

C: Regression results

Supporting document for the Extended
Medicare Safety Net Review Report 2009

PREPARED BY:

The Centre for Health Economics Research and Evaluation

C: Regression results – Supporting document for the Extended Medicare Safety Net Review Report 2009

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LIST OF ABBREVIATIONS

OOP	Out-of-pocket
EMSN	Extended Medicare Safety Net
SE	Standard Error
Ave	Average

1: FULL REGRESSION RESULTS ON AVERAGE FEES, BENEFITS, OOP COSTS, BULK BILLING AND SERVICE USE BY PROFESSIONAL GROUPS.

Table C.1 – All professional groups

ALL PROFESSIONAL GROUPS (EXCLUDING PATHOLOGY AND GP)										
	AVE FEE	AVE BENEFIT	AVE NET BENEFIT	AVE OOP	BULK-BILL RATE	SERVICES PER 1,000	TOTAL BENEFITS	TOTAL FEE	TOTAL NET BENEFITS	TOTAL OOP
Pre-EMSN time	0.345	-0.160	-0.168	0.504	-0.003	-0.155	0.020	2.530	-0.021	2.509
SE	0.074	0.124	0.043	0.118	0.000	0.288	0.841	0.569	0.339	0.485
EMSN dummy	4.619	6.193	0.747	-1.574	-0.007	0.364	27.581	19.740	2.553	-7.841
SE	0.925	1.540	0.538	1.466	0.002	3.589	10.473	7.082	4.224	6.037
Post EMSN time	0.819	0.836	0.381	-0.017	0.004	0.022	4.362	4.572	2.048	0.209
SE	0.094	0.156	0.055	0.149	0.000	0.364	1.063	0.719	0.429	0.613
Constant	82.82	67.41	67.04	15.41	0.357	233.79	300.15	368.46	298.47	68.32
SE	0.718	1.196	0.418	1.139	0.002	2.787	8.133	5.500	3.280	4.688
R_squared	0.985	0.901	0.748	0.818	0.958	0.062	0.881	0.976	0.849	0.885
Adj_R_squared	0.984	0.892	0.724	0.801	0.954	-0.029	0.870	0.973	0.834	0.874

Table C.2: Assisted reproductive services and diagnostic imaging

	ASSISTED REPRODUCTIVE SERVICES						DIAGNOSTIC IMAGING					
	AVE FEE	AVE BENEFIT	AVE NET BENEFIT	AVE OOP	BULK-BILL RATE	SERVICES PER 1,000	AVE FEE	AVE BENEFIT	AVE NET BENEFIT	AVE OOP	BULK-BILL RATE	SERVICES PER 1,000
Pre-EMSN time	10.209	0.965	0.956	9.244	0.005	0.000	-0.154	-0.493	-0.496	0.339	-0.003	0.926
SE	1.587	1.974	0.467	1.951	0.001	0.005	0.101	0.105	0.080	0.046	0.000	0.252
EMSN dummy	76.768	188.863	10.310	-112.095	0.004	0.059	5.378	5.919	4.150	-0.541	-0.007	-3.699
SE	19.763	24.584	5.813	24.290	0.011	0.067	1.258	1.308	0.991	0.571	0.004	3.137
Post EMSN time	7.808	13.866	-1.756	-6.058	-0.003	0.046	-0.064	0.231	0.237	-0.295	0.007	0.619
SE	2.005	2.495	0.590	2.465	0.001	0.007	0.128	0.133	0.101	0.058	0.000	0.318
Constant	539.04	410.94	410.44	128.10	0.075	1.390	128.19	114.46	114.41	13.74	0.673	143.49
SE	15.347	19.091	4.514	18.863	0.008	0.052	0.977	1.015	0.769	0.443	0.003	2.436
R_squared	0.978	0.966	0.388	0.472	0.842	0.920	0.399	0.514	0.709	0.805	0.913	0.875
Adj_R_squared	0.976	0.962	0.329	0.421	0.827	0.913	0.341	0.467	0.680	0.786	0.905	0.863

