7%
NY	\$999.1	4.5%	2,258	3.3% - 5.7%	2.4%
NC	\$970.6	9.1%	1,299	5.5% - 12.7%	2.3%
IL	\$956.3	7.5%	1,625	5.6% - 9.4%	2.3%
VA	\$859.7	10.7%	931	7.8% - 13.7%	2.1%
MI	\$829.6	7.4%	1,389	5.6% - 9.2%	2.0%
GA	\$749.4	8.7%	1,096	5.4% - 12.0%	1.8%
TN	\$676.9	6.0%	1,165	3.6% - 8.3%	1.6%
IN	\$648.0	8.4%	880	5.7% - 11.0%	1.6%
MD	\$639.0	6.9%	843	5.0% - 8.8%	1.5%
MO	\$606.9	8.5%	855	5.6% - 11.4%	1.5%
KY	\$591.1	11.3%	616	7.5% - 15.1%	1.4%
SC	\$578.2	15.1%	584	10.5% - 19.7%	1.4%
MA	\$573.6	4.1%	1,109	2.4% - 5.8%	1.4%
LA	\$560.7	10.9%	561	4.2% - 17.7%	1.3%
AZ	\$492.6	9.5%	650	5.7% - 13.4%	1.2%
AR	\$412.5	12.7%	451	9.2% - 16.2%	1.0%
MS	\$398.7	12.2%	405	9.7% - 14.7%	1.0%
WA	\$350.4	5.3%	595	2.2% - 8.3%	0.8%
NV	\$349.7	15.1%	284	10.5% - 19.7%	0.8%
AL	\$323.9	7.5%	660	5.2% - 9.8%	0.8%
OK	\$296.8	6.4%	554	4.3% - 8.4%	0.7%
NM	\$277.0	16.1%	164	6.9% - 25.4%	0.7%
CO	\$248.6	4.6%	408	1.0% - 8.2%	0.6%
ID	\$221.7	14.3%	161	9.6% - 19.0%	0.5%
MN	\$213.7	3.8%	536	1.2% - 6.5%	0.5%
IA	\$196.6	5.4%	404	2.9% - 7.9%	0.5%
KS	\$191.5	4.5%	421	1.9% - 7.1%	0.5%
WI	\$168.3	2.7%	588	0.8% - 4.5%	0.4%

State	Projected Improper Payments	Improper Payment Rate	Claims Reviewed	95% Confidence Interval	Percent of Overall Improper Payments
CT	\$167.9	4.3%	475	2.9% - 5.7%	0.4%
MT	\$152.9	15.7%	99	3.8% - 27.6%	0.4%
US Territories	\$133.1	20.7%	79	6.0% - 35.4%	0.3%
WV	\$123.5	6.4%	273	4.3% - 8.5%	0.3%
OR	\$116.0	4.5%	270	2.1% - 6.9%	0.3%
NE	\$113.6	4.8%	276	1.3% - 8.3%	0.3%
DC	\$103.7	21.4%	62	15.0% - 27.8%	0.3%
NH	\$91.6	5.5%	212	3.6% - 7.3%	0.2%
PR	\$85.1	24.0%	81	19.6% - 28.4%	0.2%
UT	\$78.4	4.1%	200	1.9% - 6.3%	0.2%
DE	\$70.3	8.3%	114	3.4% - 13.2%	0.2%
WY	\$40.5	8.3%	50	2.1% - 14.5%	0.1%
AK	\$37.4	6.9%	57	6.4% - 7.3%	0.1%
ME	\$34.9	2.2%	197	0.7% - 3.7%	0.1%
RI	\$14.7	2.3%	109	0.3% - 4.3%	0.0%
VT	\$10.4	1.4%	85	0.9% - 1.9%	0.0%
ND	\$5.0	0.6%	107	0.0% - 1.1%	0.0%
SD	\$4.9	0.4%	124	0.1% - 0.7%	0.0%
All States	\$27,914.7	8.4%	37,175	7.7% - 9.1%	66.7%

**Table B10: Projected Improper Payments by State – DMEPOS Only (Dollars in Millions)
(Unadjusted for Impact of A/B Rebilling)**

State	Projected Improper Payments	Improper Payment Rate	Claims Reviewed	95% Confidence Interval	Percent of Overall Improper Payments
CA	\$292.5	43.5%	803	36.7% - 50.3%	0.7%
TX	\$283.6	51.5%	780	45.9% - 57.1%	0.7%
FL	\$264.7	47.0%	724	39.5% - 54.4%	0.6%
IL	\$210.6	54.8%	489	45.5% - 64.1%	0.5%
NY	\$193.4	50.2%	583	42.3% - 58.1%	0.5%
VA	\$142.9	59.6%	312	51.8% - 67.3%	0.3%
MI	\$135.8	49.5%	413	42.5% - 56.4%	0.3%
PA	\$124.6	50.1%	409	40.8% - 59.4%	0.3%
IN	\$121.0	48.4%	309	42.5% - 54.4%	0.3%
NJ	\$120.3	43.8%	368	25.9% - 61.8%	0.3%
OH	\$119.6	48.4%	398	40.0% - 56.8%	0.3%

State	Projected Improper Payments	Improper Payment Rate	Claims Reviewed	95% Confidence Interval	Percent of Overall Improper Payments
NC	\$114.2	36.8%	431	25.5% - 48.1%	0.3%
GA	\$103.4	54.2%	305	46.8% - 61.6%	0.3%
TN	\$99.9	45.4%	274	35.7% - 55.0%	0.2%
AL	\$93.7	49.7%	239	40.9% - 58.5%	0.2%
SC	\$83.1	45.2%	222	36.4% - 54.1%	0.2%
MD	\$80.2	48.3%	242	35.3% - 61.4%	0.2%
MS	\$78.9	49.2%	181	37.1% - 61.3%	0.2%
OK	\$78.0	59.8%	179	52.2% - 67.3%	0.2%
KY	\$76.4	44.3%	233	36.0% - 52.7%	0.2%
LA	\$69.5	51.4%	170	40.8% - 62.1%	0.2%
AR	\$67.7	44.6%	168	31.7% - 57.6%	0.2%
MO	\$64.8	32.8%	249	25.4% - 40.1%	0.2%
MA	\$63.2	49.4%	193	38.4% - 60.3%	0.2%
CO	\$48.6	46.2%	177	37.9% - 54.4%	0.1%
MN	\$47.7	58.3%	147	51.3% - 65.3%	0.1%
WI	\$47.4	35.6%	193	20.7% - 50.4%	0.1%
WA	\$45.6	37.4%	187	28.8% - 46.1%	0.1%
CT	\$41.2	62.7%	125	54.1% - 71.3%	0.1%
IA	\$38.6	29.2%	145	20.7% - 37.7%	0.1%
WV	\$37.4	46.0%	99	34.2% - 57.9%	0.1%
AZ	\$37.3	33.8%	173	25.5% - 42.1%	0.1%
KS	\$36.9	35.5%	125	27.7% - 43.2%	0.1%
NM	\$32.6	54.8%	79	43.9% - 65.7%	0.1%
OR	\$30.1	51.2%	95	31.9% - 70.4%	0.1%
ID	\$28.5	48.8%	74	32.6% - 65.1%	0.1%
UT	\$20.8	39.2%	76	24.0% - 54.3%	0.1%
ME	\$20.1	41.9%	63	32.9% - 50.8%	0.1%
NE	\$19.3	23.9%	102	17.3% - 30.6%	0.1%
DE	\$16.3	39.1%	55	30.6% - 47.6%	0.0%
NV	\$14.9	31.4%	76	22.6% - 40.3%	0.0%
SD	\$12.3	29.7%	42	18.5% - 40.8%	0.0%
MT	\$10.4	35.1%	43	23.3% - 47.0%	0.0%
NH	\$9.8	33.0%	57	19.1% - 46.9%	0.0%
WY	\$5.6	22.2%	31	5.2% - 39.2%	0.0%
VT	\$5.6	16.0%	33	10.2% - 21.8%	0.0%
All States (Incl. States Not Listed)	\$3,733.1	46.3%	10,999	44.3% - 48.2%	8.9%

**Table B11: Projected Improper Payments by State – Home Health and Hospice Only
(Dollars in Millions) (Unadjusted for Impact of A/B Rebilling)**

State	Projected Improper Payments	Improper Payment Rate	Claims Reviewed	95% Confidence Interval	Percent of Overall Improper Payments
TX	\$1,552.5	47.3%	209	39.3% - 55.3%	3.7%
FL	\$1,135.3	33.3%	161	24.6% - 41.9%	2.7%
IL	\$783.0	45.8%	102	35.4% - 56.2%	1.9%
PA	\$697.6	47.2%	76	35.0% - 59.4%	1.7%
CA	\$642.4	18.4%	164	11.5% - 25.3%	1.5%
LA	\$547.8	43.6%	85	32.3% - 54.8%	1.3%
GA	\$538.2	38.0%	77	24.9% - 51.1%	1.3%
NC	\$360.2	30.4%	61	17.1% - 43.6%	0.9%
OH	\$354.0	21.9%	82	12.1% - 31.6%	0.9%
VA	\$332.3	52.5%	37	35.0% - 69.9%	0.8%
NY	\$309.2	28.3%	57	14.1% - 42.6%	0.7%
NJ	\$252.8	25.4%	49	12.8% - 37.9%	0.6%
MI	\$246.6	18.2%	78	8.9% - 27.4%	0.6%
OK	\$237.4	32.2%	49	17.5% - 46.9%	0.6%
IN	\$224.1	42.2%	32	25.1% - 59.2%	0.5%
AL	\$177.8	26.6%	33	10.4% - 42.8%	0.4%
MS	\$106.2	21.9%	32	6.6% - 37.2%	0.3%
MO	\$102.4	16.2%	31	(0.1%) - 32.4%	0.2%
MA	\$30.6	5.1%	36	0.1% - 10.0%	0.1%
All States (Incl. States Not Listed)	\$10,178.4	29.9%	1,823	27.5% - 32.3%	24.3%

Appendix C: Medicare Access and CHIP Reauthorization Act of 2015 Section 517 Reporting

Table C1: Services Paid under the Physician Fee Schedule (PFS) in which the Fee Schedule Amount is in Excess of \$250 and the Error Rate is in Excess of 20 Percent

Service Label	PFS Amount	Error Rate	Confidence Interval
N/A	N/A	N/A	N/A

Appendix D: Projected Improper Payments and Type of Error by Type of Service for Each Claim Type

This series of tables is sorted in descending order by projected improper payments. All estimates in these tables are based on a minimum of 30 lines in the sample. For a full listing of all services with 30 or more claims, see Appendix G.

Table D1: Top 20 Service Types with Highest Improper Payments: Part B

Part B Services (BETOS Codes)	Projected Improper Payments	Improper Payment Rate	95% Confidence Interval	Type of Error					Percent of Overall Improper Payments
				No Doc	Insufficient Doc	Medical Necessity	Incorrect Coding	Other	
Lab tests - other (non-Medicare fee schedule)	\$1,298,396,656	35.5%	29.0% - 42.0%	0.6%	98.1%	1.3%	0.0%	0.0%	3.1%
Office visits - established	\$1,294,911,042	8.8%	7.2% - 10.3%	5.7%	32.1%	1.6%	59.3%	1.4%	3.1%
Hospital visit - subsequent	\$990,866,111	17.2%	15.5% - 18.9%	6.4%	49.6%	0.2%	43.7%	0.0%	2.4%
Hospital visit - initial	\$869,459,529	29.6%	27.5% - 31.7%	4.8%	31.4%	0.0%	63.5%	0.2%	2.1%
Minor procedures - other (Medicare fee schedule)	\$733,156,022	21.4%	17.6% - 25.1%	2.0%	92.8%	1.4%	1.8%	2.0%	1.8%
Ambulance	\$556,369,821	11.7%	9.0% - 14.4%	2.6%	74.0%	15.6%	3.1%	4.8%	1.3%
Office visits - new	\$452,874,838	15.7%	13.4% - 17.9%	2.4%	10.4%	2.1%	82.8%	2.2%	1.1%
Other drugs	\$384,396,953	6.2%	3.8% - 8.6%	0.2%	98.5%	0.7%	0.4%	0.3%	0.9%
Nursing home visit	\$329,029,077	16.5%	13.8% - 19.1%	8.6%	37.4%	0.3%	53.7%	0.0%	0.8%
Chiropractic	\$269,386,614	46.0%	39.9% - 52.1%	2.2%	92.1%	3.6%	1.6%	0.5%	0.6%
Emergency room visit	\$268,451,787	12.4%	10.4% - 14.5%	3.5%	9.5%	0.0%	84.6%	2.4%	0.6%
Other tests - other	\$264,018,374	18.9%	9.3% - 28.4%	3.8%	88.2%	1.8%	6.2%	0.0%	0.6%
Specialist - psychiatry	\$241,469,487	25.0%	17.6% - 32.4%	1.7%	96.0%	1.8%	0.5%	0.0%	0.6%
Specialist - other	\$230,339,551	24.2%	14.2% - 34.2%	2.6%	91.3%	0.0%	0.0%	6.1%	0.6%
Hospital visit - critical care	\$214,936,291	20.9%	16.5% - 25.4%	5.8%	49.3%	0.0%	43.9%	1.0%	0.5%
Minor procedures - musculoskeletal	\$145,887,034	17.2%	9.4% - 25.0%	11.9%	88.1%	0.0%	0.0%	0.0%	0.3%
Dialysis services (Medicare see schedule)	\$133,417,018	16.8%	10.4% - 23.3%	6.9%	78.5%	0.0%	10.3%	4.2%	0.3%
Echography/ultrasonography-carotid arteries	\$103,476,999	32.0%	25.0% - 39.0%	0.0%	96.2%	3.8%	0.0%	0.0%	0.2%
Advanced imaging - CAT/CT/CTA: other	\$100,809,399	8.4%	5.1% - 11.8%	2.5%	92.5%	3.7%	1.3%	0.0%	0.2%

Part B Services (BETOS Codes)	Projected Improper Payments	Improper Payment Rate	95% Confidence Interval	Type of Error					Percent of Overall Improper Payments
				No Doc	Insufficient Doc	Medical Necessity	Incorrect Coding	Other	
Eye procedure - other	\$97,491,922	13.5%	7.2% - 19.8%	0.0%	99.1%	0.1%	0.7%	0.0%	0.2%
All Type of Services (Incl. Codes Not Listed)	\$10,929,880,242	11.7%	10.6% - 12.9%	3.3%	68.2%	2.2%	25.3%	1.0%	26.1%

Table D2: Top 20 Service Types with Highest Improper Payments: DMEPOS

DMEPOS (HCPCS)	Projected Improper Payments	Improper Payment Rate	95% Confidence Interval	Type of Error					Percent of Overall Improper Payments
				No Doc	Insufficient Doc	Medical Necessity	Incorrect Coding	Other	
Oxygen Supplies/Equipment	\$521,860,728	45.0%	41.9% - 48.1%	0.1%	91.2%	0.3%	0.0%	8.4%	1.2%
CPAP	\$414,550,053	59.6%	53.4% - 65.9%	0.4%	85.2%	0.6%	0.0%	13.8%	1.0%
Lower Limb Orthoses	\$241,004,261	69.6%	61.8% - 77.4%	0.8%	86.2%	0.5%	0.0%	12.4%	0.6%
Nebulizers & Related Drugs	\$223,503,887	26.4%	21.5% - 31.3%	0.1%	85.2%	0.9%	0.0%	13.8%	0.5%
Infusion Pumps & Related Drugs	\$210,590,351	37.3%	30.9% - 43.6%	0.3%	67.9%	1.7%	0.0%	30.1%	0.5%
Ventilators	\$174,330,571	63.9%	55.9% - 71.9%	1.4%	48.1%	39.5%	0.0%	11.0%	0.4%
All Policy Groups with Less than 30 Claims	\$174,068,009	40.3%	27.7% - 52.9%	0.0%	68.4%	4.8%	0.0%	26.8%	0.4%
Immunosuppressive Drugs	\$137,495,212	37.5%	30.6% - 44.4%	0.1%	65.7%	1.4%	0.1%	32.8%	0.3%
LSO	\$128,489,773	67.5%	57.9% - 77.1%	1.5%	82.4%	0.4%	0.0%	15.8%	0.3%
Glucose Monitor	\$119,716,857	40.3%	35.9% - 44.7%	0.9%	65.5%	7.3%	15.2%	11.1%	0.3%
Enteral Nutrition	\$105,639,347	49.5%	41.5% - 57.6%	0.5%	77.6%	2.4%	0.0%	19.5%	0.3%
Diabetic Shoes	\$101,692,584	64.0%	53.6% - 74.4%	0.0%	79.9%	0.0%	0.0%	20.0%	0.2%
Surgical Dressings	\$99,155,463	84.3%	76.1% - 92.4%	0.0%	89.9%	0.0%	0.0%	10.0%	0.2%
Urological Supplies	\$94,509,083	37.7%	28.8% - 46.7%	1.8%	81.3%	2.2%	0.0%	14.6%	0.2%
Oral Anti-Cancer Drugs	\$94,476,485	40.8%	32.0% - 49.7%	1.8%	74.0%	0.0%	0.0%	24.1%	0.2%
Wheelchairs Manual	\$92,307,020	87.2%	78.5% - 95.8%	0.4%	89.2%	0.8%	0.0%	9.7%	0.2%
Parenteral Nutrition	\$84,623,077	50.3%	40.6% - 60.1%	0.1%	83.8%	0.2%	0.0%	15.9%	0.2%
Respiratory Assist Device	\$79,468,883	71.0%	61.1% - 80.9%	1.6%	94.8%	0.0%	0.0%	3.6%	0.2%
Lower Limb Prostheses	\$79,383,435	20.1%	11.7% - 28.6%	1.0%	87.4%	1.8%	0.0%	9.9%	0.2%
Hospital Beds/Accessories	\$79,286,415	82.5%	77.1% - 87.9%	0.5%	90.6%	0.0%	0.0%	8.9%	0.2%
All Type of Services (Incl. Codes Not Listed)	\$3,733,058,989	46.3%	44.3% - 48.2%	0.7%	80.4%	3.1%	0.5%	15.3%	8.9%

Table D3: Top 20 Service Types with Highest Improper Payments: Part A Excluding Hospital IPPS

Part A Excluding Hospital IPPS Services (TOB)	Projected Improper Payments	Improper Payment Rate	95% Confidence Interval	Type of Error					Percent of Overall Improper Payments
				No Doc	Insufficient Doc	Medical Necessity	Incorrect Coding	Other	
Home Health	\$7,658,560,781	42.0%	38.7% - 45.3%	0.4%	96.4%	2.3%	0.1%	0.8%	18.3%
Hospital Inpatient (Part A)	\$4,704,510,711	42.6%	38.0% - 47.2%	0.0%	8.2%	91.7%	0.0%	0.1%	11.2%
Hospital Outpatient	\$3,012,375,064	5.4%	2.2% - 8.6%	0.6%	97.0%	0.3%	0.9%	1.1%	7.2%
SNF Inpatient	\$2,650,891,991	7.8%	6.2% - 9.5%	0.6%	76.7%	0.0%	10.8%	12.0%	6.3%
Nonhospital based hospice	\$2,130,136,444	14.6%	11.3% - 18.0%	1.9%	74.2%	23.2%	0.6%	0.0%	5.1%
Clinic ESRD	\$602,797,903	5.3%	3.4% - 7.1%	1.0%	92.3%	0.0%	6.7%	0.0%	1.4%
Critical Access Hospital	\$445,771,578	9.9%	5.1% - 14.8%	0.0%	89.8%	2.8%	2.7%	4.7%	1.1%
Hospital based hospice	\$389,720,423	31.0%	15.5% - 46.6%	0.0%	72.7%	27.3%	0.0%	0.0%	0.9%
SNF Inpatient Part B	\$146,880,818	6.3%	1.7% - 10.8%	0.0%	60.1%	0.0%	4.1%	35.8%	0.4%
Hospital Other Part B	\$93,171,251	13.9%	6.6% - 21.2%	0.0%	94.9%	0.9%	4.2%	0.0%	0.2%
Clinic OPT	\$72,983,965	15.7%	10.3% - 21.1%	0.0%	93.2%	0.0%	0.0%	6.8%	0.2%
SNF Outpatient	\$28,428,091	12.6%	2.4% - 22.8%	0.0%	29.5%	0.0%	0.0%	70.5%	0.1%
Clinical Rural Health	\$24,944,218	2.1%	(0.1%) - 4.4%	36.9%	28.8%	0.0%	0.0%	34.3%	0.1%
Hospital Inpatient Part B	\$20,614,489	3.9%	(2.9%) - 10.6%	0.0%	98.0%	1.9%	0.2%	0.0%	0.0%
FQHC	\$15,880,470	1.8%	(1.7%) - 5.4%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
Clinic CORF	\$8,182,766	29.5%	16.5% - 42.5%	0.0%	70.8%	0.0%	6.7%	22.5%	0.0%
All Codes With Less Than 30 Claims	\$0	0.0%	N/A	N/A	0.0%	0.0%	0.0%	0.0%	0.0%
All Type of Services (Incl. Codes Not Listed)	\$22,005,850,962	14.0%	12.3% - 15.6%	0.5%	72.0%	23.2%	1.8%	2.4%	52.6%

Table D4: Top 20 Service Types with Highest Improper Payments: Part A Hospital IPPS

Part A Hospital IPPS Services (MS DRGs)	Projected Improper Payments	Improper Payment Rate	95% Confidence Interval	Type of Error					Percent of Overall Improper Payments
				No Doc	Insufficient Doc	Medical Necessity	Incorrect Coding	Other	
Psychoses (885)	\$358,460,538	8.8%	4.8% - 12.8%	0.0%	55.0%	44.9%	0.1%	0.0%	0.9%
Major Joint Replacement Or Reattachment Of Lower Extremity (469, 470)	\$200,630,735	3.1%	1.2% - 4.9%	0.0%	42.3%	12.1%	17.8%	27.9%	0.5%
Esophagitis, Gastroent & Misc Digest Disorders (391, 392)	\$148,905,737	10.1%	6.9% - 13.4%	0.0%	0.0%	89.9%	10.1%	0.0%	0.4%
Spinal Fusion Except Cervical (459, 460)	\$128,731,366	5.8%	2.4% - 9.2%	0.0%	42.3%	56.9%	0.0%	0.8%	0.3%
Pulmonary Edema & Respiratory Failure (189)	\$124,475,796	11.1%	(6.1%) - 28.3%	0.0%	0.0%	0.0%	11.5%	88.5%	0.3%
Heart Failure & Shock (291, 292, 293)	\$115,934,139	3.0%	1.6% - 4.4%	0.0%	8.8%	58.5%	32.7%	0.0%	0.3%
Other Vascular Procedures (252, 253, 254)	\$107,053,115	6.9%	3.7% - 10.0%	0.0%	0.0%	93.7%	5.0%	1.3%	0.3%
Renal Failure (682, 683, 684)	\$105,064,915	4.8%	1.7% - 7.9%	0.0%	0.0%	51.8%	48.2%	0.0%	0.3%
Syncope & Collapse (312)	\$101,170,170	22.8%	10.4% - 35.2%	0.0%	0.0%	100.0%	0.0%	0.0%	0.2%
Misc Disorders Of Nutrition, metabolism, fluids/ Electrolytes (640, 641)	\$100,026,366	8.8%	5.2% - 12.3%	0.0%	0.0%	85.3%	14.7%	0.0%	0.2%
Degenerative Nervous System Disorders (056, 057)	\$86,057,934	13.7%	10.2% - 17.2%	0.0%	16.3%	75.2%	2.8%	5.8%	0.2%
Chronic Obstructive Pulmonary Disease (190, 191, 192)	\$78,559,950	3.3%	0.9% - 5.7%	0.0%	0.0%	81.1%	18.9%	0.0%	0.2%
Back & Neck Proc Exc Spinal Fusion (518, 519, 520)	\$75,927,463	20.4%	16.6% - 24.3%	0.0%	11.7%	83.4%	4.9%	0.0%	0.2%
Lower Extrem & Humer Proc Except Hip,foot,femur (492, 493, 494)	\$72,361,705	11.0%	6.3% - 15.8%	0.0%	0.0%	84.4%	15.6%	0.0%	0.2%
Perc Cardiovasc Proc W Drug-Eluting Stent (246, 247)	\$69,551,763	4.0%	2.3% - 5.6%	0.0%	0.0%	61.4%	38.6%	0.0%	0.2%
Circulatory Disorders Except Ami, W Card Cath (286, 287)	\$69,243,955	6.5%	3.7% - 9.2%	0.0%	0.0%	87.6%	8.4%	4.0%	0.2%
Intracranial Hemorrhage Or Cerebral Infarction (064, 065, 066)	\$69,021,142	3.2%	0.5% - 5.9%	0.0%	0.0%	91.8%	8.2%	0.0%	0.2%
Other Digestive System Diagnoses (393, 394, 395)	\$66,191,420	9.1%	5.5% - 12.8%	0.0%	0.0%	78.2%	21.8%	0.0%	0.2%

Part A Hospital IPPS Services (MS DRGs)	Projected Improper Payments	Improper Payment Rate	95% Confidence Interval	Type of Error					Percent of Overall Improper Payments
				No Doc	Insufficient Doc	Medical Necessity	Incorrect Coding	Other	
Chest Pain (313)	\$65,595,487	21.8%	15.2% - 28.3%	0.0%	0.0%	97.5%	2.5%	0.0%	0.2%
Seizures (100, 101)	\$64,954,508	13.5%	7.0% - 20.1%	0.0%	0.0%	82.4%	17.6%	0.0%	0.2%
All Type of Services (Incl. Codes Not Listed)	\$5,157,373,086	4.5%	4.0% - 4.9%	0.6%	9.5%	66.0%	19.9%	4.1%	12.3%

Appendix E: Improper Payment Rates and Type of Error by Type of Service for Each Claim Type

Appendix E tables are sorted in descending order by improper payment rate. For a full listing of all services with 30 or more claims, see Appendix G.

Table E1: Top 20 Service Type Improper Payment Rates: Part B

Part B Services (BETOS Codes)	Improper Payment Rate	95% Confidence Interval	Type of Error					Percent of Overall Improper Payments
			No Doc	Insufficient Doc	Medical Necessity	Incorrect Coding	Other	
Undefined codes	49.0%	34.0% - 64.0%	0.0%	16.0%	84.0%	0.0%	0.0%	0.0%
Chiropractic	46.0%	39.9% - 52.1%	2.2%	92.1%	3.6%	1.6%	0.5%	0.6%
Other - non-Medicare fee schedule	38.4%	32.6% - 44.1%	0.0%	86.0%	0.0%	10.7%	3.2%	0.1%
Lab tests - glucose	36.2%	33.1% - 39.3%	0.0%	88.5%	0.0%	11.5%	0.0%	0.0%
Lab tests - other (non-Medicare fee schedule)	35.5%	29.0% - 42.0%	0.6%	98.1%	1.3%	0.0%	0.0%	3.1%
Home visit	33.0%	23.0% - 43.1%	3.7%	68.8%	6.3%	21.2%	0.0%	0.2%
Echography/ultrasonography - carotid arteries	32.0%	25.0% - 39.0%	0.0%	96.2%	3.8%	0.0%	0.0%	0.2%
Hospital visit - initial	29.6%	27.5% - 31.7%	4.8%	31.4%	0.0%	63.5%	0.2%	2.1%
Other - Medicare fee schedule	27.8%	13.2% - 42.4%	4.8%	84.2%	11.0%	0.0%	0.0%	0.2%
Specialist - psychiatry	25.0%	17.6% - 32.4%	1.7%	96.0%	1.8%	0.5%	0.0%	0.6%
Specialist - other	24.2%	14.2% - 34.2%	2.6%	91.3%	0.0%	0.0%	6.1%	0.6%
Lab tests - urinalysis	23.9%	19.6% - 28.1%	0.0%	98.6%	0.4%	0.9%	0.0%	0.0%
Minor procedures - other (Medicare fee schedule)	21.4%	17.6% - 25.1%	2.0%	92.8%	1.4%	1.8%	2.0%	1.8%
Hospital visit - critical care	20.9%	16.5% - 25.4%	5.8%	49.3%	0.0%	43.9%	1.0%	0.5%
Lab tests - bacterial cultures	20.1%	11.7% - 28.6%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
Standard imaging - chest	19.5%	15.5% - 23.4%	1.6%	98.4%	0.0%	0.0%	0.0%	0.1%
Other tests - other	18.9%	9.3% - 28.4%	3.8%	88.2%	1.8%	6.2%	0.0%	0.6%
Endoscopy - cystoscopy	18.6%	14.2% - 23.1%	0.0%	100.0%	0.0%	0.0%	0.0%	0.1%
Lab tests - blood counts	18.4%	14.6% - 22.1%	1.2%	91.4%	0.0%	7.4%	0.0%	0.1%
Minor procedures - musculoskeletal	17.2%	9.4% - 25.0%	11.9%	88.1%	0.0%	0.0%	0.0%	0.3%
Overall (incl. Service Types Not Listed)	11.7%	10.6% - 12.9%	3.3%	68.2%	2.2%	25.3%	1.0%	26.1%

Table E2: Top 20 Service Type Improper Payment Rates: DMEPOS

DMEPOS (HCPCS)	Improper Payment Rate	95% Confidence Interval	Type of Error					Percent of Overall Improper Payments
			No Doc	Insufficient Doc	Medical Necessity	Incorrect Coding	Other	
Commodos/Bed Pans/Urinals	95.2%	89.9% -100.4%	0.2%	82.5%	0.3%	0.0%	17.0%	0.1%
TENS	93.8%	89.1% - 98.5%	4.3%	90.4%	0.4%	0.0%	4.9%	0.0%
Wheelchairs Manual	87.2%	78.5% - 95.8%	0.4%	89.2%	0.8%	0.0%	9.7%	0.2%
Surgical Dressings	84.3%	76.1% - 92.4%	0.0%	89.9%	0.0%	0.0%	10.0%	0.2%
Orthopedic Footwear	83.3%	70.1% - 96.6%	0.0%	50.5%	0.0%	0.0%	49.5%	0.0%
Hospital Beds/Accessories	82.5%	77.1% - 87.9%	0.5%	90.6%	0.0%	0.0%	8.9%	0.2%
Lenses	72.8%	60.7% - 85.0%	2.1%	69.2%	0.9%	0.0%	27.9%	0.1%
Respiratory Assist Device	71.0%	61.1% - 80.9%	1.6%	94.8%	0.0%	0.0%	3.6%	0.2%
Lower Limb Orthoses	69.6%	61.8% - 77.4%	0.8%	86.2%	0.5%	0.0%	12.4%	0.6%
Upper Limb Orthoses	67.7%	56.0% - 79.4%	0.0%	92.6%	0.0%	0.0%	7.4%	0.1%
LSO	67.5%	57.9% - 77.1%	1.5%	82.4%	0.4%	0.0%	15.8%	0.3%
Diabetic Shoes	64.0%	53.6% - 74.4%	0.0%	79.9%	0.0%	0.0%	20.0%	0.2%
Ventilators	63.9%	55.9% - 71.9%	1.4%	48.1%	39.5%	0.0%	11.0%	0.4%
Canes/Crutches	61.3%	46.0% - 76.6%	0.0%	80.3%	0.0%	0.0%	19.7%	0.0%
CPAP	59.6%	53.4% - 65.9%	0.4%	85.2%	0.6%	0.0%	13.8%	1.0%
Support Surfaces	59.3%	38.3% - 80.4%	0.0%	86.7%	0.0%	0.0%	13.3%	0.0%
Patient Lift	57.4%	45.5% - 69.3%	0.0%	96.3%	0.0%	0.0%	3.7%	0.0%
Repairs/DME	55.5%	35.0% - 76.0%	1.7%	68.9%	14.8%	0.0%	14.7%	0.0%
Walkers	55.3%	41.3% - 69.3%	0.0%	76.6%	2.5%	0.0%	20.9%	0.1%
Tracheostomy Supplies	52.4%	33.7% - 71.1%	0.8%	78.5%	0.2%	0.0%	20.5%	0.0%
Overall (incl. Service Types Not Listed)	46.3%	44.3% - 48.2%	0.7%	80.4%	3.1%	0.5%	15.3%	8.9%

Table E3: Top 20 Service Type Improper Payment Rates: Part A Excluding Hospital IPPS

Part A Excluding Hospital IPPS Services (TOB)	Improper Payment Rate	95% Confidence Interval	Type of Error					Percent of Overall Improper Payments
			No Doc	Insufficient Doc	Medical Necessity	Incorrect Coding	Other	
Hospital Inpatient (Part A)	42.6%	38.0% - 47.2%	0.0%	8.2%	91.7%	0.0%	0.1%	11.2%
Home Health	42.0%	38.7% - 45.3%	0.4%	96.4%	2.3%	0.1%	0.8%	18.3%
Hospital based hospice	31.0%	15.5% - 46.6%	0.0%	72.7%	27.3%	0.0%	0.0%	0.9%
Clinic CORF	29.5%	16.5% - 42.5%	0.0%	70.8%	0.0%	6.7%	22.5%	0.0%
Clinic OPT	15.7%	10.3% - 21.1%	0.0%	93.2%	0.0%	0.0%	6.8%	0.2%
Nonhospital based hospice	14.6%	11.3% - 18.0%	1.9%	74.2%	23.2%	0.6%	0.0%	5.1%
Hospital Other Part B	13.9%	6.6% - 21.2%	0.0%	94.9%	0.9%	4.2%	0.0%	0.2%
SNF Outpatient	12.6%	2.4% - 22.8%	0.0%	29.5%	0.0%	0.0%	70.5%	0.1%
Critical Access Hospital	9.9%	5.1% - 14.8%	0.0%	89.8%	2.8%	2.7%	4.7%	1.1%
SNF Inpatient	7.8%	6.2% - 9.5%	0.6%	76.7%	0.0%	10.8%	12.0%	6.3%
SNF Inpatient Part B	6.3%	1.7% - 10.8%	0.0%	60.1%	0.0%	4.1%	35.8%	0.4%
Hospital Outpatient	5.4%	2.2% - 8.6%	0.6%	97.0%	0.3%	0.9%	1.1%	7.2%
Clinic ESRD	5.3%	3.4% - 7.1%	1.0%	92.3%	0.0%	6.7%	0.0%	1.4%
Hospital Inpatient Part B	3.9%	(2.9%) - 10.6%	0.0%	98.0%	1.9%	0.2%	0.0%	0.0%
Clinical Rural Health	2.1%	(0.1%) - 4.4%	36.9%	28.8%	0.0%	0.0%	34.3%	0.1%
FQHC	1.8%	(1.7%) - 5.4%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%
All Codes With Less Than 30 Claims	0.0%	N/A	N/A	0.0%	0.0%	0.0%	0.0%	0.0%
Overall (incl. Service Types Not Listed)	14.0%	12.3% - 15.6%	0.5%	72.0%	23.2%	1.8%	2.4%	52.6%

Table E4: Top 20 Service Type Improper Payment Rates: Part A Hospital IPPS

Part A Hospital IPPS Services (MS DRGs)	Improper Payment Rate	95% Confidence Interval	Type of Error					Percent of Overall Improper Payments
			No Doc	Insufficient Doc	Medical Necessity	Incorrect Coding	Other	
Disequilibrium (149)	31.0%	20.1% - 41.8%	0.0%	0.0%	98.4%	1.6%	0.0%	0.1%
Syncope & Collapse (312)	22.8%	10.4% - 35.2%	0.0%	0.0%	100.0%	0.0%	0.0%	0.2%
Chest Pain (313)	21.8%	15.2% - 28.3%	0.0%	0.0%	97.5%	2.5%	0.0%	0.2%
Back & Neck Proc Exc Spinal Fusion (518, 519, 520)	20.4%	16.6% - 24.3%	0.0%	11.7%	83.4%	4.9%	0.0%	0.2%
Uterine & Adnexa Proc For Non-Malignancy (742, 743)	15.8%	10.6% - 21.0%	0.0%	3.5%	89.1%	7.3%	0.0%	0.0%
Signs & Symptoms (947, 948)	15.5%	11.4% - 19.6%	0.0%	0.0%	80.5%	19.5%	0.0%	0.1%
Organic Disturbances & Mental Retardation (884)	14.6%	4.6% - 24.7%	5.1%	2.1%	92.1%	0.7%	0.0%	0.1%
Atherosclerosis (302, 303)	14.5%	3.7% - 25.3%	0.0%	0.0%	71.0%	29.0%	0.0%	0.0%
Degenerative Nervous System Disorders (056, 057)	13.7%	10.2% - 17.2%	0.0%	16.3%	75.2%	2.8%	5.8%	0.2%
Seizures (100, 101)	13.5%	7.0% - 20.1%	0.0%	0.0%	82.4%	17.6%	0.0%	0.2%
Bone Diseases & Arthropathies (553, 554)	13.2%	5.7% - 20.7%	6.6%	0.0%	71.3%	15.0%	7.1%	0.0%
Cardiac Defibrillator Implant W/O Cardiac Cath (226, 227)	13.0%	10.7% - 15.4%	0.0%	2.0%	88.9%	9.1%	0.0%	0.2%
Fx, Sprn, Strn & Disl Except Femur, Hip, Pelvis & Thigh (562, 563)	12.6%	5.3% - 19.9%	0.0%	0.0%	100.0%	0.0%	0.0%	0.1%
Pulmonary Edema & Respiratory Failure (189)	11.1%	(6.1%) - 28.3%	0.0%	0.0%	0.0%	11.5%	88.5%	0.3%
Lower Extrem & Humer Proc Except Hip,foot,femur (492, 493, 494)	11.0%	6.3% - 15.8%	0.0%	0.0%	84.4%	15.6%	0.0%	0.2%
Other Disorders Of Nervous System (091, 092, 093)	10.9%	5.4% - 16.4%	0.0%	0.0%	89.3%	10.7%	0.0%	0.1%
Transient Ischemia (069)	10.5%	1.5% - 19.4%	0.0%	0.0%	91.3%	8.7%	0.0%	0.1%
Esophagitis, Gastroent & Misc Digest Disorders (391, 392)	10.1%	6.9% - 13.4%	0.0%	0.0%	89.9%	10.1%	0.0%	0.4%
Diabetes (637, 638, 639)	10.0%	4.4% - 15.6%	0.0%	19.0%	61.4%	19.6%	0.0%	0.1%
Other Digestive System Diagnoses (393, 394, 395)	9.1%	5.5% - 12.8%	0.0%	0.0%	78.2%	21.8%	0.0%	0.2%
Overall (incl. Service Types Not Listed)	4.5%	4.0% - 4.9%	0.6%	9.5%	66.0%	19.9%	4.1%	12.3%

Appendix F: Projected Improper Payments by Type of Service for Each Type of Error

Appendix F tables are sorted in descending order by projected improper payments.

Table F1: Top 20 Types of Services with No Documentation Errors

All Services	No Documentation Errors			
	Improper Payment Rate	Projected Improper Payments	95% Confidence Interval	Percent of Overall Improper Payments
Office visits - established	0.5%	\$73,281,003	0.0% - 1.0%	0.2%
Hospital visit - subsequent	1.1%	\$63,702,465	0.3% - 1.9%	0.2%
Hospital visit - initial	1.4%	\$42,115,674	0.6% - 2.3%	0.1%
Nonhospital based hospice	0.3%	\$41,038,625	(0.3%) - 0.8%	0.1%
Home Health	0.2%	\$29,452,085	(0.0%) - 0.3%	0.1%
Nursing home visit	1.4%	\$28,287,672	0.2% - 2.6%	0.1%
G.I. Hemorrhage (377, 378, 379)	1.5%	\$26,940,442	(1.4%) - 4.3%	0.1%
Hospital Outpatient	0.0%	\$17,828,568	(0.0%) - 0.1%	0.0%
Minor procedures - musculoskeletal	2.0%	\$17,351,431	(1.9%) - 6.0%	0.0%
SNF Inpatient	0.0%	\$15,112,424	(0.0%) - 0.1%	0.0%
Minor procedures - other (Medicare fee schedule)	0.4%	\$14,556,496	(0.1%) - 0.9%	0.0%
Ambulance	0.3%	\$14,340,588	(0.0%) - 0.6%	0.0%
Hospital visit - critical care	1.2%	\$12,521,049	0.5% - 1.9%	0.0%
Office visits - new	0.4%	\$10,817,557	(0.0%) - 0.8%	0.0%
Other tests - other	0.7%	\$10,139,375	(0.3%) - 1.8%	0.0%
Emergency room visit	0.4%	\$9,459,123	(0.2%) - 1.1%	0.0%
Dialysis services (Medicare fee schedule)	1.2%	\$9,222,711	(0.2%) - 2.5%	0.0%
Clinical Rural Health	0.8%	\$9,212,460	(0.7%) - 2.3%	0.0%
Lab tests - other (non-Medicare fee schedule)	0.2%	\$7,857,952	(0.0%) - 0.5%	0.0%
Clinic ESRD	0.1%	\$6,305,749	(0.1%) - 0.2%	0.0%
Overall (Incl. Codes Not Listed)	0.1%	\$533,250,829	0.1% - 0.2%	1.3%

Table F2: Top 20 Types of Services with Insufficient Documentation Errors

All Services	Insufficient Documentation Errors			
	Improper Payment Rate	Projected Improper Payments	95% Confidence Interval	Percent of Overall Improper Payments
Home Health	40.5%	\$7,382,067,578	37.2% - 43.8%	17.6%
Hospital Outpatient	5.3%	\$2,923,096,797	2.1% - 8.5%	7.0%
SNF Inpatient	6.0%	\$2,032,062,681	4.4% - 7.6%	4.9%
Nonhospital based hospice	10.9%	\$1,581,522,753	7.9% - 13.8%	3.8%
Lab tests - other (non-Medicare fee schedule)	34.8%	\$1,273,559,230	28.3% - 41.4%	3.0%
Minor procedures - other (Medicare fee schedule)	19.8%	\$680,201,815	16.1% - 23.5%	1.6%
Clinic ESRD	4.8%	\$556,084,815	3.1% - 6.6%	1.3%
Hospital visit - subsequent	8.5%	\$491,948,769	7.2% - 9.9%	1.2%
Oxygen Supplies/Equipment	41.1%	\$475,765,719	38.0% - 44.1%	1.1%
Office visits - established	2.8%	\$415,403,146	1.8% - 3.9%	1.0%
Ambulance	8.6%	\$411,862,593	6.3% - 11.0%	1.0%
Critical Access Hospital	8.9%	\$400,135,636	4.2% - 13.6%	1.0%
Hospital Inpatient (Part A)	3.5%	\$384,431,277	1.7% - 5.3%	0.9%
Other drugs	6.1%	\$378,474,129	3.7% - 8.5%	0.9%
CPAP	50.8%	\$353,343,620	44.8% - 56.9%	0.8%
Hospital based hospice	22.6%	\$283,470,473	8.3% - 36.8%	0.7%
Hospital visit - initial	9.3%	\$273,005,553	7.4% - 11.1%	0.7%
Chiropractic	42.4%	\$248,102,947	36.3% - 48.5%	0.6%
Other tests - other	16.6%	\$232,846,660	7.1% - 26.2%	0.6%
Specialist - psychiatry	24.0%	\$231,772,164	16.7% - 31.3%	0.6%
Overall (Incl. Codes Not Listed)	7.2%	\$26,790,201,574	6.5% - 7.9%	64.1%