Table C.3 General practice and nuclear imaging

	GENERAL PRACTICE						NUCLEAR IMAGING					
	AVE FEE	AVE BENEFIT	AVE NET BENEFIT	AVE OOP	BULK-BILL RATE	SERVICES PER 1,000	AVE FEE	AVE BENEFIT	AVE NET BENEFIT	AVE OOP	BULK-BILL RATE	SERVICES PER 1,000
Pre-EMSN time	0.285	0.115	0.115	0.170	-0.009	-3.714	-11.760	-11.750	-11.750	-0.010	0.003	0.000
SE	0.075	0.084	0.085	0.015	0.001	2.736	1.464	1.488	1.466	0.134	0.001	0.000
EMSN dummy	1.805	2.315	2.030	-0.511	0.043	-20.371	-43.442	-43.147	-45.883	-0.295	-0.037	-0.005
SE	0.936	1.046	1.060	0.184	0.006	34.064	18.229	18.526	18.250	1.663	0.015	0.001
Post EMSN time	-0.106	0.085	0.090	-0.191	0.014	7.753	3.859	3.799	3.862	0.060	0.004	0.000
SE	0.095	0.106	0.108	0.019	0.001	3.457	1.850	1.880	1.852	0.169	0.001	0.000
Constant	32.64	30.44	30.44	2.20	0.811	1185.11	777.29	754.85	754.52	22.44	0.594	0.043
SE	0.727	0.812	0.823	0.143	0.005	26.453	14.156	14.387	14.172	1.291	0.011	0.001
R_squared	0.848	0.778	0.758	0.846	0.944	0.156	0.954	0.953	0.955	0.009	0.771	0.527
Adj_R_squared	0.833	0.756	0.735	0.832	0.938	0.074	0.950	0.948	0.950	-0.087	0.749	0.481

Table C.4 Obstetrics and operations (in-hospital)

	OBSTETRICS						OPERATIONS (IN-HOSPITAL)					
	AVE FEE	AVE BENEFIT	AVE NET BENEFIT	AVE OOP	BULK-BILL RATE	SERVICES PER 1000	AVE FEE	AVE BENEFIT	AVE NET BENEFIT	AVE OOP	BULK-BILL RATE	SERVICES PER 1000
Pre-EMSN time	0.400	0.060	0.060	0.340	-0.003	-0.116	3.167	-0.701	-0.701	3.868	0.000	0.378
SE	0.696	0.758	0.080	0.336	0.001	0.017	0.305	0.168	0.168	0.146	0.000	0.062
EMSN dummy	41.220	32.216	1.991	9.004	0.004	-0.514	17611	8.562	8.562	9.049	0.002	-1.470
SE	8.669	9.442	0.993	4.184	0.007	0.214	3.798	2.094	2.094	1.823	0.002	0.773
Post EMSN time	4.704	3.414	0.440	1.290	0.011	0.150	-2.073	0.142	0.142	-2.214	0.001	-0.073
SE	0.880	0.958	0.101	0.425	0.001	0.022	0.385	0.212	0.212	0.185	0.000	0.078
Constant	39.810	27.519	27.514	12.291	0.259	18.086	449.389	257.655	257.655	191.733	0.040	26.134
SE	6.732	7.333	0.771	3.249	0.005	0.166	2.949	1.626	1.626	1.416	0.001	0.600
R_squared	0.948	0.884	0.903	0.875	0.942	0.826	0.966	0.568	0.568	0.993	0.571	0.870
Adj_R_squared	0.943	0.873	0.894	0.862	0.937	0.809	0.963	0.526	0.526	0.992	0.529	0.858