Table F3: Top 20 Types of Services with Medical Necessity Errors

All Services	Medical Necessity Errors			
	Improper Payment Rate	Projected Improper Payments	95% Confidence Interval	Percent of Overall Improper Payments
Hospital Inpatient (Part A)	39.1%	\$4,313,393,106	34.5% - 43.7%	10.3%
Nonhospital based hospice	3.4%	\$494,401,636	1.7% - 5.1%	1.2%
Home Health	1.0%	\$175,342,696	0.5% - 1.4%	0.4%
Psychoses (885)	4.0%	\$161,121,145	1.4% - 6.5%	0.4%
Esophagitis, Gastroent & Misc Digest Disorders (391, 392)	9.1%	\$133,792,566	6.0% - 12.2%	0.3%
Hospital based hospice	8.5%	\$106,249,950	(0.6%) - 17.5%	0.3%
Syncope & Collapse (312)	22.8%	\$101,170,170	10.4% - 35.2%	0.2%
Other Vascular Procedures (252, 253, 254)	6.4%	\$100,257,951	3.3% - 9.6%	0.2%
Ambulance	1.8%	\$86,644,046	0.5% - 3.1%	0.2%
Misc Disorders Of Nutrition, metabolism, fluids/Electrolytes (640, 641)	7.5%	\$85,364,314	4.0% - 10.9%	0.2%
Spinal Fusion Except Cervical (459, 460)	3.3%	\$73,244,077	0.6% - 6.0%	0.2%
Ventilators	25.3%	\$68,935,815	17.4% - 33.1%	0.2%
Heart Failure & Shock (291, 292, 293)	1.7%	\$67,851,706	0.5% - 3.0%	0.2%
Degenerative Nervous System Disorders (056, 057)	10.3%	\$64,692,440	7.5% - 13.1%	0.2%
Chest Pain (313)	21.2%	\$63,979,644	14.7% - 27.8%	0.2%
Chronic Obstructive Pulmonary Disease (190, 191, 192)	2.6%	\$63,698,963	0.3% - 5.0%	0.2%
Intracranial Hemorrhage Or Cerebral Infarction (064, 065, 066)	2.9%	\$63,355,200	0.3% - 5.6%	0.2%
Back & Neck Proc Exc Spinal Fusion (518, 519, 520)	17.0%	\$63,305,478	13.4% - 20.6%	0.2%
Lower Extrem & Humer Proc Except Hip,foot,femur (492, 493, 494)	9.3%	\$61,044,414	4.9% - 13.7%	0.1%
Circulatory Disorders Except Ami, W Card Cath (286, 287)	5.7%	\$60,655,994	3.0% - 8.3%	0.1%
Overall (Incl. Codes Not Listed)	2.4%	\$8,875,810,830	2.1% - 2.6%	21.2%

Table F4: Top 20 Types of Services with Incorrect Coding Errors

All Services	Incorrect Coding Errors			
	Improper Payment Rate	Projected Improper Payments	95% Confidence Interval	Percent of Overall Improper Payments
Office visits - established	5.2%	\$767,653,309	4.3% - 6.2%	1.8%
Hospital visit - initial	18.8%	\$552,305,585	17.3% - 20.2%	1.3%
Hospital visit - subsequent	7.5%	\$432,816,429	6.6% - 8.4%	1.0%
Office visits - new	13.0%	\$375,202,068	11.1% - 14.9%	0.9%
SNF Inpatient	0.8%	\$286,689,024	0.4% - 1.3%	0.7%
Emergency room visit	10.5%	\$226,995,405	8.8% - 12.2%	0.5%
Nursing home visit	8.8%	\$176,647,523	7.4% - 10.3%	0.4%
Hospital visit - critical care	9.2%	\$94,288,072	6.1% - 12.2%	0.2%
Renal Failure (682, 683, 684)	2.3%	\$50,646,487	0.7% - 3.9%	0.1%
Major Small & Large Bowel Procedures (329, 330, 331)	2.2%	\$46,105,610	1.3% - 3.1%	0.1%
Clinic ESRD	0.4%	\$40,407,339	(0.3%) - 1.0%	0.1%
Heart Failure & Shock (291, 292, 293)	1.0%	\$37,897,489	0.5% - 1.4%	0.1%
Major Joint Replacement Or Reattachment Of Lower Extremity (469, 470)	0.5%	\$35,723,855	(0.0%) - 1.1%	0.1%
Simple Pneumonia & Pleurisy (193, 194, 195)	1.2%	\$34,077,055	0.2% - 2.3%	0.1%
Septicemia Or Severe Sepsis W Mv 96+ Hours (870)	1.9%	\$33,569,144	(1.8%) - 5.6%	0.1%
Perc Cardiovasc Proc W Drug-Eluting Stent (246, 247)	1.5%	\$26,825,117	0.5% - 2.6%	0.1%
Hospital Outpatient	0.0%	\$26,779,811	0.0% - 0.1%	0.1%
Infectious & Parasitic Diseases W O.R. Procedure (853, 854, 855)	1.1%	\$23,310,497	(0.4%) - 2.6%	0.1%
Coronary Bypass W/O Cardiac Cath (235, 236)	2.4%	\$22,538,848	2.0% - 2.7%	0.1%
Home visit	7.0%	\$19,789,782	1.9% - 12.1%	0.0%
Overall (Incl. Codes Not Listed)	1.1%	\$4,208,935,790	1.0% - 1.2%	10.1%

Table F5: Top 20 Types of Services with Downcoding⁸ Errors

All Services	Downcoding Errors			
	Improper Payment Rate	Projected Improper Payments	95% Confidence Interval	Percent of Overall Improper Payments
Office visits - established	2.3%	\$342,201,835	1.6% - 3.1%	0.8%
Hospital visit - subsequent	0.7%	\$41,441,356	0.5% - 1.0%	0.1%
Simple Pneumonia & Pleurisy (193, 194, 195)	1.2%	\$34,077,055	0.2% - 2.3%	0.1%
Major Small & Large Bowel Procedures (329, 330, 331)	1.6%	\$32,714,337	0.9% - 2.2%	0.1%
Office visits - new	1.0%	\$30,283,220	0.3% - 1.8%	0.1%
Heart Failure & Shock (291, 292, 293)	0.7%	\$28,168,113	0.4% - 1.1%	0.1%
Major Joint Replacement Or Reattachment Of Lower Extremity (469, 470)	0.4%	\$27,846,622	(0.1%) - 0.9%	0.1%
Emergency room visit	1.0%	\$22,480,709	0.4% - 1.7%	0.1%
Nursing home visit	0.9%	\$18,436,500	0.4% - 1.5%	0.0%
Coronary Bypass W/O Cardiac Cath (235, 236)	1.9%	\$17,808,789	1.6% - 2.2%	0.0%
Traumatic Stupor & Coma, Coma <1 Hr (085, 086, 087)	4.2%	\$17,174,402	(3.9%) - 12.2%	0.0%
SNF Inpatient	0.0%	\$15,502,109	(0.0%) - 0.1%	0.0%
Chronic Obstructive Pulmonary Disease (190, 191, 192)	0.6%	\$14,860,986	0.2% - 1.0%	0.0%
Misc Disorders Of Nutrition, metabolism, fluids/Electrolytes (640, 641)	1.2%	\$13,789,229	0.2% - 2.3%	0.0%
Other tests - other	0.9%	\$13,089,646	(0.9%) - 2.8%	0.0%
Perc Cardiovasc Proc W Drug-Eluting Stent (246, 247)	0.7%	\$12,033,348	(0.1%) - 1.5%	0.0%
Lower Extrem & Humer Proc Except Hip,foot,femur (492, 493, 494)	1.7%	\$11,317,291	(0.5%) - 4.0%	0.0%
Renal Failure (682, 683, 684)	0.5%	\$10,714,576	(0.0%) - 1.0%	0.0%
Disorders Of Liver Except Malig,cirr,alc Hepa (441, 442, 443)	2.3%	\$10,221,645	0.6% - 4.0%	0.0%
Pulmonary Edema & Respiratory Failure (189)	0.9%	\$9,613,545	(0.8%) - 2.5%	0.0%
Overall (Incl. Codes Not Listed)	0.3%	\$1,112,194,948	0.2% - 0.3%	2.7%

⁸ Downcoding refers to billing a lower level service or a service with a lower payment than is supported by the medical record documentation.

Table F6: Top 20 Types of Services with Other Errors

All Services	Other Errors			
	Improper Payment Rate	Projected Improper Payments	95% Confidence Interval	Percent of Overall Improper Payments
SNF Inpatient	0.9%	\$317,027,862	0.4% - 1.5%	0.8%
Pulmonary Edema & Respiratory Failure (189)	9.8%	\$110,119,306	(7.6%) - 27.2%	0.3%
Infusion Pumps & Related Drugs	11.2%	\$63,419,357	4.6% - 17.8%	0.2%
Home Health	0.3%	\$62,505,910	(0.0%) - 0.7%	0.1%
CPAP	8.2%	\$57,179,606	4.8% - 11.7%	0.1%
Major Joint Replacement Or Reattachment Of Lower Extremity (469, 470)	0.9%	\$55,883,637	(0.4%) - 2.1%	0.1%
SNF Inpatient Part B	2.3%	\$52,637,860	0.0% - 4.5%	0.1%
All Policy Groups with Less than 30 Claims	10.8%	\$46,681,130	2.9% - 18.7%	0.1%
Immunosuppressive Drugs	12.3%	\$45,063,727	8.1% - 16.5%	0.1%
Oxygen Supplies/Equipment	3.8%	\$44,079,351	2.7% - 4.9%	0.1%
Hospital Outpatient	0.1%	\$34,419,294	(0.0%) - 0.1%	0.1%
Nebulizers & Related Drugs	3.6%	\$30,790,933	1.8% - 5.5%	0.1%
Lower Limb Orthoses	8.7%	\$29,989,526	3.2% - 14.1%	0.1%
Ambulance	0.6%	\$26,477,567	(0.1%) - 1.2%	0.1%
Oral Anti-Cancer Drugs	9.9%	\$22,795,999	5.6% - 14.1%	0.1%
Critical Access Hospital	0.5%	\$21,069,235	(0.4%) - 1.4%	0.1%
Enteral Nutrition	9.7%	\$20,636,991	5.0% - 14.4%	0.0%
Diabetic Shoes	12.8%	\$20,378,949	5.3% - 20.4%	0.0%
LSO	10.7%	\$20,310,446	4.8% - 16.6%	0.0%
SNF Outpatient	8.9%	\$20,055,253	(1.2%) - 19.0%	0.0%
Overall (Incl. Codes Not Listed)	0.4%	\$1,417,964,256	0.3% - 0.5%	3.4%

Appendix G: Projected Improper Payments by Type of Service for Each Claim Type

This series of tables is sorted in descending order by projected improper payments. All estimates in these tables are based on a minimum of 30 lines in the sample.

Table G1: Improper Payment Rates by Service Type: Part B

Part B Services (BETOS Codes)	Improper Payment Rate					Percent of Overall Improper Payments
	Improper Payment Rate	Claims Reviewed	Projected Improper Payments	Standard Error	95% Confidence Interval	
Lab tests - other (non-Medicare fee schedule)	35.5%	2,746	\$1,298,396,656	3.3%	29.0% - 42.0%	3.1%
Office visits - established	8.8%	1,314	\$1,294,911,042	0.8%	7.2% - 10.3%	3.1%
Hospital visit - subsequent	17.2%	1,807	\$990,866,111	0.9%	15.5% - 18.9%	2.4%
Hospital visit - initial	29.6%	1,057	\$869,459,529	1.1%	27.5% - 31.7%	2.1%
Minor procedures - other (Medicare fee schedule)	21.4%	1,330	\$733,156,022	1.9%	17.6% - 25.1%	1.8%
Ambulance	11.7%	687	\$556,369,821	1.4%	9.0% - 14.4%	1.3%
Office visits - new	15.7%	533	\$452,874,838	1.1%	13.4% - 17.9%	1.1%
Other drugs	6.2%	1,017	\$384,396,953	1.2%	3.8% - 8.6%	0.9%
Nursing home visit	16.5%	577	\$329,029,077	1.3%	13.8% - 19.1%	0.8%
All Codes With Less Than 30 Claims	7.8%	223	\$300,392,198	4.2%	(0.6%) - 16.1%	0.7%
Chiropractic	46.0%	426	\$269,386,614	3.1%	39.9% - 52.1%	0.6%
Emergency room visit	12.4%	403	\$268,451,787	1.0%	10.4% - 14.5%	0.6%
Other tests - other	18.9%	484	\$264,018,374	4.9%	9.3% - 28.4%	0.6%
Specialist - psychiatry	25.0%	719	\$241,469,487	3.8%	17.6% - 32.4%	0.6%
Specialist - other	24.2%	836	\$230,339,551	5.1%	14.2% - 34.2%	0.6%
Hospital visit - critical care	20.9%	323	\$214,936,291	2.3%	16.5% - 25.4%	0.5%
Minor procedures - musculoskeletal	17.2%	193	\$145,887,034	4.0%	9.4% - 25.0%	0.3%
Dialysis services (Medicare fee schedule)	16.8%	148	\$133,417,018	3.3%	10.4% - 23.3%	0.3%
Echography/ultrasonography - carotid arteries	32.0%	107	\$103,476,999	3.6%	25.0% - 39.0%	0.2%
Advanced imaging - CAT/CT/CTA: other	8.4%	249	\$100,809,399	1.7%	5.1% - 11.8%	0.2%
Eye procedure - other	13.5%	274	\$97,491,922	3.2%	7.2% - 19.8%	0.2%
Echography/ultrasonography - other	13.9%	164	\$93,951,779	4.3%	5.5% - 22.3%	0.2%
Home visit	33.0%	46	\$93,531,237	5.1%	23.0% - 43.1%	0.2%

Part B Services (BETOS Codes)	Improper Payment Rate					Percent of Overall Improper Payments
	Improper Payment Rate	Claims Reviewed	Projected Improper Payments	Standard Error	95% Confidence Interval	
Specialist - ophthalmology	3.8%	346	\$92,495,026	1.0%	1.8% - 5.8%	0.2%
Standard imaging - nuclear medicine	11.2%	212	\$87,923,059	2.9%	5.6% - 16.9%	0.2%
Ambulatory procedures - skin	4.4%	272	\$84,826,587	1.0%	2.3% - 6.4%	0.2%
Echography/ultrasonography - heart	10.6%	138	\$81,523,347	2.8%	5.1% - 16.1%	0.2%
Minor procedures - skin	6.0%	373	\$75,757,612	1.7%	2.6% - 9.3%	0.2%
Other - Medicare fee schedule	27.8%	95	\$73,014,992	7.4%	13.2% - 42.4%	0.2%
Anesthesia	2.9%	186	\$58,878,670	1.1%	0.7% - 5.1%	0.1%
Standard imaging - chest	19.5%	453	\$58,430,066	2.0%	15.5% - 23.4%	0.1%
Ambulatory procedures - other	8.0%	564	\$54,787,996	2.2%	3.7% - 12.2%	0.1%
Lab tests - blood counts	18.4%	566	\$51,524,129	1.9%	14.6% - 22.1%	0.1%
Lab tests - automated general profiles	15.5%	706	\$50,574,650	1.6%	12.4% - 18.6%	0.1%
Advanced imaging - MRI/MRA: other	8.0%	148	\$49,823,005	3.0%	2.2% - 13.8%	0.1%
Chemotherapy	4.7%	170	\$49,667,176	1.4%	2.1% - 7.4%	0.1%
Endoscopy - cystoscopy	18.6%	48	\$47,996,886	2.3%	14.2% - 23.1%	0.1%
Other tests - electrocardiograms	15.0%	394	\$47,061,987	2.4%	10.3% - 19.7%	0.1%
Eye procedure - cataract removal/lens insertion	2.3%	104	\$45,114,698	1.5%	(0.7%) - 5.2%	0.1%
Oncology - radiation therapy	3.1%	49	\$37,887,157	0.6%	1.9% - 4.3%	0.1%
Lab tests - other (Medicare fee schedule)	2.1%	427	\$37,592,032	0.9%	0.4% - 3.9%	0.1%
Standard imaging - musculoskeletal	8.3%	283	\$36,476,339	2.0%	4.4% - 12.1%	0.1%
Other - non-Medicare fee schedule	38.4%	225	\$32,695,462	2.9%	32.6% - 44.1%	0.1%
Echography/ultrasonography - abdomen/pelvis	8.9%	81	\$32,468,757	3.0%	3.0% - 14.8%	0.1%
Standard imaging - other	9.4%	238	\$28,601,717	5.0%	(0.4%) - 19.1%	0.1%
Imaging/procedure - other	3.6%	109	\$23,882,946	0.9%	1.7% - 5.4%	0.1%
Lab tests - routine venipuncture (non-Medicare fee schedule)	17.0%	723	\$22,364,072	1.9%	13.3% - 20.6%	0.1%
Endoscopy - colonoscopy	2.8%	228	\$21,942,673	0.9%	1.1% - 4.5%	0.1%
Advanced imaging - CAT/CT/CTA: brain/head/neck	6.3%	122	\$20,233,961	1.7%	2.9% - 9.7%	0.0%
Major procedure, orthopedic - Knee replacement	6.7%	186	\$20,214,297	2.3%	2.1% - 11.2%	0.0%
Other tests - EKG monitoring	4.8%	46	\$19,295,120	2.2%	0.6% - 9.1%	0.0%
Major procedure, cardiovascular-Other	1.2%	216	\$19,028,316	0.5%	0.2% - 2.3%	0.0%
Standard imaging - breast	3.7%	103	\$16,911,367	2.0%	(0.3%) - 7.7%	0.0%
Major procedure - Other	0.4%	268	\$16,907,743	0.2%	(0.0%) - 0.8%	0.0%
Lab tests - urinalysis	23.9%	373	\$15,382,358	2.2%	19.6% - 28.1%	0.0%

Part B Services (BETOS Codes)	Improper Payment Rate					Percent of Overall Improper Payments
	Improper Payment Rate	Claims Reviewed	Projected Improper Payments	Standard Error	95% Confidence Interval	
Lab tests - bacterial cultures	20.1%	90	\$14,710,308	4.3%	11.7% - 28.6%	0.0%
Endoscopy - upper gastrointestinal	2.2%	80	\$11,293,360	1.0%	0.3% - 4.1%	0.0%
Other tests - cardiovascular stress tests	10.3%	84	\$10,478,345	3.6%	3.4% - 17.3%	0.0%
Oncology - other	1.9%	482	\$6,617,587	0.5%	0.9% - 2.9%	0.0%
Undefined codes	49.0%	841	\$4,388,665	7.7%	34.0% - 64.0%	0.0%
Lab tests - glucose	36.2%	61	\$3,735,272	1.6%	33.1% - 39.3%	0.0%
Major procedure - TURP	0.7%	172	\$297,716	0.3%	0.1% - 1.3%	0.0%
Endoscopy - other	0.1%	42	\$55,048	0.0%	0.0% - 0.1%	0.0%
Immunizations/Vaccinations	0.0%	256	\$0	N/A	N/A	0.0%
All Type of Services (Incl. Codes Not Listed)	11.7%	16,999	\$10,929,880,242	0.6%	10.6% - 12.9%	26.1%

Table G2: Improper Payment Rates by Service Type: DMEPOS

DMEPOS (HCPCS)	Improper Payment Rate					Percent of Overall Improper Payments
	Improper Payment Rate	Claims Reviewed	Projected Improper Payments	Standard Error	95% Confidence Interval	
Oxygen Supplies/Equipment	45.0%	1,542	\$521,860,728	1.6%	41.9% - 48.1%	1.2%
CPAP	59.6%	731	\$414,550,053	3.2%	53.4% - 65.9%	1.0%
Lower Limb Orthoses	69.6%	400	\$241,004,261	4.0%	61.8% - 77.4%	0.6%
Nebulizers & Related Drugs	26.4%	942	\$223,503,887	2.5%	21.5% - 31.3%	0.5%
Infusion Pumps & Related Drugs	37.3%	618	\$210,590,351	3.3%	30.9% - 43.6%	0.5%
Ventilators	63.9%	205	\$174,330,571	4.1%	55.9% - 71.9%	0.4%
All Policy Groups with Less than 30 Claims	40.3%	273	\$174,068,009	6.4%	27.7% - 52.9%	0.4%
Immunosuppressive Drugs	37.5%	532	\$137,495,212	3.5%	30.6% - 44.4%	0.3%
LSO	67.5%	271	\$128,489,773	4.9%	57.9% - 77.1%	0.3%
Glucose Monitor	40.3%	927	\$119,716,857	2.3%	35.9% - 44.7%	0.3%
Enteral Nutrition	49.5%	367	\$105,639,347	4.1%	41.5% - 57.6%	0.3%
Diabetic Shoes	64.0%	202	\$101,692,584	5.3%	53.6% - 74.4%	0.2%
Surgical Dressings	84.3%	216	\$99,155,463	4.1%	76.1% - 92.4%	0.2%
Urological Supplies	37.7%	387	\$94,509,083	4.6%	28.8% - 46.7%	0.2%
Oral Anti-Cancer Drugs	40.8%	170	\$94,476,485	4.5%	32.0% - 49.7%	0.2%
Wheelchairs Manual	87.2%	281	\$92,307,020	4.4%	78.5% - 95.8%	0.2%
Parenteral Nutrition	50.3%	316	\$84,623,077	5.0%	40.6% - 60.1%	0.2%
Respiratory Assist Device	71.0%	104	\$79,468,883	5.1%	61.1% - 80.9%	0.2%
Lower Limb Prostheses	20.1%	537	\$79,383,435	4.3%	11.7% - 28.6%	0.2%
Hospital Beds/Accessories	82.5%	275	\$79,286,415	2.7%	77.1% - 87.9%	0.2%
Wheelchairs Options/Accessories	43.1%	462	\$75,982,073	8.6%	26.4% - 59.9%	0.2%
Ostomy Supplies	41.3%	280	\$71,348,973	4.9%	31.6% - 50.9%	0.2%
Upper Limb Orthoses	67.7%	152	\$56,622,175	6.0%	56.0% - 79.4%	0.1%
Wheelchairs Motorized	26.1%	389	\$30,013,454	4.6%	17.1% - 35.1%	0.1%
Walkers	55.3%	78	\$29,635,143	7.1%	41.3% - 69.3%	0.1%
Lenses	72.8%	102	\$25,775,310	6.2%	60.7% - 85.0%	0.1%
Negative Pressure Wound Therapy	26.6%	112	\$25,211,588	5.2%	16.4% - 36.8%	0.1%
Commodes/Bed Pans/Urinals	95.2%	87	\$24,756,340	2.7%	89.9% -100.4%	0.1%
Support Surfaces	59.3%	115	\$20,480,587	10.7%	38.3% - 80.4%	0.0%
Breast Prostheses	37.7%	58	\$19,096,943	7.7%	22.7% - 52.8%	0.0%
Tracheostomy Supplies	52.4%	51	\$17,234,232	9.5%	33.7% - 71.1%	0.0%

DMEPOS (HCPCS)	Improper Payment Rate					Percent of Overall Improper Payments
	Improper Payment Rate	Claims Reviewed	Projected Improper Payments	Standard Error	95% Confidence Interval	
TENS	93.8%	108	\$17,020,874	2.4%	89.1% - 98.5%	0.0%
Patient Lift	57.4%	62	\$12,984,987	6.1%	45.5% - 69.3%	0.0%
Wheelchairs Seating	51.6%	211	\$12,626,540	13.0%	26.1% - 77.0%	0.0%
Intravenous Immune Globulin	15.7%	144	\$10,193,575	4.8%	6.2% - 25.2%	0.0%
Suction Pump	49.6%	148	\$10,007,222	11.4%	27.3% - 72.0%	0.0%
Orthopedic Footwear	83.3%	51	\$8,712,636	6.8%	70.1% - 96.6%	0.0%
Repairs/DME	55.5%	47	\$5,642,642	10.5%	35.0% - 76.0%	0.0%
Canes/Crutches	61.3%	61	\$3,562,203	7.8%	46.0% - 76.6%	0.0%
Routinely Denied Items	N/A	155	\$0	N/A	N/A	0.0%
All Type of Services (Incl. Codes Not Listed)	46.3%	10,999	\$3,733,058,989	1.0%	44.3% - 48.2%	8.9%

Table G3: Improper Payment Rates by Service Type: Part A Excluding Hospital IPPS

Part A Excluding Hospital IPPS Services (TOB)	Improper Payment Rate					Percent of Overall Improper Payments
	Improper Payment Rate	Claims Reviewed	Projected Improper Payments	Standard Error	95% Confidence Interval	
Home Health	42.0%	1,209	\$7,658,560,781	1.7%	38.7% - 45.3%	18.3%
Hospital Inpatient (Part A)	42.6%	900	\$4,704,510,711	2.4%	38.0% - 47.2%	11.2%
Hospital Outpatient	5.4%	1,621	\$3,012,375,064	1.6%	2.2% - 8.6%	7.2%
SNF Inpatient	7.8%	1,596	\$2,650,891,991	0.9%	6.2% - 9.5%	6.3%
Nonhospital based hospice	14.6%	563	\$2,130,136,444	1.7%	11.3% - 18.0%	5.1%
Clinic ESRD	5.3%	621	\$602,797,903	1.0%	3.4% - 7.1%	1.4%
Critical Access Hospital	9.9%	275	\$445,771,578	2.5%	5.1% - 14.8%	1.1%
Hospital based hospice	31.0%	48	\$389,720,423	7.9%	15.5% - 46.6%	0.9%
SNF Inpatient Part B	6.3%	93	\$146,880,818	2.3%	1.7% - 10.8%	0.4%
Hospital Other Part B	13.9%	111	\$93,171,251	3.7%	6.6% - 21.2%	0.2%
Clinic OPT	15.7%	37	\$72,983,965	2.7%	10.3% - 21.1%	0.2%
SNF Outpatient	12.6%	47	\$28,428,091	5.2%	2.4% - 22.8%	0.1%
Clinical Rural Health	2.1%	231	\$24,944,218	1.1%	(0.1%) - 4.4%	0.1%
Hospital Inpatient Part B	3.9%	46	\$20,614,489	3.4%	(2.9%) - 10.6%	0.0%
FQHC	1.8%	53	\$15,880,470	1.8%	(1.7%) - 5.4%	0.0%
Clinic CORF	29.5%	52	\$8,182,766	6.6%	16.5% - 42.5%	0.0%
All Codes With Less Than 30 Claims	0.0%	6	\$0	N/A	N/A	0.0%
All Type of Services (Incl. Codes Not Listed)	14.0%	7,509	\$22,005,850,962	0.8%	12.3% - 15.6%	52.6%

Table G4: Improper Payment Rates by Service Type: Part A Hospital IPPS

Part A Hospital IPPS Services (MS DRGs)	Improper Payment Rate					Percent of Overall Improper Payments
	Improper Payment Rate	Claims Reviewed	Projected Improper Payments	Standard Error	95% Confidence Interval	
All Codes With Less Than 30 Claims	6.2%	1,648	\$1,326,403,933	0.7%	4.9% - 7.6%	3.2%
Psychoses (885)	8.8%	859	\$358,460,538	2.0%	4.8% - 12.8%	0.9%
Major Joint Replacement Or Reattachment Of Lower Extremity (469, 470)	3.1%	392	\$200,630,735	0.9%	1.2% - 4.9%	0.5%
Esophagitis, Gastroent & Misc Digest Disorders (391, 392)	10.1%	280	\$148,905,737	1.7%	6.9% - 13.4%	0.4%
Spinal Fusion Except Cervical (459, 460)	5.8%	218	\$128,731,366	1.8%	2.4% - 9.2%	0.3%
Pulmonary Edema & Respiratory Failure (189)	11.1%	55	\$124,475,796	8.8%	(6.1%) - 28.3%	0.3%
Heart Failure & Shock (291, 292, 293)	3.0%	529	\$115,934,139	0.7%	1.6% - 4.4%	0.3%
Other Vascular Procedures (252, 253, 254)	6.9%	205	\$107,053,115	1.6%	3.7% - 10.0%	0.3%
Renal Failure (682, 683, 684)	4.8%	125	\$105,064,915	1.6%	1.7% - 7.9%	0.3%
Syncope & Collapse (312)	22.8%	50	\$101,170,170	6.3%	10.4% - 35.2%	0.2%
Misc Disorders Of Nutrition, metabolism, fluids/Electrolytes (640, 641)	8.8%	207	\$100,026,366	1.8%	5.2% - 12.3%	0.2%
Degenerative Nervous System Disorders (056, 057)	13.7%	215	\$86,057,934	1.8%	10.2% - 17.2%	0.2%
Chronic Obstructive Pulmonary Disease (190, 191, 192)	3.3%	250	\$78,559,950	1.2%	0.9% - 5.7%	0.2%
Back & Neck Proc Exc Spinal Fusion (518, 519, 520)	20.4%	380	\$75,927,463	2.0%	16.6% - 24.3%	0.2%
Lower Extrem & Humer Proc Except Hip,foot,femur (492, 493, 494)	11.0%	136	\$72,361,705	2.4%	6.3% - 15.8%	0.2%
Perc Cardiovasc Proc W Drug-Eluting Stent (246, 247)	4.0%	431	\$69,551,763	0.8%	2.3% - 5.6%	0.2%
Circulatory Disorders Except Ami, W Card Cath (286, 287)	6.5%	241	\$69,243,955	1.4%	3.7% - 9.2%	0.2%
Intracranial Hemorrhage Or Cerebral Infarction (064, 065, 066)	3.2%	151	\$69,021,142	1.4%	0.5% - 5.9%	0.2%
Other Digestive System Diagnoses (393, 394, 395)	9.1%	118	\$66,191,420	1.9%	5.5% - 12.8%	0.2%
Chest Pain (313)	21.8%	196	\$65,595,487	3.3%	15.2% - 28.3%	0.2%
Seizures (100, 101)	13.5%	73	\$64,954,508	3.3%	7.0% - 20.1%	0.2%
Cardiac Defibrillator Implant W/O Cardiac Cath (226, 227)	13.0%	921	\$64,091,337	1.2%	10.7% - 15.4%	0.2%
Diabetes (637, 638, 639)	10.0%	100	\$60,858,841	2.9%	4.4% - 15.6%	0.1%
Simple Pneumonia & Pleurisy (193, 194, 195)	2.2%	145	\$60,327,148	0.7%	0.7% - 3.6%	0.1%
Organic Disturbances & Mental Retardation (884)	14.6%	49	\$60,234,099	5.1%	4.6% - 24.7%	0.1%
G.I. Hemorrhage (377, 378, 379)	3.2%	151	\$58,472,240	1.6%	(0.0%) - 6.4%	0.1%
Cardiac Arrhythmia & Conduction Disorders (308, 309, 310)	4.3%	152	\$52,760,666	1.3%	1.7% - 6.8%	0.1%
Major Small & Large Bowel Procedures (329, 330, 331)	2.5%	170	\$52,431,214	0.5%	1.4% - 3.6%	0.1%

Part A Hospital IPPS Services (MS DRGs)	Improper Payment Rate					Percent of Overall Improper Payments
	Improper Payment Rate	Claims Reviewed	Projected Improper Payments	Standard Error	95% Confidence Interval	
Signs & Symptoms (947, 948)	15.5%	64	\$45,967,018	2.1%	11.4% - 19.6%	0.1%
Kidney & Urinary Tract Infections (689, 690)	3.3%	240	\$45,611,435	1.0%	1.3% - 5.4%	0.1%
Permanent Cardiac Pacemaker Implant (242, 243, 244)	3.5%	1,113	\$43,233,755	0.5%	2.5% - 4.4%	0.1%
Red Blood Cell Disorders (811, 812)	6.1%	88	\$39,871,152	1.8%	2.5% - 9.7%	0.1%
Major Gastrointestinal Disorders & Peritoneal Infections (371, 372, 373)	5.7%	101	\$38,222,436	2.0%	1.8% - 9.7%	0.1%
Medical Back Problems (551, 552)	7.2%	71	\$37,455,655	2.3%	2.7% - 11.7%	0.1%
Disorders Of Liver Except Malig.cirr,alc Hepa (441, 442, 443)	8.0%	82	\$35,800,852	2.3%	3.6% - 12.5%	0.1%
Septicemia Or Severe Sepsis W Mv 96+ Hours (870)	1.9%	40	\$33,569,144	1.9%	(1.8%) - 5.6%	0.1%
Laparoscopic Cholecystectomy W/O C.D.E. (417, 418, 419)	5.3%	58	\$33,347,099	2.1%	1.1% - 9.4%	0.1%
Extensive O.R. Procedure Unrelated To Principal Diagnosis (981, 982, 983)	2.7%	194	\$33,268,638	0.8%	1.1% - 4.2%	0.1%
Cervical Spinal Fusion (471, 472, 473)	4.0%	69	\$30,777,870	1.3%	1.4% - 6.5%	0.1%
Peripheral Vascular Disorders (299, 300, 301)	6.0%	107	\$30,542,506	1.7%	2.6% - 9.4%	0.1%
Transient Ischemia (069)	10.5%	48	\$30,077,057	4.6%	1.5% - 19.4%	0.1%
Cellulitis (602, 603)	2.9%	105	\$29,769,212	1.6%	(0.2%) - 6.1%	0.1%
Bronchitis & Asthma (202, 203)	8.5%	63	\$29,284,350	3.0%	2.6% - 14.4%	0.1%
Other Disorders Of Nervous System (091, 092, 093)	10.9%	70	\$29,024,781	2.8%	5.4% - 16.4%	0.1%
Septicemia Or Severe Sepsis W/O Mv 96+ Hours (871, 872)	0.4%	104	\$27,325,774	0.0%	0.3% - 0.5%	0.1%
Traumatic Stupor & Coma, Coma <1 Hr (085, 086, 087)	6.5%	53	\$26,924,439	4.2%	(1.8%) - 14.8%	0.1%
Disequilibrium (149)	31.0%	50	\$25,921,367	5.5%	20.1% - 41.8%	0.1%
Hip & Femur Procedures Except Major Joint (480, 481, 482)	1.6%	161	\$25,913,226	0.6%	0.3% - 2.8%	0.1%
Fx, Sprn, Strn & Disl Except Femur, Hip, Pelvis & Thigh (562, 563)	12.6%	53	\$23,501,126	3.7%	5.3% - 19.9%	0.1%
Infectious & Parasitic Diseases W O.R. Procedure (853, 854, 855)	1.1%	60	\$23,310,497	0.8%	(0.4%) - 2.6%	0.1%
Alcohol/Drug Abuse Or Dependence W/O Rehabilitation Therapy (896, 897)	5.1%	63	\$23,101,001	1.9%	1.4% - 8.9%	0.1%
Other Circulatory System Diagnoses (314, 315, 316)	2.7%	80	\$23,024,962	0.5%	1.7% - 3.8%	0.1%
Respiratory Neoplasms (180, 181, 182)	6.2%	66	\$22,542,022	2.2%	1.8% - 10.5%	0.1%
Coronary Bypass W/O Cardiac Cath (235, 236)	2.4%	78	\$22,538,848	0.2%	2.0% - 2.7%	0.1%
Major Cardiovasc Procedures (237, 238)	1.3%	109	\$22,037,459	0.6%	0.0% - 2.5%	0.1%
Nonspecific Cerebrovascular Disorders (070, 071, 072)	6.2%	50	\$21,591,875	1.5%	3.3% - 9.0%	0.1%
Perc Cardiovasc Proc W/O Coronary Artery Stent (250, 251)	5.0%	109	\$21,518,673	1.6%	1.9% - 8.2%	0.1%

Part A Hospital IPPS Services (MS DRGs)	Improper Payment Rate					Percent of Overall Improper Payments
	Improper Payment Rate	Claims Reviewed	Projected Improper Payments	Standard Error	95% Confidence Interval	
Other Resp System O.R. Procedures (166, 167, 168)	2.7%	67	\$21,323,672	1.4%	(0.1%) - 5.4%	0.1%
Acute Myocardial Infarction, Discharged Alive (280, 281, 282)	2.0%	141	\$21,221,527	1.0%	0.1% - 3.9%	0.1%
Respiratory Infections & Inflammations (177, 178, 179)	1.4%	144	\$20,528,864	0.7%	0.1% - 2.8%	0.0%
Revision Of Hip Or Knee Replacement (466, 467, 468)	2.3%	36	\$19,186,933	0.2%	1.8% - 2.7%	0.0%
Other Kidney & Urinary Tract Procedures (673, 674, 675)	6.4%	104	\$18,888,568	1.9%	2.7% - 10.1%	0.0%
Uterine & Adnexa Proc For Non-Malignancy (742, 743)	15.8%	105	\$18,804,353	2.7%	10.6% - 21.0%	0.0%
Respiratory System Diagnosis W Ventilator Support 96+ Hours (207)	1.0%	102	\$18,656,596	0.6%	(0.2%) - 2.2%	0.0%
Signs & Symptoms Of Musculoskeletal System & Conn Tissue (555, 556)	8.4%	54	\$18,091,603	2.0%	4.5% - 12.3%	0.0%
Other Kidney & Urinary Tract Diagnoses (698, 699, 700)	2.3%	96	\$17,054,572	1.4%	(0.5%) - 5.1%	0.0%
Cranial & Peripheral Nerve Disorders (073, 074)	6.8%	63	\$17,006,127	2.1%	2.6% - 11.0%	0.0%
Hernia Procedures Except Inguinal & Femoral (353, 354, 355)	6.5%	111	\$16,327,108	3.0%	0.7% - 12.4%	0.0%
Stomach, Esophageal & Duodenal Proc (326, 327, 328)	2.4%	156	\$16,054,940	0.8%	0.9% - 4.0%	0.0%
Complications Of Treatment (919, 920, 921)	3.8%	72	\$15,582,496	1.9%	0.0% - 7.5%	0.0%
Bone Diseases & Arthropathies (553, 554)	13.2%	59	\$15,198,522	3.8%	5.7% - 20.7%	0.0%
G.I. Obstruction (388, 389, 390)	1.8%	114	\$12,232,329	1.2%	(0.5%) - 4.2%	0.0%
Atherosclerosis (302, 303)	14.5%	53	\$10,616,554	5.5%	3.7% - 25.3%	0.0%
Cardiac Valve & Oth Maj Cardiothoracic Proc W/O Card Cath (219, 220, 221)	0.6%	53	\$10,413,673	0.1%	0.4% - 0.8%	0.0%
Poisoning & Toxic Effects Of Drugs (917, 918)	2.3%	54	\$9,693,173	0.9%	0.5% - 4.1%	0.0%
Fractures Of Hip & Pelvis (535, 536)	3.6%	53	\$6,807,690	2.6%	(1.5%) - 8.7%	0.0%
Amputation For Circ Sys Disorders Exc Upper Limb & Toe (239, 240, 241)	1.6%	64	\$6,775,261	0.8%	0.1% - 3.2%	0.0%
Respiratory System Diagnosis W Ventilator Support <96 Hours (208)	0.5%	65	\$5,299,212	0.5%	(0.5%) - 1.6%	0.0%
Endocrine Disorders (643, 644, 645)	2.0%	36	\$4,800,651	2.0%	(1.9%) - 5.9%	0.0%
Pulmonary Embolism (175, 176)	1.0%	63	\$4,370,349	0.5%	(0.1%) - 2.1%	0.0%
Major Joint/Limb Reattachment Procedure Of Upper Extremities (483)	0.7%	59	\$3,195,138	0.1%	0.6% - 0.9%	0.0%
Major Chest Procedures (163, 164, 165)	0.4%	82	\$2,954,340	0.3%	(0.1%) - 0.9%	0.0%
Postoperative & Post-Traumatic Infections (862, 863)	0.6%	34	\$2,133,797	0.1%	0.4% - 0.8%	0.0%
Disorders Of Pancreas Except Malignancy (438, 439, 440)	0.5%	66	\$1,915,307	0.3%	(0.1%) - 1.1%	0.0%
Disorders Of The Biliary Tract (444, 445, 446)	0.7%	37	\$1,775,887	0.7%	(0.7%) - 2.1%	0.0%
Extracranial Procedures (037, 038, 039)	0.6%	36	\$1,486,284	0.5%	(0.3%) - 1.5%	0.0%

Part A Hospital IPPS Services (MS DRGs)	Improper Payment Rate					Percent of Overall Improper Payments
	Improper Payment Rate	Claims Reviewed	Projected Improper Payments	Standard Error	95% Confidence Interval	
Heart Transplant Or Implant Of Heart Assist System (001, 002)	0.1%	52	\$405,639	0.1%	(0.1%) - 0.4%	0.0%
Ecmo Or Trach W Mv 96+ Hrs Or Pdx Exc Face, Mouth & Neck (003)	0.0%	97	\$11	0.0%	(0.0%) - 0.0%	0.0%
Cardiac Valve & Oth Maj Cardiothoracic Proc W Card Cath (216, 21 , 218)	0.0%	101	\$0	N/A	N/A	0.0%
Craniotomy & Endovascular Intracranial Procedures (025, 026, 027)	0.0%	65	\$0	N/A	N/A	0.0%
All Type of Services (Incl. Codes Not Listed)	4.5%	14,490	\$5,157,373,086	0.2%	4.0% - 4.9%	12.3%

Appendix H: Projected Improper Payments by Referring Provider Type for Specific Types of Service

This series of tables is sorted in descending order by projected improper payments. All estimates in these tables are based on a minimum of 30 lines in the sample.