Table C.5 Pathology and psychiatry

	PATHOLOGY						PSYCHIATRY					
	AVE FEE	AVE BENEFIT	AVE NET BENEFIT	AVE OOP	BULK-BILL RATE	SERVICES PER 1,000	AVE FEE	AVE BENEFIT	AVE NET BENEFIT	AVE OOP	BULK-BILL RATE	SERVICES PER 1,000
Pre-EMSN time	-0.189	-0.176	-0.176	-0.013	0.002	7.483	-0.097	-0.350	-0.404	0.253	-0.003	-0.179
SE	0.016	0.015	0.015	0.002	0.000	1.146	0.111	0.201	0.122	0.191	0.000	0.035
EMSN dummy	1.286	1.326	1.243	-0.039	-0.002	-7.854	1.655	4.932	-0.326	-3.277	-0.020	-0.119
SE	0.203	0.190	0.192	0.029	0.001	14.275	1.386	2.506	1.525	2.373	0.005	0.438
Post EMSN time	0.043	0.041	0.042	0.002	0.000	3.482	1.066	0.990	0.810	0.076	0.001	0.008
SE	0.021	0.019	0.019	0.003	0.000	1.449	0.141	0.254	0.155	0.241	0.000	0.044
Constant	23.538	22.641	22.638	0.897	0.892	718.429	132.569	116.483	114.049	16.086	0.504	25.539
SE	0.158	0.147	0.149	0.023	0.001	11.085	1.076	1.946	1.184	1.843	0.004	0.340
R_squared	0.943	0.937	0.939	0.916	0.991	0.956	0.921	0.686	0.493	0.232	0.970	0.898
Adj_R_squared	0.937	0.931	0.933	0.908	0.990	0.952	0.913	0.656	0.444	0.158	0.968	0.888

Table C.6 Radiation oncology and specialist attendances

	RADIATION ONCOLOGY						SPECIALISTS ATTENDANCES					
	AVE FEE	AVE BENEFIT	AVE NET BENEFIT	AVE OOP	BULK-BILL RATE	SERVICES PER 1,000	AVE FEE	AVE BENEFIT	AVE NET BENEFIT	AVE OOP	BULK-BILL RATE	SERVICES PER 1,000
Pre-EMSN time	0.744	0.337	0.287	0.406	0.002	0.070	0.308	-0.180	-0.182	0.487	-0.003	0.070
SE	0.123	0.127	0.104	0.078	0.000	0.014	0.057	0.067	0.037	0.080	0.000	0.234
EMSN dummy	8.653	12.463	1.602	-3.809	-0.012	0.285	1.163	2.510	0.401	-1.347	-0.005	0.953
SE	1.550	1.602	1.317	0.985	0.006	0.180	0.715	0.837	0.457	1.000	0.002	2.917
Post EMSN time	0.786	1.251	1.065	-0.464	0.008	0.033	0.108	0.233	0.218	-0.125	0.003	-0.259
SE	0.160	0.165	0.136	0.102	0.001	0.019	0.073	0.085	0.046	0.101	0.000	0.296
Constant	129.918	117.670	114.941	12.248	0.063	7.318	74.580	59.675	59.648	14.906	0.361	181.419
SE	1.186	1.225	1.008	0.754	0.004	0.138	0.556	0.650	0.355	0.776	0.002	2.265
R_squared	0.982	0.982	0.967	0.539	0.987	0.943	0.948	0.441	0.515	0.872	0.969	0.039
Adj_R_squared	0.980	0.980	0.964	0.493	0.985	0.937	0.943	0.387	0.468	0.859	0.966	-0.054

2: FULL REGRESSION RESULTS ON IN-HOSPITAL AND OUT-OF-HOSPITAL FEES AND SERVICES

Table C.7 All professional groups (excl pathology & GP) & assist reproductive services

	ALL PROFESSIONAL GROUPS (EXCLUDING PATHOLOGY AND GP)			ASSISTED REPRODUCTIVE SERVICES		
	AVE FEE	FEE MILLIONS	SERVICES PER 1,000	AVE FEE	FEE MILLIONS	SERVICES PER 1,000
Pre-EMSN time_OUT	-0.464	0.229	-0.754	3.365	0.240	-0.004
SE	0.278	0.647	0.369	1.801	0.137	0.006
Post-EMSN time_OUT	0.171	7.685	1.692	18.314	1.487	0.040
SE	0.351	0.817	0.466	2.276	0.173	0.007
EMSN-dummy-IN	-9.005	6.619	6.276	0.806	0.250	0.023
SE	2.443	5.693	3.248	15.859	1.206	0.050
EMSN_dummy_OUT	4.619	19.740	0.364	76.768	1.156	0.059
SE	2.443	5.693	3.248	15.859	1.206	0.050
OUT_dummy	-15.264	287.872	190.261	191.051	12.066	1.059
SE	2.683	6.252	3.567	17.416	1.324	0.055
Pre-EMSN time	0.809	2.300	0.599	6.844	0.094	0.004
SE	0.196	0.457	0.261	1.274	0.097	0.004
Post EMSN time	0.648	-3.114	-1.670	-10.506	-0.031	0.005
SE	0.248	0.578	0.330	1.609	0.122	0.005
Constant	98.083	80.589	43.534	347.992	2.139	0.331
SE	1.897	4.421	2.522	12.315	0.936	0.039
R sq	0.929	0.998	0.998	0.991	0.988	0.989
Ad R sq	0.921	0.998	0.997	0.990	0.987	0.988