Table H1: Improper Payment Rates for Lab Tests - other (non-Medicare fee schedule) by Referring Provider

Lab tests other (non Medicare fee schedule)	Improper Payment Rate					Percent of Type of Service Improper Payments
	Improper Payment Rate	Claims Reviewed	Projected Improper Payments	Standard Error	95% Confidence Interval	
Internal Medicine	22.8%	1,001	\$321,470,943	4.6%	13.8% - 31.8%	24.8%
Family Practice	36.1%	608	\$269,032,407	6.4%	23.6% - 48.5%	20.7%
No Referring Provider Type	59.1%	146	\$205,718,563	15.2%	29.3% - 88.8%	15.8%
Anesthesiology	62.4%	128	\$125,974,828	4.6%	53.4% - 71.3%	9.7%
Nurse Practitioner	50.1%	158	\$78,730,596	6.1%	38.1% - 62.1%	6.1%
Interventional Pain Management	87.6%	76	\$65,400,978	1.1%	85.5% - 89.8%	5.0%
Pain Management	59.2%	45	\$47,472,329	0.9%	57.4% - 61.1%	3.7%
Physical Medicine and Rehabilitation	76.9%	67	\$43,201,204	5.8%	65.5% - 88.3%	3.3%
Psychiatry	69.6%	58	\$25,992,662	3.2%	63.4% - 75.9%	2.0%
General Surgery	31.9%	59	\$23,114,530	0.2%	31.6% - 32.3%	1.8%
Physician Assistant	28.1%	67	\$14,195,038	6.2%	15.9% - 40.3%	1.1%
Neurology	44.3%	39	\$12,359,181	1.5%	41.4% - 47.2%	1.0%
Cardiology	15.1%	71	\$12,339,939	0.6%	13.8% - 16.4%	1.0%
General Practice	22.8%	37	\$7,986,935	1.1%	20.6% - 24.9%	0.6%
Urology	7.8%	32	\$5,936,539	0.4%	7.1% - 8.5%	0.5%
Gastroenterology	6.6%	30	\$2,895,054	N/A	N/A	0.2%
All Referring Providers	35.5%	2,746	\$1,298,396,656	3.3%	29.0% - 42.0%	100.0%

Table H2: Improper Payment Rates for Minor Procedures - other (Medicare fee schedule) by Referring Provider

Minor procedures other (Medicare fee schedule)	Improper Payment Rate					Percent of Type of Service Improper Payments
	Improper Payment Rate	Claims Reviewed	Projected Improper Payments	Standard Error	95% Confidence Interval	
General Surgery	22.6%	251	\$210,999,873	3.1%	16.4% - 28.7%	28.8%
Internal Medicine	18.7%	426	\$166,833,471	2.4%	14.1% - 23.4%	22.8%
Family Practice	25.2%	195	\$124,666,519	3.4%	18.5% - 31.9%	17.0%
Neurology	51.0%	33	\$60,699,673	2.4%	46.3% - 55.7%	8.3%
No Referring Provider Type	13.9%	182	\$50,418,228	3.1%	7.8% - 20.1%	6.9%
Physical Medicine and Rehabilitation	36.8%	30	\$43,104,865	4.9%	27.3% - 46.4%	5.9%
Nurse Practitioner	13.4%	31	\$7,829,237	3.9%	5.7% - 21.1%	1.1%
All Referring Providers	21.4%	1,330	\$733,156,022	1.9%	17.6% - 25.1%	100.0%

Table H3: Improper Payment Rates for Office Visits - established by Provider Type

Office visits established	Improper Payment Rate					Percent of Type of Service Improper Payments
	Improper Payment Rate	Claims Reviewed	Projected Improper Payments	Standard Error	95% Confidence Interval	
Internal Medicine	8.4%	267	\$264,482,405	1.4%	5.7% - 11.1%	20.4%
Family Practice	8.2%	209	\$223,049,153	1.7%	4.8% - 11.6%	17.2%
Cardiology	10.9%	112	\$146,294,535	1.6%	7.8% - 14.0%	11.3%
Orthopedic Surgery	15.3%	42	\$81,936,099	3.1%	9.1% - 21.4%	6.3%
Neurology	17.6%	33	\$62,347,024	0.1%	17.3% - 17.8%	4.8%
Urology	12.1%	33	\$48,093,808	1.6%	8.9% - 15.2%	3.7%
Podiatry	16.9%	33	\$44,710,811	3.8%	9.4% - 24.3%	3.5%
Physician Assistant	5.5%	35	\$20,417,899	0.5%	4.6% - 6.5%	1.6%
Nurse Practitioner	4.3%	54	\$19,791,907	0.4%	3.5% - 5.0%	1.5%
Hematology/Oncology	2.8%	48	\$14,591,603	0.4%	1.9% - 3.6%	1.1%
Dermatology	2.3%	36	\$9,351,418	0.3%	1.6% - 3.0%	0.7%
Ophthalmology	2.5%	30	\$8,419,089	0.3%	1.9% - 3.1%	0.7%
All Provider Types	8.8%	1,314	\$1,294,911,042	0.8%	7.2% - 10.3%	100.0%

Table H4: Improper Payment Rates for Hospital Visit - initial by Provider Type

Hospital visit initial	Improper Payment Rate					Percent of Type of Service Improper Payments
	Improper Payment Rate	Claims Reviewed	Projected Improper Payments	Standard Error	95% Confidence Interval	
Internal Medicine	28.0%	361	\$271,092,929	1.6%	25.0% - 31.1%	31.2%
Cardiology	37.3%	95	\$101,516,372	2.6%	32.2% - 42.4%	11.7%
Family Practice	32.4%	67	\$62,894,822	5.3%	21.9% - 42.8%	7.2%
Nephrology	26.6%	67	\$55,148,956	2.8%	21.1% - 32.0%	6.3%
Gastroenterology	43.7%	31	\$47,072,103	3.3%	37.2% - 50.2%	5.4%
Pulmonary Disease	28.1%	54	\$42,873,188	2.7%	22.9% - 33.4%	4.9%
Neurology	27.5%	43	\$32,544,946	2.7%	22.1% - 32.8%	3.7%
Infectious Disease	17.5%	47	\$25,884,680	3.0%	11.7% - 23.3%	3.0%
General Surgery	24.0%	30	\$15,806,850	2.6%	18.9% - 29.1%	1.8%
All Provider Types	29.6%	1,057	\$869,459,529	1.1%	27.5% - 31.7%	100.0%

Table H5: Improper Payment Rates for Hospital Visit - subsequent by Provider Type

Hospital visit subsequent	Improper Payment Rate					Percent of Type of Service Improper Payments
	Improper Payment Rate	Claims Reviewed	Projected Improper Payments	Standard Error	95% Confidence Interval	
Internal Medicine	20.8%	661	\$474,446,035	1.6%	17.8% - 23.9%	47.9%
Cardiology	15.1%	162	\$92,931,124	1.3%	12.5% - 17.7%	9.4%
Family Practice	19.1%	126	\$80,245,256	1.7%	15.7% - 22.6%	8.1%
Pulmonary Disease	16.3%	178	\$60,148,477	2.3%	11.7% - 20.9%	6.1%
Nephrology	13.4%	105	\$50,654,370	1.3%	10.8% - 16.0%	5.1%
Infectious Disease	9.3%	75	\$27,692,333	1.6%	6.1% - 12.4%	2.8%
Physical Medicine and Rehabilitation	13.3%	39	\$25,634,949	1.0%	11.5% - 15.2%	2.6%
Psychiatry	14.2%	61	\$24,885,109	1.8%	10.6% - 17.8%	2.5%
Neurology	11.9%	56	\$21,922,370	0.5%	10.9% - 12.9%	2.2%
Hematology/Oncology	17.3%	30	\$16,103,507	3.5%	10.4% - 24.1%	1.6%
Nurse Practitioner	14.1%	54	\$15,282,927	1.8%	10.5% - 17.7%	1.5%
Gastroenterology	10.5%	32	\$8,982,789	1.0%	8.7% - 12.4%	0.9%
Physician Assistant	12.4%	30	\$8,573,123	N/A	N/A	0.9%
Critical Care (Intensivists)	6.5%	38	\$6,354,266	1.8%	2.9% - 10.1%	0.6%
General Surgery	8.0%	33	\$4,573,851	1.5%	5.2% - 10.9%	0.5%
All Provider Types	17.2%	1,807	\$990,866,111	0.9%	15.5% - 18.9%	100.0%

Table H6: Improper Payment Rates for Oxygen Supplies/Equipment by Referring Provider

Oxygen Supplies/Equipment	Improper Payment Rate					Percent of Type of Service Improper Payments
	Improper Payment Rate	Claims Reviewed	Projected Improper Payments	Standard Error	95% Confidence Interval	
Internal Medicine	42.8%	839	\$253,019,778	2.2%	38.6% - 47.1%	48.5%
Family Practice	46.5%	391	\$146,662,549	2.9%	40.7% - 52.3%	28.1%
Nurse Practitioner	47.0%	114	\$49,722,422	5.5%	36.4% - 57.7%	9.5%
No Referring Provider Type	54.8%	66	\$27,017,891	7.3%	40.6% - 69.0%	5.2%
Cardiology	50.5%	39	\$15,392,867	8.3%	34.2% - 66.7%	2.9%
Physician Assistant	34.6%	42	\$11,706,006	8.3%	18.4% - 50.9%	2.2%
All Referring Providers	45.0%	1,542	\$521,860,728	1.6%	41.9% - 48.1%	100.0%

Table H7: Improper Payment Rates for CPAP by Referring Provider

CPAP	Improper Payment Rate					Percent of Type of Service Improper Payments
	Improper Payment Rate	Claims Reviewed	Projected Improper Payments	Standard Error	95% Confidence Interval	
Internal Medicine	59.9%	409	\$245,712,357	4.4%	51.3% - 68.5%	59.3%
Family Practice	58.4%	136	\$71,726,689	5.2%	48.2% - 68.7%	17.3%
Nurse Practitioner	66.7%	35	\$23,377,349	2.0%	62.9% - 70.6%	5.6%
Neurology	48.6%	39	\$20,254,614	5.7%	37.4% - 59.8%	4.9%
No Referring Provider Type	52.4%	35	\$13,654,393	7.3%	38.2% - 66.7%	3.3%
All Referring Providers	59.6%	731	\$414,550,053	3.2%	53.4% - 65.9%	100.0%

Table H8: Improper Payment Rates for Lower Limb Orthoses by Referring Provider

Lower Limb Orthoses	Improper Payment Rate					Percent of Type of Service Improper Payments
	Improper Payment Rate	Claims Reviewed	Projected Improper Payments	Standard Error	95% Confidence Interval	
General Surgery	67.2%	155	\$76,448,133	7.0%	53.4% - 80.9%	31.7%
Family Practice	82.1%	69	\$68,001,117	7.5%	67.5% - 96.8%	28.2%
Internal Medicine	69.0%	46	\$29,914,823	7.4%	54.5% - 83.5%	12.4%
Podiatry	48.6%	50	\$23,757,350	12.1%	24.8% - 72.3%	9.9%
All Referring Providers	69.6%	400	\$241,004,261	4.0%	61.8% - 77.4%	100.0%

Appendix I: Projected Improper Payments by Provider Type for Each Claim Type

This series of tables is sorted in descending order by projected improper payments. All estimates in these tables are based on a minimum of 30 lines in the sample.

Table I1: Improper Payment Rates and Amounts by Provider Type: Part B⁹

Providers Billing to Part B	Improper Payment Rate				Provider Compliance Improper Payment Rate	Percent of Overall Improper Payments
	Improper Payment Rate	Projected Improper Payments	Claims Reviewed	95% Confidence Interval		
Internal Medicine	15.7%	\$1,530,555,576	1,897	13.6% - 17.7%	22.5%	3.7%
Clinical Laboratory (Billing Independently)	31.6%	\$1,253,048,712	2,374	24.3% - 38.8%	36.0%	3.0%
Family Practice	14.3%	\$763,580,105	882	11.8% - 16.8%	20.5%	1.8%
Cardiology	14.5%	\$736,099,396	833	11.8% - 17.2%	24.1%	1.8%
Ambulance Service Supplier (e.g., private ambulance companies)	11.7%	\$556,369,821	687	9.0% - 14.4%	17.6%	1.3%
Physical Therapist in Private Practice	25.5%	\$534,416,064	600	20.7% - 30.3%	29.8%	1.3%
Diagnostic Radiology	9.7%	\$329,005,469	1,284	7.3% - 12.0%	17.5%	0.8%
All Provider Types With Less Than 30 Claims	15.6%	\$294,428,713	235	(0.2%) - 31.3%	26.7%	0.7%
Emergency Medicine	11.2%	\$270,901,559	498	9.0% - 13.4%	19.0%	0.6%
Chiropractic	46.0%	\$269,386,614	434	39.9% - 52.1%	53.2%	0.6%
Nephrology	16.3%	\$261,880,433	348	13.4% - 19.2%	22.4%	0.6%
Orthopedic Surgery	8.4%	\$249,039,451	327	6.4% - 10.5%	19.3%	0.6%
Ophthalmology	4.0%	\$248,155,628	625	2.5% - 5.4%	11.7%	0.6%
Podiatry	16.6%	\$238,734,819	246	11.9% - 21.3%	41.3%	0.6%
Urology	7.1%	\$210,411,102	293	(1.3%) - 15.5%	9.0%	0.5%
Psychiatry	24.0%	\$210,232,330	148	20.3% - 27.7%	28.7%	0.5%
Neurology	13.5%	\$191,518,611	180	12.4% - 14.7%	21.1%	0.5%
Nurse Practitioner	12.1%	\$187,214,737	411	8.7% - 15.5%	23.2%	0.4%
Pulmonary Disease	12.2%	\$179,423,108	360	9.3% - 15.1%	19.1%	0.4%
Gastroenterology	11.8%	\$162,210,993	256	8.8% - 14.7%	19.4%	0.4%
IDTF	14.3%	\$142,028,347	84	7.4% - 21.3%	20.0%	0.3%

⁹ The dollars in error for the improper payment rate is based on the final allowed charges, and the dollars in error for the provider compliance improper payment rate is based on the fee schedule amount for the billed service.

Providers Billing to Part B	Improper Payment Rate				Provider Compliance Improper Payment Rate	Percent of Overall Improper Payments
	Improper Payment Rate	Projected Improper Payments	Claims Reviewed	95% Confidence Interval		
Optometry	16.5%	\$137,929,685	101	12.5% - 20.4%	26.7%	0.3%
Clinical Psychologist	30.3%	\$135,217,317	75	22.5% - 38.2%	35.3%	0.3%
Anesthesiology	7.6%	\$134,486,239	170	2.6% - 12.6%	16.9%	0.3%
Physical Medicine and Rehabilitation	15.9%	\$123,425,856	170	13.4% - 18.4%	23.4%	0.3%
Medical Oncology	9.2%	\$118,983,401	145	4.2% - 14.1%	14.3%	0.3%
Hematology/Oncology	3.9%	\$117,879,259	380	2.7% - 5.2%	6.1%	0.3%
Rheumatology	8.0%	\$94,496,769	157	6.7% - 9.4%	10.9%	0.2%
Physician Assistant	6.2%	\$94,013,696	306	4.6% - 7.9%	14.1%	0.2%
General Surgery	6.2%	\$88,331,126	321	3.8% - 8.6%	14.7%	0.2%
Interventional Pain Management	22.9%	\$88,169,229	60	14.6% - 31.1%	55.4%	0.2%
Otolaryngology	9.0%	\$81,502,482	77	6.4% - 11.7%	12.5%	0.2%
Pain Management	24.5%	\$77,762,129	47	18.4% - 30.7%	42.3%	0.2%
Infectious Disease	8.5%	\$76,174,435	126	6.9% - 10.0%	10.3%	0.2%
General Practice	15.7%	\$69,353,131	66	14.1% - 17.3%	25.2%	0.2%
Dermatology	2.7%	\$67,656,102	194	1.8% - 3.5%	16.8%	0.2%
Endocrinology	15.4%	\$65,534,262	66	13.7% - 17.1%	14.1%	0.2%
Clinical Social Worker	19.8%	\$63,184,260	91	11.9% - 27.7%	26.3%	0.2%
Radiation Oncology	3.6%	\$63,090,672	70	1.8% - 5.4%	7.0%	0.2%
Obstetrics/Gynecology	8.4%	\$52,403,642	65	6.3% - 10.5%	14.1%	0.1%
Vascular Surgery	6.8%	\$51,112,984	143	4.4% - 9.1%	9.9%	0.1%
Occupational Therapist in Private Practice	25.5%	\$44,766,404	45	24.0% - 26.9%	32.6%	0.1%
Unassigned	17.5%	\$40,050,564	50	13.3% - 21.7%	19.5%	0.1%
Critical Care (Intensivists)	11.4%	\$37,644,619	86	8.9% - 13.9%	17.2%	0.1%
Plastic and Reconstructive Surgery	7.0%	\$29,313,715	40	2.7% - 11.3%	13.2%	0.1%
Ambulatory Surgical Center	0.7%	\$27,333,823	221	(0.6%) - 2.0%	29.2%	0.1%
Allergy/Immunology	11.8%	\$26,206,065	34	2.6% - 21.0%	11.6%	0.1%
Pathology	2.3%	\$25,057,205	322	0.5% - 4.0%	7.6%	0.1%
CRNA	2.9%	\$23,972,015	90	(0.1%) - 5.9%	11.5%	0.1%
Portable X-Ray Supplier (Billing Independently)	9.6%	\$18,900,805	31	(4.7%) - 23.9%	16.5%	0.0%
Geriatric Medicine	6.9%	\$15,369,883	45	5.3% - 8.5%	10.1%	0.0%
Unknown Provider Type	3.7%	\$12,920,380	94	2.9% - 4.4%	5.1%	0.0%
Interventional Radiology	0.6%	\$8,996,500	56	0.2% - 1.0%	3.9%	0.0%

Providers Billing to Part B	Improper Payment Rate				Provider Compliance Improper Payment Rate	Percent of Overall Improper Payments
	Improper Payment Rate	Projected Improper Payments	Claims Reviewed	95% Confidence Interval		
Mass Immunization Roster Billers (Mass Immunizers have to roster bill assigned claims and can only bill for immunizations)	0.0%	\$0	66	0.0% - 0.0%	0.9%	0.0%
All Provider Types	11.7%	\$10,929,880,242	16,999	10.6% - 12.9%	20.4%	26.1%

Table I2: Improper Payment Rates and Amounts by Provider Type: DMEPOS¹⁰

Providers Billing to DMEPOS	Improper Payment Rate				Provider Compliance Improper Payment Rate	Percent of Overall Improper Payments
	Improper Payment Rate	Projected Improper Payments	Claims Reviewed	95% Confidence Interval		
Medical supply company not included in 51, 52, or 53	51.7%	\$1,719,690,843	4,537	49.1% - 54.3%	54.4%	4.1%
Pharmacy	37.6%	\$1,044,367,490	3,713	34.7% - 40.4%	40.6%	2.5%
Medical Supply Company with Respiratory Therapist	53.8%	\$423,907,743	1,050	46.2% - 61.4%	54.5%	1.0%
All Provider Types With Less Than 30 Claims	70.2%	\$99,501,678	246	62.6% - 77.8%	71.9%	0.2%
Podiatry	68.4%	\$75,585,589	124	56.5% - 80.4%	68.5%	0.2%
Medical supply company with prosthetic/orthotic personnel certified by an accrediting organization	51.2%	\$64,942,369	173	39.5% - 62.8%	53.1%	0.2%
Medical supply company with orthotic personnel certified by an accrediting organization	40.9%	\$61,947,554	145	11.8% - 70.0%	43.5%	0.1%
Individual orthotic personnel certified by an accrediting organization	28.4%	\$50,290,546	255	16.1% - 40.7%	29.7%	0.1%
Individual prosthetic personnel certified by an accrediting organization	27.0%	\$45,608,501	267	16.8% - 37.1%	31.0%	0.1%
Orthopedic Surgery	63.5%	\$41,309,419	145	48.8% - 78.2%	65.7%	0.1%
Medical supply company with prosthetic personnel certified by an accrediting organization	48.3%	\$28,396,474	50	18.7% - 77.9%	50.5%	0.1%
Supplier of oxygen and/or oxygen related equipment	42.6%	\$24,228,663	65	30.5% - 54.8%	44.4%	0.1%
General Practice	76.5%	\$23,739,436	63	60.5% - 92.4%	79.6%	0.1%
Optometry	77.1%	\$12,314,733	44	58.9% - 95.4%	78.0%	0.0%
Ophthalmology	58.1%	\$8,010,771	36	37.7% - 78.5%	63.7%	0.0%
Multispecialty Clinic or Group Practice	39.1%	\$4,849,136	49	22.0% - 56.2%	45.1%	0.0%
Individual prosthetic/orthotic personnel certified by an accrediting organization	9.8%	\$4,368,045	37	5.5% - 14.1%	10.4%	0.0%
All Provider Types	46.3%	\$3,733,058,989	10,999	44.3% - 48.2%	48.8%	8.9%

¹⁰ The dollars in error for the improper payment rate is based on the final allowed charges, and the dollars in error for the provider compliance improper payment rate is based on the fee schedule amount for the billed service

Table I3: Improper Payment Rates and Amounts by Provider Type: Part A Excluding Hospital IPPS

Providers Billing to Part A Excluding Hospital IPPS	Improper Payment Rate				Percent of Overall Improper Payments
	Improper Payment Rate	Projected Improper Payments	Claims Reviewed	95% Confidence Interval	
HHA	42.0%	\$7,658,560,781	1,212	38.7% - 45.3%	18.3%
OPPS, Laboratory, Ambulatory	5.4%	\$3,126,160,804	1,780	2.4% - 8.5%	7.5%
SNF	7.8%	\$2,826,200,900	1,736	6.2% - 9.3%	6.8%
Hospice	15.9%	\$2,519,856,866	611	12.6% - 19.3%	6.0%
Inpatient Rehabilitation Hospitals	73.2%	\$2,519,786,183	210	66.0% - 80.4%	6.0%
Inpatient Rehab Unit	53.0%	\$2,089,579,918	240	45.2% - 60.7%	5.0%
ESRD	5.3%	\$602,797,903	621	3.4% - 7.1%	1.4%
CAH Outpatient Services	9.9%	\$445,771,578	275	5.1% - 14.8%	1.1%
ORF	15.7%	\$72,983,965	37	10.3% - 21.1%	0.2%
Inpatient Critical Access Hospital	2.1%	\$55,418,130	395	0.8% - 3.3%	0.1%
All Codes With Less Than 30 Claims	37.0%	\$26,132,926	9	20.4% - 53.6%	0.1%
RHCs	2.1%	\$24,944,218	231	(0.1%) - 4.4%	0.1%
FQHC	1.8%	\$15,880,470	53	(1.7%) - 5.4%	0.0%
Non PPS Short Term Hospital Inpatient	1.5%	\$13,593,555	43	0.3% - 2.7%	0.0%
CORF	29.5%	\$8,182,766	52	16.5% - 42.5%	0.0%
Other Service Types Billing to Part A Excluding IPPS	0.0%	\$0	4	0.0% - 0.0%	0.0%
Overall (Incl. Codes Not Listed)	14.0%	\$22,005,850,962	7,509	12.3% - 15.6%	52.6%

Table I4: Improper Payment Rates and Amounts by Provider Type: Part A Hospital IPPS

Provider Types Billing to Part A Hospital IPPS	Improper Payment Rate				Percent of Overall Improper Payments
	Improper Payment Rate	Projected Improper Payments	Claims Reviewed	95% Confidence Interval	
DRG Short Term	4.3%	\$4,558,687,675	13,462	3.9% - 4.7%	10.9%
Other Service Types Billing to Part A Hospital IPPS	9.2%	\$404,597,758	872	5.5% - 12.9%	1.0%
DRG Long Term	3.8%	\$194,087,653	156	(1.0%) - 8.6%	0.5%
Overall (Incl. Codes Not Listed)	4.5%	\$5,157,373,086	14,490	4.0% - 4.9%	12.3%

Appendix J: Improper Payment Rates and Type of Error by Provider Type for Each Claim Type

Table J1: Improper Payment Rates by Provider Type and Type of Error: Part B

Provider Types Billing to Part B	Improper Payment Rate	Claims Reviewed	Type of Error				
			No Doc	Insufficient Doc	Medical Necessity	Incorrect Coding	Other
Chiropractic	46.0%	434	2.2%	92.1%	3.6%	1.6%	0.5%
Clinical Laboratory (Billing Independently)	31.6%	2,374	0.5%	96.4%	2.6%	0.5%	0.1%
Clinical Psychologist	30.3%	75	0.0%	96.7%	3.3%	0.0%	0.0%
Physical Therapist in Private Practice	25.5%	600	1.5%	92.1%	0.9%	1.9%	3.6%
Occupational Therapist in Private Practice	25.5%	45	0.0%	100.0%	0.0%	0.0%	0.0%
Pain Management	24.5%	47	24.9%	66.6%	0.0%	8.5%	0.0%
Psychiatry	24.0%	148	0.6%	69.7%	0.0%	29.7%	0.0%
Interventional Pain Management	22.9%	60	0.0%	76.0%	0.0%	24.0%	0.0%
Clinical Social Worker	19.8%	91	4.4%	93.6%	0.0%	1.9%	0.0%
Unassigned	17.5%	50	17.9%	41.3%	0.0%	40.9%	0.0%
Podiatry	16.6%	246	3.7%	76.2%	0.8%	19.4%	0.0%
Optometry	16.5%	101	0.0%	80.1%	0.0%	6.7%	13.2%
Nephrology	16.3%	348	5.6%	50.2%	0.0%	42.0%	2.1%
Physical Medicine and Rehabilitation	15.9%	170	2.4%	47.9%	0.2%	49.6%	0.0%
Internal Medicine	15.7%	1,897	9.1%	52.2%	1.1%	36.9%	0.6%
General Practice	15.7%	66	0.0%	44.0%	0.0%	56.0%	0.0%
All Provider Types With Less Than 30 Claims	15.6%	235	0.0%	90.2%	0.0%	9.8%	0.0%
Endocrinology	15.4%	66	0.0%	48.5%	14.7%	36.7%	0.0%
Cardiology	14.5%	833	0.8%	61.5%	2.7%	35.0%	0.0%
IDTF	14.3%	84	1.5%	95.3%	3.3%	0.0%	0.0%
Family Practice	14.3%	882	4.8%	61.4%	3.4%	30.1%	0.3%
Neurology	13.5%	180	0.4%	30.8%	0.0%	68.9%	0.0%
Pulmonary Disease	12.2%	360	7.5%	35.9%	0.0%	56.7%	0.0%
Nurse Practitioner	12.1%	411	5.7%	66.3%	0.3%	27.7%	0.0%
Allergy/Immunology	11.8%	34	17.3%	14.9%	0.0%	31.9%	35.9%
Gastroenterology	11.8%	256	2.1%	64.7%	0.0%	33.2%	0.0%
Ambulance Service Supplier (e.g., private ambulance companies)	11.7%	687	2.6%	74.0%	15.6%	3.1%	4.8%

Provider Types Billing to Part B	Improper Payment Rate	Claims Reviewed	Type of Error				
			No Doc	Insufficient Doc	Medical Necessity	Incorrect Coding	Other
Critical Care (Intensivists)	11.4%	86	19.7%	22.7%	0.0%	51.9%	5.7%
Emergency Medicine	11.2%	498	4.3%	18.9%	0.0%	76.5%	0.3%
Diagnostic Radiology	9.7%	1,284	1.8%	96.8%	0.0%	0.8%	0.7%
Portable X-Ray Supplier (Billing Independently)	9.6%	31	0.0%	100.0%	0.0%	0.0%	0.0%
Medical Oncology	9.2%	145	4.5%	80.6%	0.6%	14.3%	0.0%
Otolaryngology	9.0%	77	0.0%	41.8%	0.0%	58.2%	0.0%
Infectious Disease	8.5%	126	2.4%	25.8%	0.0%	71.8%	0.0%
Orthopedic Surgery	8.4%	327	0.0%	65.5%	1.2%	33.3%	0.0%
Obstetrics/Gynecology	8.4%	65	0.0%	54.7%	0.0%	45.3%	0.0%
Rheumatology	8.0%	157	0.0%	58.5%	14.3%	26.1%	1.1%
Anesthesiology	7.6%	170	0.0%	87.8%	0.0%	12.2%	0.0%
Urology	7.1%	293	5.2%	48.1%	0.0%	46.7%	0.0%
Plastic and Reconstructive Surgery	7.0%	40	0.0%	48.1%	0.0%	51.9%	0.0%
Geriatric Medicine	6.9%	45	0.0%	43.4%	0.0%	56.6%	0.0%
Vascular Surgery	6.8%	143	3.4%	67.3%	0.1%	29.2%	0.0%
Physician Assistant	6.2%	306	0.7%	36.1%	0.0%	63.2%	0.0%
General Surgery	6.2%	321	3.0%	39.0%	0.1%	50.4%	7.6%
Ophthalmology	4.0%	625	0.0%	74.9%	0.1%	24.9%	0.0%
Hematology/Oncology	3.9%	380	0.0%	44.3%	1.4%	54.3%	0.0%
Unknown Provider Type	3.7%	94	0.0%	33.6%	0.0%	66.4%	0.0%
Radiation Oncology	3.6%	70	0.0%	87.3%	5.9%	6.7%	0.0%
CRNA	2.9%	90	0.0%	100.0%	0.0%	0.0%	0.0%
Dermatology	2.7%	194	0.0%	60.3%	0.0%	39.7%	0.0%
Pathology	2.3%	322	6.9%	77.3%	15.3%	0.5%	0.0%
Ambulatory Surgical Center	0.7%	221	0.0%	96.4%	0.0%	3.6%	0.0%
Interventional Radiology	0.6%	56	0.0%	100.0%	0.0%	0.0%	0.0%
Mass Immunization Roster Billers (Mass Immunizers have to roster bill assigned claims and can only bill for immunizations)	0.0%	66	0.0%	0.0%	0.0%	0.0%	0.0%
All Provider Types	11.7%	16,999	3.3%	68.2%	2.2%	25.3%	1.0%

Table J2: Improper Payment Rates by Provider Type and Type of Error: DMEPOS

Provider Types Billing to DMEPOS	Improper Payment Rate	Claims Reviewed	Type of Error				
			No Doc	Insufficient Doc	Medical Necessity	Incorrect Coding	Other
Optometry	77.1%	44	0.0%	59.0%	1.9%	0.0%	39.2%
General Practice	76.5%	63	0.0%	95.4%	0.0%	0.0%	4.6%
All Provider Types With Less Than 30 Claims	70.2%	246	0.4%	89.2%	1.2%	0.0%	9.2%
Podiatry	68.4%	124	0.8%	57.8%	1.0%	0.0%	40.5%
Orthopedic Surgery	63.5%	145	0.0%	84.7%	0.0%	0.0%	15.3%
Ophthalmology	58.1%	36	0.0%	85.9%	0.0%	0.0%	14.1%
Medical Supply Company with Respiratory Therapist	53.8%	1,050	0.6%	81.6%	7.4%	0.0%	10.4%
Medical supply company not included in 51, 52, or 53	51.7%	4,537	0.7%	81.6%	3.5%	0.6%	13.6%
Medical supply company with prosthetic/orthotic personnel certified by an accrediting organization	51.2%	173	0.0%	90.9%	0.0%	0.0%	9.1%
Medical supply company with prosthetic personnel certified by an accrediting organization	48.3%	50	0.0%	83.1%	0.0%	0.0%	16.9%
Supplier of oxygen and/or oxygen related equipment	42.6%	65	0.0%	98.7%	0.0%	0.0%	1.3%
Medical supply company with orthotic personnel certified by an accrediting organization	40.9%	145	0.0%	97.4%	0.1%	0.0%	2.5%
Multispecialty Clinic or Group Practice	39.1%	49	0.0%	88.6%	0.0%	0.0%	11.4%
Pharmacy	37.6%	3,713	0.5%	75.7%	2.1%	0.7%	21.0%
Individual orthotic personnel certified by an accrediting organization	28.4%	255	4.2%	81.6%	0.0%	0.0%	14.2%
Individual prosthetic personnel certified by an accrediting organization	27.0%	267	3.6%	89.7%	0.3%	0.0%	6.4%
Individual prosthetic/orthotic personnel certified by an accrediting organization	9.8%	37	0.0%	99.2%	0.0%	0.8%	0.0%
All Provider Types	46.3%	10,999	0.7%	80.4%	3.1%	0.5%	15.3%

Table J3: Improper Payment Rates by Provider Type and Type of Error: Part A Excluding Hospital IPPS

Provider Types Billing to Part A Excluding Hospital IPPS	Improper Payment Rate	Claims Reviewed	Type of Error				
			No Doc	Insufficient Doc	Medical Necessity	Incorrect Coding	Other
Inpatient Rehabilitation Hospitals	73.2%	210	0.0%	0.3%	99.7%	0.0%	0.0%
Inpatient Rehab Unit	53.0%	240	0.0%	16.3%	83.7%	0.0%	0.0%
HHA	42.0%	1,212	0.4%	96.4%	2.3%	0.1%	0.8%
All Codes With Less Than 30 Claims	37.0%	9	0.0%	76.0%	24.0%	0.0%	0.0%
CORF	29.5%	52	0.0%	70.8%	0.0%	6.7%	22.5%
Hospice	15.9%	611	1.6%	74.0%	23.8%	0.5%	0.0%
ORF	15.7%	37	0.0%	93.2%	0.0%	0.0%	6.8%
CAH Outpatient Services	9.9%	275	0.0%	89.8%	2.8%	2.7%	4.7%
SNF	7.8%	1,736	0.5%	75.3%	0.0%	10.4%	13.8%
OPPS, Laboratory, Ambulatory	5.4%	1,780	0.6%	97.0%	0.4%	1.0%	1.1%
ESRD	5.3%	621	1.0%	92.3%	0.0%	6.7%	0.0%
RHCs	2.1%	231	36.9%	28.8%	0.0%	0.0%	34.3%
Inpatient Critical Access Hospital	2.1%	395	0.0%	27.7%	72.3%	0.0%	0.0%
FQHC	1.8%	53	0.0%	100.0%	0.0%	0.0%	0.0%
Non PPS Short Term Hospital Inpatient	1.5%	43	0.0%	0.0%	50.8%	0.0%	49.2%
Other Service Types Billing to Part A Excluding IPPS	0.0%	4	0.0%	0.0%	0.0%	0.0%	0.0%
All Provider Types	14.0%	7,509	0.5%	72.0%	23.2%	1.8%	2.4%

Table J4: Improper Payment Rates by Provider Type and Type of Error: Part A Hospital IPPS

Provider Types Billing to Part A Hospital IPPS	Improper Payment Rate	Claims Reviewed	Type of Error				
			No Doc	Insufficient Doc	Medical Necessity	Incorrect Coding	Other
Other Service Types Billing to Part A Hospital IPPS	9.2%	872	0.8%	56.4%	42.5%	0.1%	0.3%
DRG Short Term	4.3%	13,462	0.6%	5.7%	69.2%	22.4%	2.1%
DRG Long Term	3.8%	156	0.0%	2.4%	38.9%	1.9%	56.7%
All Provider Types	4.5%	14,490	0.6%	9.5%	66.0%	19.9%	4.1%

Appendix K: Coding Information

Table K1: HCPCS Code 99233

Fiscal Year	Lines Reviewed	Lines Questioned	Percent of Lines in Error
1996	217	115	53.0%
1997	416	128	30.8%
1998	457	114	24.9%
1999	187	102	54.5%
2000	449	220	49.0%
2001	338	142	42.0%
2002	228	174	76.3%
2003	709	435	61.4%
2004	768	391	50.9%
2005	1,079	474	43.9%
2006	1,102	440	39.9%
2007	1,157	532	46.0%
2008	1,032	489	47.4%
2009	882	433	49.1%
2010	697	366	52.5%
2011	611	316	51.7%
2012	992	586	59.1%
2013	1,255	626	49.9%
2014	1,268	739	58.3%
2015	1,304	658	50.5%
2016	1,070	561	52.4%

Table K2: HCPCS Code 99214

Fiscal Year	Lines Reviewed	Lines Questioned	Percent of Lines in Error
1996	140	54	38.6%
1997	234	86	36.8%
1998	168	63	37.5%
1999	143	81	56.6%
2000	191	71	37.2%
2001	214	67	31.3%
2002	104	24	23.1%
2003	2,798	687	24.6%
2004	3,250	589	18.1%
2005	4,436	648	14.6%
2006	4,491	609	13.6%
2007	4,287	602	14.0%
2008	4,301	608	14.1%
2009	3,342	617	18.5%
2010	2,829	569	20.1%
2011	2,316	404	17.4%
2012	1,403	260	18.5%
2013	922	111	12.0%
2014	902	131	14.5%
2015	776	111	14.3%
2016	480	60	12.5%

Table K3: HCPCS Code 99232

Fiscal Year	Lines Reviewed	Lines Questioned	Percent of Lines in Error
1996	597	266	44.6%
1997	1,159	350	30.2%
1998	911	181	19.9%
1999	837	279	33.3%
2000	881	270	30.6%
2001	964	146	15.1%
2002	488	179	36.7%
2003	2,213	855	38.6%
2004	2,485	754	30.3%
2005	3,194	555	17.4%
2006	3,236	295	9.1%
2007	3,164	393	12.4%
2008	2,728	316	11.6%
2009	2,180	326	15.0%
2010	1,693	290	17.1%
2011	1,600	240	15.0%
2012	1,490	221	14.8%
2013	1,201	176	14.7%
2014	1,297	214	16.5%
2015	1,321	222	16.8%
2016	1,243	153	12.3%

Table K4 provides information on the impact of one-level disagreement between Part B MACs and providers when coding E&M services.

Table K4: Impact of 1-Level E&M (Top 20)

Final E & M Codes	Incorrect Coding Errors		
	Improper Payment Rate	Projected Improper Payments	95% Confidence Interval
Office/outpatient visit est (99214)	1.5%	\$115,827,633	0.9% - 2.2%
Office/outpatient visit est (99213)	1.9%	\$102,001,514	0.8% - 2.9%
Subsequent hospital care (99233)	5.3%	\$100,850,771	4.3% - 6.3%
Emergency dept visit (99285)	6.4%	\$94,779,148	4.8% - 7.9%
Office/outpatient visit new (99204)	4.9%	\$60,460,563	3.3% - 6.5%
Initial hospital care (99223)	3.1%	\$56,299,409	2.4% - 3.9%
Office/outpatient visit est (99215)	4.4%	\$46,466,237	3.1% - 5.7%
Initial hospital care (99222)	3.4%	\$25,479,177	2.4% - 4.5%
Subsequent hospital care (99232)	0.8%	\$21,329,899	0.4% - 1.2%
Office/outpatient visit new (99203)	2.3%	\$20,345,706	0.5% - 4.1%
Office/outpatient visit new (99205)	3.4%	\$15,825,834	2.2% - 4.6%
Subsequent hospital care (99231)	4.8%	\$13,876,386	1.8% - 7.7%

Final E & M Codes	Incorrect Coding Errors		
	Improper Payment Rate	Projected Improper Payments	95% Confidence Interval
Hospital discharge day (99239)	3.3%	\$12,730,619	1.8% - 4.7%
Office/outpatient visit est (99212)	1.6%	\$7,956,131	(0.6%) - 3.7%
Nursing fac care subseq (99309)	1.3%	\$7,214,560	0.2% - 2.3%
Nursing fac care subseq (99308)	1.1%	\$6,061,832	(0.2%) - 2.3%
Nursing fac care subseq (99310)	4.6%	\$5,326,498	2.5% - 6.7%
Nursing facility care init (99306)	2.6%	\$4,856,680	1.3% - 3.8%
Initial observation care (99220)	1.7%	\$2,976,378	0.5% - 3.0%
Office/outpatient visit new (99202)	1.4%	\$2,363,142	(0.6%) - 3.4%
All Other Codes	0.0%	\$28,075,635	0.0% - 0.1%
Overall	0.8%	\$751,103,752	0.7% - 0.9%

Table K5: Type of Services with Upcoding¹¹ Errors: Part B

Part B Services (BETOS Codes)	Upcoding Errors		
	Improper Payment Rate	Projected Improper Payments	95% Confidence Interval
Hospital visit - initial	18.6%	\$547,338,242	17.2% - 20.1%
Office visits - established	2.9%	\$425,451,474	2.2% - 3.5%
Hospital visit - subsequent	6.8%	\$391,375,074	5.9% - 7.6%
Office visits - new	11.9%	\$344,918,848	10.1% - 13.8%
Emergency room visit	9.5%	\$204,514,696	7.8% - 11.1%
Nursing home visit	7.9%	\$158,211,022	6.6% - 9.3%
Hospital visit - critical care	9.2%	\$94,288,072	6.1% - 12.2%
Home visit	5.1%	\$14,298,992	0.1% - 10.0%
Dialysis services (Medicare fee schedule)	1.7%	\$13,798,600	0.7% - 2.8%
Ambulance	0.3%	\$13,178,920	0.1% - 0.5%
Minor procedures - other (Medicare fee schedule)	0.2%	\$6,588,522	0.0% - 0.4%
Standard imaging - musculoskeletal	0.8%	\$3,704,103	(0.5%) - 2.2%
Other - non-Medicare fee schedule	4.1%	\$3,501,574	3.6% - 4.7%
Lab tests - blood counts	1.2%	\$3,489,670	0.8% - 1.7%
Other tests - other	0.2%	\$3,271,449	(0.2%) - 0.7%
Chemotherapy	0.3%	\$2,868,422	(0.2%) - 0.7%
Chiropractic	0.5%	\$2,833,748	0.1% - 0.9%
Specialist - ophthalmology	0.1%	\$2,492,227	(0.1%) - 0.3%
Imaging/procedure - other	0.3%	\$2,289,628	(0.3%) - 1.0%
Echography/ultrasonography - heart	0.2%	\$1,469,869	(0.2%) - 0.6%
All Other Codes	0.1%	\$28,498,726	(0.1%) - 0.2%
Overall	2.4%	\$2,268,381,878	2.2% - 2.6%

¹¹ Upcoding refers to billing a higher level service or a service with a higher payment than is supported by the medical record documentation