Table C.8: Diagnostic Imaging and general practice

	DIAGNOSTIC IMAGING			GENERAL PRACTICE		
	AVE FEE	FEE MILLIONS	SERVICES PER 1,000	AVE FEE	FEE MILLIONS	SERVICES PER 1,000
Pre-EMSN time_OUT	-0.119	2.652	0.856	-0.217	6.213	-3.704
SE	0.183	0.602	0.253	0.090	2.257	2.736
Post-EMSN time_OUT	0.058	1.845	0.597	0.271	4.913	7.801
SE	0.231	0.761	0.320	0.114	2.852	3.457
EMSN-dummy-IN	5.576	1.534	0.085	0.491	-0.322	-0.338
SE	1.613	5.301	2.230	0.792	19.872	24.087
EMSN_dummy_OUT	5.378	6.193	-3.699	1.805	20.496	-20.371
SE	1.613	5.301	2.230	0.792	19.872	24.087
OUT_dummy	-53.327	311.815	132.433	-17.451	731.383	1178.858
SE	1.771	5.822	2.449	0.870	21.824	26.453
Pre-EMSN time	-0.035	0.372	0.070	0.502	0.070	-0.009
SE	0.130	0.426	0.179	0.064	1.596	1.934
Post EMSN time	-0.121	0.120	0.022	-0.377	-0.103	-0.048
SE	0.164	0.538	0.226	0.080	2.016	2.444
Constant	181.518	38.140	11.057	50.090	5.968	6.252
SE	1.252	4.117	1.732	0.615	15.432	18.705
R sq	0.994	0.999	0.998	0.988	0.996	0.997
Ad R sq	0.993	0.998	0.998	0.987	0.996	0.996

Table C.9 Nuclear imaging and obstetrics

	NUCLEAR IMAGING			OBSTETRICS		
	AVE FEE	FEE MILLIONS	SERVICES PER 1,000	AVE FEE	FEE MILLIONS	SERVICES PER 1,000
Pre-EMSN time_OUT	-6.276	-0.005	0.0003	-17.615	-0.726	-0.128
SE	4.478	0.002	0.0001	1.555	0.219	0.018
Post-EMSN time_OUT	2.608	-0.001	-0.0003	25.266	2.677	0.163
SE	5.658	0.002	0.0001	1.965	0.277	0.022
EMSN-dummy-IN	-58.390	0.009	0.0011	-68.657	-3.048	-0.058
SE	39.425	0.015	0.0010	13.694	1.932	0.155
EMSN_dummy_OUT	-43.442	-0.101	-0.0051	41.220	11.760	-0.514
SE	39.425	0.015	0.0010	13.694	1.932	0.155
OUT_dummy	-46.175	0.578	0.0389	-704.199	-6.135	16.669
SE	43.297	0.017	0.0011	15.039	2.122	0.170
Pre-EMSN time	-5.484	0.001	0.0001	18.015	0.805	0.012
SE	3.166	0.001	0.0001	1.100	0.155	0.012
Post EMSN time	1.251	-0.002	-0.0001	-20.561	-0.805	-0.013
SE	4.001	0.002	0.0001	1.390	0.196	0.016
Constant	823.467	0.061	0.0039	744.009	19.891	1.417
SE	30.616	0.012	0.0008	10.634	1.501	0.120
R sq	0.824	0.991	0.995	0.998	0.958	0.999
Ad R sq	0.804	0.990	0.994	0.998	0.953	0.999