Table K6: Type of Services with Upcoding Errors: DMEPOS

DMEPOS (HCPCS)	Upcoding Errors		
	Improper Payment Rate	Projected Improper Payments	Improper Payment Rate
Glucose Monitor	6.0%	\$17,705,116	4.5% - 7.4%
Immunosuppressive Drugs	0.0%	\$100,342	(0.0%) - 0.1%
Lower Limb Orthoses	0.0%	\$35,331	(0.0%) - 0.0%
Overall	0.2%	\$17,840,788	0.2% - 0.3%

Table K7: Type of Services with Upcoding Errors: Part A Excluding Hospital IPPS

Part A Excluding Hospital IPPS Services (TOB)	Upcoding Errors		
	Improper Payment Rate	Projected Improper Payments	95% Confidence Interval
SNF Inpatient	0.8%	\$271,186,914	0.4% - 1.2%
Clinic ESRD	0.4%	\$40,407,339	(0.3%) - 1.0%
Hospital Outpatient	0.0%	\$26,779,811	0.0% - 0.1%
Nonhospital based hospice	0.1%	\$12,777,598	(0.0%) - 0.2%
Home Health	0.0%	\$5,091,798	(0.0%) - 0.1%
Critical Access Hospital	0.1%	\$4,267,554	(0.0%) - 0.2%
SNF Inpatient Part B	0.1%	\$1,488,583	(0.1%) - 0.2%
Hospital Other Part B	0.1%	\$1,002,480	(0.0%) - 0.3%
Clinic CORF	2.0%	\$551,913	(1.7%) - 5.7%
Hospital Inpatient Part B	0.0%	\$32,812	0.0% - 0.0%
Overall	0.2%	\$363,586,803	0.1% - 0.3%

Table K8: Type of Services with Upcoding Errors: Part A Hospital IPPS

Part A Hospital IPPS Services (MS DRGs)	Upcoding Errors		
	Improper Payment Rate	Projected Improper Payments	95% Confidence Interval
Renal Failure (682, 683, 684)	1.8%	\$39,931,911	0.3% - 3.3%
Septicemia Or Severe Sepsis W Mv 96+ Hours (870)	1.9%	\$33,569,144	(1.8%) - 5.6%
Infectious & Parasitic Diseases W O.R. Procedure (853, 854, 855)	1.1%	\$22,905,201	(0.5%) - 2.6%
Revision Of Hip Or Knee Replacement (466, 467, 468)	2.3%	\$19,186,933	1.8% - 2.7%
Respiratory System Diagnosis W Ventilator Support 96+ Hours (207)	0.9%	\$17,191,499	(0.3%) - 2.1%
Perc Cardiovasc Proc W Drug-Eluting Stent (246, 247)	0.8%	\$14,791,770	0.2% - 1.5%
Major Small & Large Bowel Procedures (329, 330, 331)	0.6%	\$13,391,273	(0.0%) - 1.3%
Extensive O.R. Procedure Unrelated To Principal Diagnosis (981, 982, 983)	1.1%	\$13,332,418	(0.1%) - 2.3%
Other Resp System O.R. Procedures (166, 167, 168)	1.4%	\$10,860,590	(1.3%) - 4.0%
Heart Failure & Shock (291, 292, 293)	0.2%	\$9,729,377	0.0% - 0.5%
Seizures (100, 101)	2.0%	\$9,583,970	1.6% - 2.4%
Other Digestive System Diagnoses (393, 394, 395)	1.2%	\$8,805,180	0.0% - 2.4%
Diabetes (637, 638, 639)	1.4%	\$8,692,581	(0.4%) - 3.2%
G.I. Hemorrhage (377, 378, 379)	0.4%	\$7,962,720	0.4% - 0.5%
Respiratory Infections & Inflammations (177, 178, 179)	0.5%	\$7,945,059	(0.3%) - 1.4%
Major Joint Replacement Or Reattachment Of Lower Extremity (469, 470)	0.1%	\$7,877,233	(0.1%) - 0.4%
Esophagitis, Gastroent & Misc Digest Disorders (391, 392)	0.5%	\$7,136,936	(0.1%) - 1.1%
Other Kidney & Urinary Tract Procedures (673, 674, 675)	2.1%	\$6,348,933	0.6% - 3.7%
Hip & Femur Procedures Except Major Joint (480, 481, 482)	0.4%	\$6,067,090	0.3% - 0.5%
Other Circulatory System Diagnoses (314, 315, 316)	0.7%	\$5,831,907	(0.3%) - 1.7%
All Other Codes	0.2%	\$175,789,649	0.2% - 0.3%
Overall	0.4%	\$446,931,373	0.3% - 0.5%

Appendix L: Overpayments

Tables L1 through L4 provide for each claim type the service-specific overpayment rates. The tables are sorted in descending order by projected improper payments.

Table L1: Service-Specific Overpayment Rates: Part B

Part B Services (HCPCS)	Claims Reviewed	Lines Reviewed	Sample Dollars Overpaid	Total Sample Dollars Paid	Projected Dollars Overpaid	Overpayment Rate
All Codes With Less Than 30 Claims	5,039	8,380	\$85,300	\$787,724	\$2,778,694,313	8.3%
Initial hospital care (99223)	660	660	\$39,023	\$124,737	\$563,719,130	31.2%
Subsequent hospital care (99233)	733	1,097	\$25,261	\$107,221	\$440,759,278	23.3%
Office/outpatient visit est (99214)	475	480	\$2,413	\$46,163	\$407,758,683	5.4%
Therapeutic exercises (97110)	380	442	\$5,583	\$20,799	\$308,067,752	27.3%
Office/outpatient visit est (99213)	356	360	\$1,192	\$22,931	\$286,147,553	5.2%
Subsequent hospital care (99232)	740	1,282	\$9,040	\$86,803	\$245,425,156	8.7%
Emergency dept visit (99285)	281	282	\$6,716	\$43,797	\$229,904,419	15.4%
BLS (A0428)	277	290	\$10,522	\$54,756	\$213,965,850	19.8%
Office/outpatient visit new (99204)	226	226	\$5,521	\$33,125	\$206,442,036	16.7%
Chiropract manj 3-4 regions (98941)	205	249	\$3,998	\$8,069	\$194,377,586	49.5%
Critical care first hour (99291)	317	393	\$13,474	\$78,525	\$169,717,502	17.9%
Office/outpatient visit est (99215)	239	241	\$4,658	\$31,408	\$158,414,493	15.1%
Als1-emergency (A0427)	207	207	\$7,322	\$83,474	\$155,347,480	8.6%
Initial hospital care (99222)	253	253	\$5,808	\$31,960	\$135,513,656	18.3%
Denosumab injection (J0897)	110	110	\$15,723	\$120,496	\$111,784,340	15.3%
Ground mileage (A0425)	587	599	\$5,106	\$38,249	\$111,227,361	13.0%
ESRD srv 4 visits p mo 20+ (90960)	102	103	\$6,225	\$28,833	\$107,162,158	20.5%
Hospital discharge day (99239)	185	185	\$4,890	\$18,267	\$106,750,862	27.3%
Office/outpatient visit new (99205)	109	109	\$4,311	\$18,866	\$106,129,295	22.6%
All Other Codes	11,209	25,358	\$502,063	\$3,912,439	\$3,371,813,286	12.3%
Combined	16,999	41,306	\$764,149	\$5,698,640	\$10,409,122,187	11.2%

Table L2: Service-Specific Overpayment Rates: DMEPOS

DMEPOS (HCPCS)	Claims Reviewed	Lines Reviewed	Sample Dollars Overpaid	Total Sample Dollars Paid	Projected Dollars Overpaid	Overpayment Rate
All Codes With Less Than 30 Claims	2,656	3,884	\$495,845	\$1,302,174	\$866,550,619	47.7%
Oxygen concentrator (E1390)	1,186	1,234	\$57,762	\$140,057	\$395,796,948	41.1%
Press supp vent noninv int (E0464)	103	104	\$97,482	\$154,721	\$138,150,274	64.2%
Cont airway pressure device (E0601)	113	118	\$4,419	\$6,974	\$104,194,578	63.0%
Blood glucose/reagent strips (A4253)	794	812	\$9,019	\$22,882	\$98,469,737	39.4%
NDC 00004-1101-51 capecitabi (WW093)	110	112	\$81,090	\$212,345	\$73,158,421	38.0%
Ko adj jint pos r sup pre ots (L1833)	31	36	\$20,966	\$24,200	\$66,184,921	87.5%
Hosp bed semi-electr w/ matt (E0260)	184	186	\$10,508	\$12,883	\$61,791,156	81.7%
CPAP full face mask (A7030)	93	93	\$6,948	\$12,651	\$60,205,976	56.2%
Portable gaseous O2 (E0431)	460	485	\$7,055	\$10,209	\$53,780,430	69.3%
Nasal application device (A7034)	102	104	\$4,612	\$8,186	\$53,017,408	55.8%
Inj milrinone lactate / 5 mg (J2260)	100	103	\$165,783	\$336,210	\$51,095,849	47.9%
Treprostinil, non-comp unit (J7686)	51	51	\$188,701	\$645,352	\$48,343,041	29.5%
Rad w/o backup non-inv intrfc (E0470)	54	54	\$4,469	\$6,579	\$41,876,929	68.6%
Mycophenolic acid (J7518)	93	93	\$20,384	\$51,496	\$41,152,399	39.9%
Replacement facemask interfa (A7031)	95	100	\$5,343	\$9,188	\$40,138,018	59.4%
Diab shoe for density insert (A5500)	95	109	\$6,798	\$10,990	\$39,773,713	61.3%
Rad w/backup non inv intrfc (E0471)	50	50	\$13,486	\$18,024	\$37,591,955	73.9%
Multi den insert custom mold (A5513)	99	108	\$14,345	\$18,558	\$37,437,886	70.2%
Arformoterol non-comp unit (J7605)	115	116	\$9,479	\$43,823	\$33,398,135	23.7%
All Other Codes	7,367	17,001	\$2,932,304	\$10,017,599	\$1,380,912,605	42.8%
Combined	10,999	24,953	\$4,156,798	\$13,065,104	\$3,723,020,998	46.1%

Table L3: Service-Specific Overpayment Rates: Part A Excluding Hospital IPPS

Part A Excluding Hospital IPPS Services (TOB)	Claims Reviewed	Sample Dollars Overpaid	Total Sample Dollars Paid	Projected Dollars Overpaid	Overpayment Rate
Home Health	1,209	\$1,378,095	\$3,194,044	\$7,654,460,067	42.0%
Hospital Inpatient (Part A)	900	\$4,917,663	\$12,466,451	\$4,704,510,711	42.6%
Hospital Outpatient	1,621	\$44,716	\$794,435	\$3,000,282,484	5.4%
SNF Inpatient	1,596	\$734,759	\$9,520,604	\$2,632,885,518	7.8%
Nonhospital based hospice	563	\$297,445	\$2,008,223	\$2,130,136,444	14.6%
Clinic ESRD	621	\$86,278	\$1,734,018	\$602,797,903	5.3%
Critical Access Hospital	275	\$9,690	\$100,005	\$437,825,877	9.7%
Hospital based hospice	48	\$44,929	\$140,906	\$389,720,423	31.0%
SNF Inpatient Part B	93	\$4,131	\$67,950	\$142,391,022	6.1%
Hospital Other Part B	111	\$620	\$4,167	\$90,218,404	13.5%
Clinic OPT	37	\$1,382	\$10,207	\$72,983,965	15.7%
SNF Outpatient	47	\$2,367	\$20,242	\$28,428,091	12.6%
Clinical Rural Health	231	\$521	\$27,962	\$24,944,218	2.1%
Hospital Inpatient Part B	46	\$1,562	\$32,082	\$20,614,489	3.9%
FQHC	53	\$148	\$6,689	\$15,880,470	1.8%
Clinic CORF	52	\$2,902	\$10,259	\$8,182,766	29.5%
All Other Codes	6	\$0	\$20,605	\$0	0.0%
Combined	7,509	\$7,527,210	\$30,158,851	\$21,956,262,851	13.9%

Table L4: Service-Specific Overpayment Rates: Part A Hospital IPPS

Part A Inpatient Hospital PPS Services (MS DRGs)	Claims Reviewed	Sample Dollars Overpaid	Total Sample Dollars Paid	Projected Dollars Overpaid	Overpayment Rate
All Codes With Less Than 30 Claims	2,792	\$1,672,840	\$35,797,055	\$1,508,854,167	4.6%
Psychoses (885)	859	\$635,905	\$7,719,158	\$358,278,095	8.8%
Spinal Fusion Except Cervical W/O Mcc (460)	214	\$312,873	\$5,428,286	\$127,700,941	6.2%
Pulmonary Edema & Respiratory Failure (189)	55	\$67,622	\$553,635	\$114,862,251	10.2%
Esophagitis, Gastroent & Misc Digest Disorders W/O Mcc (392)	228	\$126,549	\$1,212,014	\$112,318,209	10.8%
Major Joint Replacement Or Reattachment Of Lower Extremity W/O Mcc (470)	358	\$95,342	\$4,735,812	\$109,023,243	1.9%
Syncope & Collapse (312)	50	\$63,600	\$289,451	\$101,170,170	22.8%
Renal Failure W Mcc (682)	47	\$26,946	\$456,341	\$68,357,110	5.6%
Chest Pain (313)	196	\$156,594	\$773,477	\$64,119,878	21.3%
Circulatory Disorders Except Ami, W Card Cath W/O Mcc (287)	193	\$136,245	\$1,416,783	\$60,829,855	9.8%
Organic Disturbances & Mental Retardation (884)	49	\$56,736	\$378,872	\$59,822,333	14.5%
Misc Disorders Of Nutrition, metabolism, fluids/Electrolytes W/O Mcc (641)	154	\$69,820	\$824,549	\$58,834,498	8.5%
Other Vascular Procedures W Cc (253)	49	\$79,053	\$847,428	\$57,566,331	10.2%
Degenerative Nervous System Disorders W/O Mcc (057)	208	\$212,380	\$2,102,889	\$53,503,795	10.0%
Cardiac Defibrillator Implant W/O Cardiac Cath W/O Mcc (227)	831	\$4,648,960	\$28,649,246	\$53,274,213	17.0%
Seizures W/O Mcc (101)	49	\$44,170	\$278,081	\$46,182,546	18.1%
Perc Cardiovasc Proc W Drug-Eluting Stent W/O Mcc (247)	381	\$187,090	\$5,052,666	\$43,695,165	3.9%
Heart Failure & Shock W Cc (292)	272	\$51,451	\$1,822,178	\$43,302,745	3.1%
Heart Failure & Shock W Mcc (291)	208	\$40,294	\$2,071,079	\$37,690,475	1.7%
Kidney & Urinary Tract Infections W/O Mcc (690)	190	\$41,368	\$968,830	\$36,481,691	4.2%
All Other Codes	7,107	\$4,378,568	\$123,605,853	\$1,382,164,802	2.4%
Combined	14,490	\$13,104,406	\$224,983,682	\$4,498,032,511	3.9%

Table L5: Overpayment Rate: All CERT

All Services	Claims Reviewed	Sample Dollars Overpaid	Total Sample Dollars Paid	Projected Dollars Overpaid	Overpayment Rate
All	49,997	\$25,552,562	\$273,906,276	\$40,586,438,546	10.9%

Appendix M: Underpayments

The following tables provide for each claim type the service-specific underpayment rates. The tables are sorted in descending order by projected dollars underpaid. All estimates in these tables are based on a minimum of 30 claims in the sample with at least one claim underpaid.

Table M1: Service-Specific Underpayment Rates: Part B

Part B Services (HCPCS)	Claims Reviewed	Lines Reviewed	Sample Dollars Underpaid	Total Sample Dollars Paid	Projected Dollars Underpaid	Underpayment Rate
Office/outpatient visit est (99213)	356	360	\$887	\$22,931	\$226,020,284	4.1%
Office/outpatient visit est (99212)	115	116	\$658	\$4,570	\$79,576,743	15.7%
Office/outpatient visit est (99214)	475	480	\$318	\$46,163	\$53,439,083	0.7%
Subsequent hospital care (99231)	181	283	\$1,216	\$10,024	\$35,354,944	12.2%
All Codes With Less Than 30 Claims	5,039	8,380	\$1,107	\$787,724	\$27,154,261	0.1%
Office/outpatient visit new (99203)	104	104	\$302	\$9,815	\$21,559,909	2.4%
Emergency dept visit (99283)	46	46	\$270	\$2,525	\$15,940,094	9.9%
Nursing fac care subseq (99308)	117	128	\$156	\$7,805	\$13,182,878	2.4%
Therapeutic exercises (97110)	380	442	\$125	\$20,799	\$6,860,756	0.6%
Nursing fac care subseq (99307)	104	117	\$261	\$4,636	\$5,253,623	4.7%
Office/outpatient visit new (99202)	62	62	\$76	\$3,506	\$5,202,612	3.1%
Initial hospital care (99222)	253	253	\$129	\$31,960	\$4,967,343	0.7%
Subsequent hospital care (99232)	740	1,282	\$186	\$86,803	\$4,793,865	0.2%
Emergency dept visit (99284)	67	67	\$56	\$7,530	\$3,877,239	0.8%
BLS (A0428)	277	290	\$135	\$54,756	\$3,014,364	0.3%
Chiropract manj 1-2 regions (98940)	110	147	\$71	\$3,535	\$2,793,587	1.9%
Rituximab injection (J9310)	98	103	\$3,627	\$547,208	\$2,534,781	0.6%
Office/outpatient visit new (99204)	226	226	\$43	\$33,125	\$1,705,138	0.1%
Office/outpatient visit est (99211)	73	74	\$22	\$1,051	\$1,388,035	2.0%
Psytx pt&/family 45 minutes (90834)	102	129	\$33	\$9,518	\$1,213,864	0.4%
All Other Codes	13,017	28,217	\$501	\$4,002,657	\$4,924,652	0.0%
Combined	16,999	41,306	\$10,179	\$5,698,640	\$520,758,056	0.6%

Table M2: Service-Specific Underpayment Rates: DMEPOS

DMEPOS (HCPCS)	Claims Reviewed	Lines Reviewed	Sample Dollars Underpaid	Total Sample Dollars Paid	Projected Dollars Underpaid	Underpayment Rate
Nasal application device (A7034)	102	104	\$111	\$8,186	\$2,414,845	2.5%
Cont airway pressure device (E0601)	113	118	\$105	\$6,974	\$2,293,308	1.4%
Blood glucose/reagent strips (A4253)	794	812	\$83	\$22,882	\$1,009,630	0.4%
Powered pres-redu air mattrs (E0277)	53	55	\$663	\$12,570	\$946,988	3.8%
Pos airway pressure tubing (A7037)	179	179	\$38	\$4,358	\$818,743	2.3%
Pos airway press headgear (A7035)	189	189	\$34	\$4,553	\$740,985	2.0%
Humidifier heated used w pap (E0562)	83	91	\$28	\$4,346	\$617,923	1.7%
Enter feed supkit syr by day (B4034)	130	130	\$139	\$12,433	\$290,070	1.4%
Ef spec metabolic noninherit (B4154)	73	74	\$181	\$16,796	\$288,599	0.8%
Pos airway pressure filter (A7038)	257	261	\$10	\$3,326	\$219,551	0.9%
Tobramycin non-comp unit (J7682)	196	198	\$4,488	\$809,339	\$138,310	0.6%
Bk mold socket sach ft endo (L5301)	173	174	\$2,569	\$390,387	\$70,874	0.3%
Socket insert w/o lock mech (L5679)	190	192	\$1,256	\$198,524	\$34,653	0.2%
Suspension sleeve lower ext (L2397)	34	39	\$117	\$4,410	\$33,380	0.4%
Bk flex inner socket ext fra (L5645)	148	148	\$934	\$111,342	\$25,771	0.3%
Below knee suction socket (L5647)	187	187	\$758	\$148,783	\$20,921	0.5%
Test socket below knee (L5620)	346	349	\$569	\$125,451	\$15,684	0.2%
Endo bk ultra-light material (L5940)	300	300	\$478	\$151,101	\$13,193	0.1%
Below knee total contact (L5637)	372	372	\$367	\$114,876	\$10,131	0.1%
Endo below knee alignable sy (L5910)	237	237	\$346	\$82,692	\$9,553	0.2%
All Other Codes	10,018	20,744	\$898	\$10,831,775	\$24,877	0.0%
Combined	10,999	24,953	\$14,174	\$13,065,104	\$10,037,991	0.1%

Table M3: Service-Specific Underpayment Rates: Part A Excluding Hospital IPPS

Part A Excluding Hospital IPPS Services (TOB)	Claims Reviewed	Lines Reviewed	Sample Dollars Underpaid	Total Sample Dollars Paid	Projected Dollars Underpaid	Underpayment Rate
SNF Inpatient	1,596	1,596	\$5,362	\$9,520,604	\$18,006,473	0.1%
Hospital Outpatient	1,621	1,621	\$172	\$794,435	\$12,092,580	0.0%
Critical Access Hospital	275	275	\$180	\$100,005	\$7,945,701	0.2%
SNF Inpatient Part B	93	93	\$142	\$67,950	\$4,489,796	0.2%
Home Health	1,209	1,209	\$500	\$3,194,044	\$4,100,714	0.0%
Hospital Other Part B	111	111	\$21	\$4,167	\$2,952,847	0.4%
All Other Codes	2,604	2,604	\$0	\$16,477,646	\$0	0.0%
Combined	7,509	7,509	\$6,378	\$30,158,851	\$49,588,111	0.0%