Table C.10 Operations and pathology

	OPERATIONS			PATHOLOGY		
	AVE FEE	FEE MILLIONS	SERVICES PER 1,000	AVE FEE	FEE MILLIONS	SERVICES PER 1,000
Pre-EMSN time_OUT	-3.506	-5.883	-0.184	-0.078	0.483	6.318
SE	0.316	0.578	0.105	0.042	0.569	1.164
Post-EMSN time_OUT	2.805	1.304	-0.101	0.431	2.080	2.825
SE	0.399	0.730	0.133	0.053	0.719	1.471
EMSN-dummy-IN	17.611	-4.851	-1.470	2.316	0.914	-4.729
SE	2.783	5.086	0.926	0.367	5.010	10.253
EMSN_dummy_OUT	-0.286	3.918	2.717	1.286	17.747	-7.854
SE	2.783	5.086	0.926	0.367	5.010	10.253
OUT_dummy	-354.970	-130.159	24.757	-17.557	275.288	657.569
SE	3.056	5.585	1.017	0.403	5.502	11.260
Pre-EMSN time	3.167	6.180	0.378	-0.111	0.944	1.165
SE	0.223	0.408	0.074	0.029	0.402	0.823
Post EMSN time	-2.073	-0.692	-0.073	-0.389	-0.298	0.656
SE	0.282	0.516	0.094	0.037	0.508	1.040
Constant	449.389	221.673	26.134	41.094	47.524	60.859
SE	2.161	3.949	0.719	0.285	3.890	7.962
R sq	0.9996	0.997	0.988	0.997	0.998	0.999
Ad R sq	0.9996	0.996	0.987	0.996	0.998	0.999

Table C11 Psychiatry and radiation oncology

	PSYCHIATRY			RADIATION ONCOLOGY		
	AVE FEE	FEE MILLIONS	SERVICES PER 1,000	AVE FEE	FEE MILLIONS	SERVICES PER 1,000
Pre-EMSN time_OUT	-0.462	-0.406	-0.204	-3.023	0.352	0.073
SE	0.154	0.097	0.036	0.459	0.038	0.028
Post-EMSN time_OUT	0.943	0.438	0.013	0.721	0.395	0.074
SE	0.194	0.122	0.045	0.599	0.050	0.036
EMSN-dummy-IN	1.012	-0.224	-0.101	7.610	0.102	0.012
SE	1.354	0.852	0.313	4.106	0.342	0.248
EMSN_dummy_OUT	1.655	0.496	-0.119	8.653	1.952	-0.009
SE	1.354	0.852	0.313	4.106	0.342	0.248
OUT_dummy	25.045	59.772	23.196	-12.092	16.941	6.938
SE	1.486	0.935	0.344	4.443	0.370	0.273
Pre-EMSN time	0.365	0.091	0.026	3.767	0.019	-0.003
SE	0.109	0.068	0.025	0.325	0.027	0.020
Post EMSN time	0.123	0.017	-0.004	0.065	0.013	0.004
SE	0.137	0.086	0.032	0.424	0.035	0.025
Constant	107.524	4.773	2.344	142.010	1.034	0.380
SE	1.051	0.661	0.243	3.142	0.262	0.193
R sq	0.978	0.998	0.998	0.983	0.999	0.994
Ad R sq	0.975	0.998	0.998	0.981	0.999	0.993

Table C12 Specialist attendances

	SPECIALIST ATTENDANCES		
	AVE FEE	FEE MILLIONS	SERVICES PER 1,000
Pre-EMSN time_OUT	-0.016	0.775	-0.491
SE	0.114	0.452	0.325
Post-EMSN time_OUT	-0.283	2.653	1.402
SE	0.144	0.571	0.411
EMSN-dummy-IN	-1.918	9.514	6.398
SE	1.003	3.979	2.862
EMSN_dummy_OUT	1.163	4.696	0.953
SE	1.003	3.979	2.862
OUT_dummy	3.229	204.649	142.360
SE	1.102	4.370	3.144
Pre-EMSN time	0.323	1.290	0.561
SE	0.081	0.320	0.230
Post EMSN time	0.391	-2.304	-1.661
SE	0.102	0.404	0.290
Constant	71.351	52.691	39.059
SE	0.779	3.090	2.223
R sq	0.923	0.998	0.997
Ad R sq	0.914	0.998	0.996

3: FULL REGRESSION RESULTS FOR MEDICARE ITEMS WITH HIGH EMSN BENEFITS

Table C13 lists the MBS items used in Section 4.7 of the report. These items were identified on the basis that they reached the top forty items with the highest EMSN benefits in any year after the EMSN was introduced. These items were then grouped according to the average OOP cost associated with these items. The low group represents those Medicare items with average OOP costs of less than \$10. The moderate group comprises Medicare items with average OOP costs of between \$10 and \$50 and the high group items are those with OOP costs greater than \$50. Those items that were introduced after the EMSN was implemented are not reported here. Tables C14 to C16 show the results obtained from the regression analyses.

Table C13: MBS items used in regression analysis reported in 4.7

GROUP	MBS ITEM	DESCRIPTION
Low (Average OOP cost < \$10)	73928	PATHOLOGY – initiation of a patient episode by collection of a specimen for 1 or more services
	11700	DIAGNOSTIC PROCEDURE – electrocardiography
	53	NON REFERRED – consultation of 5 to 25 minutes
	36	GP – Level C consultation more than 20 minutes and less than 40 minutes
	23	GP – Level B consultation of less than 20 minutes
	193	GP – consultation of less than 20 minutes where acupuncture is performed
	58503	DIAGNOSTIC IMAGING – radiography of chest and lung fields
	57521	DIGANOSTIC IMAGING – radiography of foot, ankle, knee, femur
	54	NON REFERRED – consultation of more than 25 minutes and less than 45 minutes
	Moderate ($\$10 \leq$ Average OOP cost < \$50)	44
15269		RADIATION ONCOLOGY TREATMENT – each attendance using a dual photon energy linear accelerator with a minimum higher energy of at least 10MV photons treating 2 – 5 fields
15266		RADIATION ONCOLOGY TREATMENT – each attendance using a dual photon energy linear accelerator with a minimum higher energy of at least 10MV photons, delivered to the primary site of the breast, treatment of 2 – 5 fields

Table C13: MBS items used in regression analysis reported in 4.7 continued

GROUP	MBS ITEM	DESCRIPTION
Moderate (\$10 ≤ Average OOP cost < \$50) continued	15236	RADIATION ONCOLOGY TREATMENT – each attendance using a single photon energy linear accelerator treatment delivered to primary site of the breast, treatment of 2–5 fields
	15272	RADIATION ONCOLOGY TREATMENT – each attendance using a dual photon energy linear accelerator with a minimum higher energy of at least 10MV photons treating secondary sites, 2–5 fields
	15263	RADIATION ONCOLOGY TREATMENT – each attendance using a single photon energy linear accelerator treatment delivered to primary site of the prostate, treatment of 2–5 fields
	16500	OBSTETRICS – antenatal attendance
	302	PSYCHIATRY – attendance of 15–30 minutes
	116	CONSULTANT PHYSICIAN – subsequent consultation
	13221	ASSISTED REPRODUCTIVE TECHNOLOGY – preparation of semen for ART or for artificial insemination
	319	PSYCHIATRY – an attendance 45 minutes duration at consulting rooms, where the patient has been diagnosed as having one of a number of disorders.
	55721	DIAGNOSTIC IMAGING – ultrasound of the pelvis/abdomen for pregnancy related or pregnancy complication, fetal development and anatomy (after 22 weeks)
	304	PSYCHIATRY – attendance of 30–45 minutes
	16509	OBSTETRICS – attendance to treat preeclampsia, eclampsia or antepartum haemorrhage
	105	SPECIALIST – subsequent consultation
	316	PSYCHIATRY – attendance of 45–75 minutes, where the patient has had more than 50 consultations in a calendar year
	306	PSYCHIATRY – attendance of 45–75 minutes
	55246	DIAGNOSTIC IMAGING – duplex scanning, one side, analysis of veins in the lower limb for chronic venous disease
57	NON REFERRED – consultation of more than 45 minutes	