Table M4: Service-Specific Underpayment Rates: Part A Hospital IPPS

Part A Hospital IPPS Services (MS DRGs)	Claims Reviewed	Lines Reviewed	Sample Dollars Underpaid	Total Sample Dollars Paid	Projected Dollars Underpaid	Underpayment Rate
All Codes With Less Than 30 Claims	2,792	2,792	\$363,024	\$35,797,055	\$312,262,982	1.0%
Major Joint Replacement Or Reattachment Of Lower Extremity W/O Mcc (470)	358	358	\$68,270	\$4,735,812	\$83,730,259	1.4%
Simple Pneumonia & Pleurisy W Mcc (193)	48	48	\$6,460	\$453,135	\$21,651,703	1.4%
Misc Disorders Of Nutrition, metabolism, fluids/Electrolytes W/O Mcc (641)	154	154	\$16,233	\$824,549	\$13,789,229	2.0%
Heart Failure & Shock W Cc (292)	272	272	\$15,639	\$1,822,178	\$11,548,700	0.8%
Chronic Obstructive Pulmonary Disease W/O Cc/Mcc (192)	46	46	\$5,646	\$201,149	\$10,217,027	3.2%
Pulmonary Edema & Respiratory Failure (189)	55	55	\$5,648	\$553,635	\$9,613,545	0.9%
Signs & Symptoms W/O Mcc (948)	50	50	\$11,596	\$246,636	\$8,976,820	4.5%
Cardiac Arrhythmia & Conduction Disorders W/O Cc/Mcc (310)	48	48	\$6,622	\$172,848	\$8,902,599	2.9%
Simple Pneumonia & Pleurisy W/O Cc/Mcc (195)	47	47	\$8,601	\$222,248	\$8,371,940	2.9%
Kidney & Urinary Tract Infections W/O Mcc (690)	190	190	\$9,207	\$968,830	\$8,323,549	1.0%
Heart Failure & Shock W Mcc (291)	208	208	\$7,410	\$2,071,079	\$8,322,617	0.4%
Heart Failure & Shock W/O Cc/Mcc (293)	49	49	\$6,034	\$245,399	\$8,296,796	2.7%
Esophagitis, Gastroent & Misc Digest Disorders W/O Mcc (392)	228	228	\$8,493	\$1,212,014	\$7,976,235	0.8%
Perc Cardiovasc Proc W Drug-Eluting Stent W Mcc Or 4+ Vessels/Stents (246)	50	50	\$13,704	\$1,065,598	\$6,832,542	1.1%
Cellulitis W/O Mcc (603)	50	50	\$2,497	\$301,827	\$6,203,482	0.8%
Intracranial Hemorrhage Or Cerebral Infarction W Cc Or TPA In 24 Hrs (065)	56	56	\$3,683	\$397,746	\$5,665,941	0.7%
Perc Cardiovasc Proc W Drug-Eluting Stent W/O Mcc (247)	381	381	\$22,176	\$5,052,666	\$5,200,805	0.5%
Renal Failure W Cc (683)	51	51	\$2,671	\$334,108	\$5,015,261	0.6%
Chronic Obstructive Pulmonary Disease W Cc (191)	153	153	\$5,347	\$961,111	\$4,643,959	0.6%
All Other Codes	9,204	9,204	\$566,878	\$167,344,061	\$103,794,584	0.2%
Combined	14,490	14,490	\$1,155,837	\$224,983,682	\$659,340,575	0.6%

Table M5: Underpayment Rate: All Services

All Services	Claims Reviewed	Lines Reviewed	Sample Dollars Underpaid	Total Sample Dollars Paid	Projected Dollars Underpaid	Underpayment Rate
All	49,997	88,258	\$1,186,568	\$273,906,276	\$1,239,724,734	0.3%

Appendix N: Statistics and Other Information for the CERT Sample

Summary of Sampling and Estimation Methodology for the Comprehensive Error Rate Testing (CERT) Program

The improper payment rate calculation complies with the requirements of Office of Management and Budget (OMB) Circular A-123, Appendix C.

The sampling process for CERT follows a service level stratification plan. This system allots approximately 100 service level strata per claim type, except for Part A Excluding Hospital IPPS, for which service level stratification is not possible. For this case, strata were designated by a two-digit type of bill, which results in fewer than 20 strata. This stratification system, by design, leads to greater sample sizes for the larger Medicare Administrative Contractors (MACs). Thus, the precision is greater for larger MAC jurisdictions. However, MAC jurisdictions are sufficiently large, therefore all jurisdictions should observe ample number of claims to obtain internal precision goals of plus or minus three percentage points with 95% confidence.

Payment Error Rate Formula

Sampled claims are subject to reviews, and a payment error rate is calculated based on those reviews. The payment error rate is an estimate of the proportion of improper payments made in the Medicare program to the total payments made.

After the claims have been reviewed for improper payments, the sample is projected to the universe statistically using a combination of sampling weights and universe expenditure amounts. CERT utilizes a generalized estimator to handle national, contractor cluster, and service level estimation. National level estimation reduces to a better known estimator known as the separate ratio estimator. Using the separate ratio estimator, error rates for contractor clusters are combined using their relative share of universe expenditures as weights.

Generalized (“Hybrid”) Ratio Estimator

For CERT estimation, the Medicare universe can be partitioned by different groups. The groups relevant for developing the CERT estimator are defined as follows:

partition = group by which payment information is available (denoted by subscript ‘i’)

strata = sampling group (denoted by subscript ‘k’)

domain = area of interest within the universe (denoted by superscript ‘d’)

A partition is defined by the contractor cluster level payment amounts.¹² Strata are defined by service categorization and sampling quarter. Domains are areas that CERT focuses analysis on (e.g., motorized wheelchairs). Note for national level estimation, the domain, d, is the entire universe.

¹² An A/B MAC consists of two contractor clusters. Each cluster represents their respective Part A and Part B claims. Expenditures (payments) are reported to CERT by contractor cluster. DMEPOS MACs are composed of a single cluster.

The estimator for a domain, d, is expressed as

$$\hat{R}_{HybridEstimator}^d = \frac{\hat{t}_e^{*d}}{\hat{t}_p^{*d}} = \frac{\sum_i \hat{t}_e^{*di}}{\sum_i \hat{t}_p^{*di}} = \frac{\sum_i \frac{\hat{t}_e^{di}}{\hat{t}_p^i} t_p^{*i}}{\sum_i \frac{\hat{t}_p^{di}}{\hat{t}_p^i} t_p^{*i}} \quad (1)$$

where,

\hat{t}_e^{*d} = projected improper payment for the domain, d.

\hat{t}_p^{*d} = projected payment for the domain, d.

t_p^{*i} = known payment for partition 'i'

\hat{t}_p^i = projected payment for partition 'i'.

\hat{t}_e^{di} = projected error for domain 'd' in partition 'i'.

\hat{t}_p^{di} = projected payment for domain 'd' in partition 'i'.

Now, the projected error and payment for domain 'd' within partition 'i' can be computed using the following formulas:

$$\hat{t}_e^{di} = \sum_{k=1}^a \frac{N_k}{n_k} \sum_{j=1}^{n_k^{di}} e_{kj} = \sum_{k=1}^a W_k \sum_{j=1}^{n_k^{di}} e_{kj} \quad (2)$$

$$\hat{t}_p^{di} = \sum_{k=1}^a \frac{N_k}{n_k} \sum_{j=1}^{n_k^{di}} p_{kj} = \sum_{k=1}^a W_k \sum_{j=1}^{n_k^{di}} p_{kj} \quad (3)$$

where

N_k = total number of claims in the universe for strata 'k'

n_k = total number of sampled claims for strata 'k'

The following tables provide information on the sample size for each category for which this report makes national estimates. These tables also show the number of claims containing errors and the percent of claims with payment errors. Data in these tables for Part B and DMEPOS data is expressed in terms of line items, and data in these tables for Part A data is expressed in terms of claims. Totals cannot be calculated for these categories since CMS uses different units for each type of service.

Table N1: Lines in Error: Part B

Variable	Lines Reviewed	Lines Containing Errors	Percent of Lines Containing Errors
HCPCS			
All Codes With Less Than 30 Claims	8,380	1,430	17.1%
Complete CBC w/auto diff WBC (85025)	461	117	25.4%
Comprehen metabolic panel (80053)	535	86	16.1%
Ground mileage (A0425)	599	77	12.9%
Initial hospital care (99223)	660	370	56.1%
Office/outpatient visit est (99214)	480	60	12.5%
Routine venipuncture (36415)	711	106	14.9%
Subsequent hospital care (99232)	1,240	152	12.3%
Subsequent hospital care (99233)	1,068	561	52.5%
Therapeutic exercises (97110)	442	111	25.1%
Other	26,646	6,626	24.9%
TOS Code			
Ambulance	1,321	169	12.8%
Hospital visit - initial	1,057	547	51.8%
Hospital visit - subsequent	3,147	923	29.3%
Lab tests - other (non-Medicare fee schedule)	9,784	4,243	43.4%
Minor procedures - other (Medicare fee schedule)	2,350	495	21.1%
Office visits - established	1,338	274	20.5%
Other drugs	1,723	222	12.9%
Specialist - other	1,483	45	3.0%
Specialist - psychiatry	1,168	60	5.1%
Undefined codes	1,352	34	2.5%
Other	16,499	2,684	16.3%
Resolution Type			
Automated	11,286	635	5.6%
Complex	120	33	27.5%
None	29,777	9,025	30.3%
Routine	39	3	7.7%
Diagnosis Code			
Arthropathies and related disorders	2,359	449	19.0%
Diseases of other endocrine glands	1,577	320	20.3%
Diseases of the blood and bloodforming organs	1,216	275	22.6%

Variable	Lines Reviewed	Lines Containing Errors	Percent of Lines Containing Errors
Disorders of the eye and adnexa	2,202	109	5.0%
Dorsopathies	2,132	764	35.8%
Hypertensive disease	1,186	293	24.7%
Osteopathies, chondropathies, and acquired musculoskeletal deformities	1,325	286	21.6%
Other forms of heart disease	1,233	313	25.4%
Persons encountering health services for specific procedures and aftercare	3,662	2,038	55.7%
Symptoms	3,563	668	18.7%
Other	20,767	4,181	20.1%

Table N2: Lines in Error: DMEPOS

Variable	Lines Reviewed	Lines Containing Errors	Percent of Lines Containing Errors
Service			
All Codes With Less Than 30 Claims	3,884	1,561	40.2%
Below knee acrylic socket (L5629)	339	87	25.7%
Below knee total contact (L5637)	372	98	26.3%
Blood glucose/reagent strips (A4253)	812	392	48.3%
Disp fee inhal drugs/30 days (Q0513)	501	126	25.1%
Maint drug infus cath per wk (A4221)	403	129	32.0%
Oxygen concentrator (E1390)	1,234	408	33.1%
Parenteral administration ki (B4224)	379	108	28.5%
Portable gaseous O2 (E0431)	485	275	56.7%
Test socket below knee (L5620)	349	91	26.1%
Other	16,195	5,914	36.5%
TOS Code			
CPAP	1,553	787	50.7%
Enteral Nutrition	615	239	38.9%
Glucose Monitor	1,614	675	41.8%
Immunosuppressive Drugs	1,067	403	37.8%
Infusion Pumps & Related Drugs	1,632	532	32.6%
Lower Limb Prostheses	4,218	1,111	26.3%
Nebulizers & Related Drugs	1,782	592	33.2%
Oxygen Supplies/Equipment	2,217	924	41.7%
Parenteral Nutrition	1,286	397	30.9%
Wheelchairs Options/Accessories	1,769	393	22.2%
Other	7,200	3,136	43.6%
Resolution Type			
Automated	4,523	20	0.4%
Complex	239	41	17.2%
None	20,030	9,077	45.3%
Routine	161	51	31.7%
Diagnosis Code			
All Codes With Less Than 30 Claims	986	375	38.0%
Arthropathies and related disorders	768	431	56.1%
Chronic obstructive pulmonary disease and allied conditions	2,957	1,169	39.5%
Diseases of other endocrine glands	2,229	976	43.8%
Diseases of pulmonary circulation	831	199	23.9%
No Matching Diagnosis Code Label	1,732	891	51.4%
Open wound of lower limb	3,460	856	24.7%
Other disorders of the central nervous system	1,289	212	16.4%

Variable	Lines Reviewed	Lines Containing Errors	Percent of Lines Containing Errors
Persons with a condition influencing their health status	2,642	998	37.8%
Symptoms	1,031	424	41.1%
Other	7,028	2,658	37.8%

Table N3: Claims in Error: Part A Excluding Hospital IPPS

Variable	Claims Reviewed	Claims Containing Errors	Percent of Claims Containing Errors
Type Of Bill			
Clinic ESRD	621	44	7.1%
Clinical Rural Health	231	4	1.7%
Critical Access Hospital	275	68	24.7%
Home Health	1,209	591	48.9%
Hospital Inpatient (Part A)	900	281	31.2%
Hospital Other Part B	111	29	26.1%
Hospital Outpatient	1,621	197	12.2%
Nonhospital based hospice	563	86	15.3%
SNF Inpatient	1,596	154	9.6%
SNF Inpatient Part B	93	13	14.0%
Other	289	45	15.6%
TOS Code			
Clinic ESRD	621	44	7.1%
Clinical Rural Health	231	4	1.7%
Critical Access Hospital	275	68	24.7%
Home Health	1,209	591	48.9%
Hospital Inpatient (Part A)	900	281	31.2%
Hospital Other Part B	111	29	26.1%
Hospital Outpatient	1,621	197	12.2%
Nonhospital based hospice	563	86	15.3%
SNF Inpatient	1,596	154	9.6%
SNF Inpatient Part B	93	13	14.0%
Other	289	45	15.6%
Diagnosis Code			
All Codes With Less Than 30 Claims	227	40	17.6%
Arthropathies and related disorders	220	51	23.2%
Chronic obstructive pulmonary disease and allied conditions	220	42	19.1%
Diseases of other endocrine glands	238	84	35.3%
Hereditary and degenerative diseases of the central nervous system	220	36	16.4%
Hypertensive disease	230	64	27.8%
Nephritis, nephrotic syndrome, and nephrosis	678	48	7.1%
Other forms of heart disease	410	86	21.0%
Persons encountering health services for specific procedures and aftercare	1,514	481	31.8%
Symptoms	424	74	17.5%
Other	3,128	506	16.2%

Table N4: Claims in Error: Part A Hospital IPPS

Variable	Claims Reviewed	Claims Containing Errors	Percent of Claims Containing Errors
DRG Label			
All Codes With Less Than 30 Claims	2,792	337	12.1%
Cardiac Defibrillator Implant W/O Cardiac Cath W/O Mcc (227)	831	166	20.0%
Esophagitis, Gastroent & Misc Digest Disorders W/O Mcc (392)	228	29	12.7%
Heart Failure & Shock W Cc (292)	272	26	9.6%
Major Joint Replacement Or Reattachment Of Lower Extremity W/O Mcc (470)	358	20	5.6%
Perc Cardiovasc Proc W Drug-Eluting Stent W/O Mcc (247)	381	25	6.6%
Permanent Cardiac Pacemaker Implant W Cc (243)	532	47	8.8%
Permanent Cardiac Pacemaker Implant W/O Cc/Mcc (244)	529	49	9.3%
Psychoses (885)	859	70	8.1%
Spinal Fusion Except Cervical W/O Mcc (460)	214	15	7.0%
Other	7,494	835	11.1%
TOS Code			
All Codes With Less Than 30 Claims	1,648	212	12.9%
Back & Neck Proc Exc Spinal Fusion (518, 519 520)	380	89	23.4%
Cardiac Defibrillator Implant W/O Cardiac Cath (226, 227)	921	177	19.2%
Chronic Obstructive Pulmonary Disease (190, 191, 192)	250	22	8.8%
Esophagitis, Gastroent & Misc Digest Disorders (391, 392)	280	36	12.9%
Heart Failure & Shock (291, 292, 293)	529	43	8.1%
Major Joint Replacement Or Reattachment Of Lower Extremity (469, 470)	392	21	5.4%
Perc Cardiovasc Proc W Drug-Eluting Stent (246, 247)	431	30	7.0%
Permanent Cardiac Pacemaker Implant (242, 243, 244)	1,113	97	8.7%
Psychoses (885)	859	70	8.1%
Other	7,687	822	10.7%
Diagnosis Code			
Arthropathies and related disorders	447	51	11.4%
Cerebrovascular disease	336	31	9.2%
Complications of surgical and medical care, not elsewhere classified	724	73	10.1%
Dorsopathies	605	113	18.7%
Fracture of lower limb	354	34	9.6%
Ischemic heart disease	1,054	95	9.0%
Other diseases of intestines and peritoneum	382	32	8.4%
Other forms of heart disease	2,679	279	10.4%
Other psychoses	860	70	8.1%
Symptoms	571	119	20.8%

Variable	Claims Reviewed	Claims Containing Errors	Percent of Claims Containing Errors
Other	6,478	722	11.1%

Table N5: “Included In” and “Excluded From” the Sample

Improper Payment Rate	Paid Line Items	Unpaid Line Items	Denied For Non Medical Reasons	Automated Medical Review Denials	No Resolution	RTP	Late Resolution	Inpt, RAPs, Tech Errors
Paid Claim	Include	Include	Include	Include	Exclude	Exclude	Exclude	Exclude
No Resolution	Include	Include	Include	Include	Include	Exclude	Include	Exclude
Provider Compliance	Include	Include	Include	Include	Exclude	Exclude	Exclude	Exclude

The dollars in error for the improper payment rate is based on the final allowed charges, and the dollars in error for the provider compliance improper payment rate is based on the fee schedule amount for the billed service. The No Resolution rate is based on the number of claims where the contractor cannot track the outcome of the claim divided by no resolution claims plus all claims included in the paid or provider compliance improper payment rate.

Table N6: Frequency of Claims “Included In” and “Excluded From” Each Improper Payment Rate: Part B

Error Type	Included	Excluded	Total	Percent Included
Paid	16,999	581	17,580	96.7%
No Resolution	17,000	580	17,580	96.7%
Provider Compliance	16,999	581	17,580	96.7%

Table N7: Frequency of Claims “Included In” and “Excluded From” Each Improper Payment Rate: DMEPOS

Error Type	Included	Excluded	Total	Percent Included
Paid	10,999	440	11,439	96.2%
No Resolution	10,999	440	11,439	96.2%
Provider Compliance	10,999	440	11,439	96.2%

**Table N8: Frequency of Claims “Included In” and “Excluded From” Each Improper Payment Rate:
Part A Including Hospital IPPS**

Error Type	Included	Excluded	Total	Percent Included
Paid	21,999	7,757	29,756	73.9%
No Resolution	22,002	7,754	29,756	73.9%
Provider Compliance	21,999	7,757	29,756	73.9%

Appendix O: List of Acronyms

AICD	Automated Implantable Cardioverter-Defibrillator
AK	Above the Knee
ALS	Advance Life Support
AMI	Acute Myocardial Infarction
ASC	Ambulatory Surgery Center
BETOS	Berenson-Eggers Type of Service
BK	Below the Knee
BLS	Basic Life Support
CAH	Critical Access Hospital
CAT/CT	Computer Tomography
CC	Comorbidity or Complication
CERT	Comprehensive Error Rate Testing
CMS	Centers for Medicare & Medicaid Services
CORF	Comprehensive Outpatient Rehabilitation Facility
CPAP	Continuous Positive Airway Pressure
CPM	Continuous Passive Motion
CPT	Current Procedural Terminology
CRNA	Certified Registered Nurse Anesthetist
CVA	Cerebrovascular Accident
DME	Durable Medical Equipment
DMEPOS	Durable Medical Equipment, Prosthetics, Orthotics & Supplies
DRG	Diagnosis Related Group
E&M	Evaluation and Management
EKG	Electrocardiogram
ESRD	End-Stage Renal Disease
FFS	Fee-for-Service
FQHC	Federally Qualified Health Center
FY	Fiscal Year
GI	Gastrointestinal
HCPCS	Healthcare Common Procedure Coding System
HHA	Home Health Agency
IDTF	Independent Diagnostic Testing Facility
IPPS	Inpatient Prospective Payment System
LSO	Lumbar-Sacral Orthosis
MAC	Medicare Administrative Contractor
MCC	Major Complication or Comorbidity
MRA	Magnetic Resonance Angiogram
MRI	Magnetic Resonance Imaging
MS-DRG	Medicare Severity Diagnosis Related Group

MV	Mechanical Ventilation
NDC	National Drug Code
NOS	Not Otherwise Specified
OPPS	Outpatient Prospective Payment System
OPT	Outpatient Physical Therapy
OR	Operating Room
ORF	Outpatient Rehabilitation Facility
POV	Power Operated Vehicle
PPS	Prospective Payment System
PTCA	Percutaneous Transluminal Coronary Angioplasty
PWC	Power Wheelchair
RAD	Respiratory Assist Device
RAP	Request for Advanced Payment
RHC	Rural Health Clinic
RTP	Return to Provider
SNF	Skilled Nursing Facility
TENS	Transcutaneous Electrical Nerve Stimulation
TOB	Type of Bill
TOS	Type of Service
TURP	Transurethral Resection of the Prostate
W	With
WBC	White Blood Cell
WC	Wheelchair
W/O	Without