Table C13: MBS items used in regression analysis reported in 4.7 continued

GROUP	MBS ITEM	DESCRIPTION
Moderate (\$10 ≤ Average OOP cost < \$50) continued	55113	DIAGNOSTIC IMAGING – M-mode and 2-D real time echocardiographic examination of the heart for the investigation of symptoms or signs of cardiac failure, or suspected or known ventricular hypertrophy or dysfunction, or chest pain
	59300	DIAGNOSTIC IMAGING – mammography of both breasts, if there is reason to suspect malignancy
	55731	DIAGNOSTIC IMAGING – ultrasound of the female pelvis
	55718	DIAGNOSTIC IMAGING – ultrasound of the pelvis/abdomen for pregnancy related or pregnancy complication, fetal development and anatomy (after 22 weeks)
	110	CONSULTANT PHYSICIAN – initial consultation
	55054	DIAGNOSTIC IMAGING – ultrasonic cross-sectional echography, in conjunction with a surgical procedure using interventional techniques
	55704	DIAGNOSTIC IMAGING – ultrasound of the pelvis/abdomen for pregnancy related or pregnancy complication, fetal development and anatomy (12–16 weeks)
	104	SPECIALIST – initial consultation
High (Average OOP cost ≥ \$50)	55706	DIAGNOSTIC IMAGING – ultrasound of the pelvis/abdomen for pregnancy related or pregnancy complication, fetal development and anatomy (17–22 weeks)
	15524	RADIATION DOSIMETRY by a CT interfacing planning computer for megavoltage or teletherapy radiotherapy to 3 or more areas, or by mantle fields or inverted Y fields or tangential fields or irregularly shaped fields using multiple blocks, or offaxis fields, or several joined fields
	13203	ASSISTED REPRODUCTIVE TECHNOLOGY – ovulation monitoring services or superovulated treatment cycles of less than 9 days duration and artificial insemination – including quantitative estimation of hormones and ultrasound examinations
	42740	OPHTHALMOLOGY – injection of a therapeutic substances into the eye
	30653	OPERATION – Circumcision of a male under 6 months of age
	32500	VARICOSE VEIN TREATMENT – using injection of sclerosant (a chemical which causes the vein to close) and compression of the veins, where the vein is 2.5mm or greater in diameter, including associated consultation – 1 or both legs
	42702	OPHTHALMOLOGY – removal of lens and insertion of an artificial lens for the treatment of cataracts

Table C13: MBS items used in regression analysis reported in 4.7 continued

GROUP	MBS ITEM	DESCRIPTION
High (Average OOP cost ≥ \$50) continued	13209	ASSISTED REPRODUCTIVE TECHNOLOGY – planning and management of an ART treatment cycle
	13218	ASSISTED REPRODUCTIVE TECHNOLOGY – preparation and transfer of frozen or donated embryos to the female by any means and including all treatment and counselling services but excluding artificial insemination
	45026	OPERATION – laser resurfacing of the face or neck – more than 1 area
	35321	OPERATIONS – Blood vessel catheterisation to administer substances to block blood vessels or to stop bleeding
	13200	ASSISTED REPRODUCTIVE TECHNOLOGY – various ART services such as in vitro fertilisation, gamete intrafallopian transfer or similar procedures, involving the use of drugs to induce superovulation, and including quantitative estimation of hormones, ultrasound examinations, all treatment counselling and embryology laboratory services

Table C14: High EMSN Medicare items with average OOP costs < \$10

LOW OOP GROUP							
	AVERAGE FEE	AVERAGE NET BENEFIT	AVERAGE BENEFIT	AVERAGE OOP COSTS	SERVICES PER 1,000	TOTAL BENEFITS (MIL)	TOTAL NET BEN (MIL)
Pre-EMSN time	0.193	0.042	0.042	0.151	-6.221	-0.081	-0.088
SE	0.054	0.063	0.062	0.013	2.941	1.932	1.927
EMSN dummy	1.524	1.714	1.984	-0.460	-30.513	27.491	20.638
SE	0.677	0.788	0.777	0.164	36.619	24.059	23.989
Post EMSN time	-0.119	0.059	0.055	-0.174	8.682	7.402	7.493
SE	0.069	0.080	0.079	0.017	3.716	2.441	2.434
Constant	30.749	28.541	28.543	2.206	1384.450	753.028	752.976
SE	0.526	0.612	0.604	0.128	28.437	18.683	18.629
R_squared	0.813	0.672	0.706	0.841	0.308	0.749	0.734
Adj_R_squared	0.794	0.640	0.677	0.825	0.241	0.725	0.709

Table C15: High EMSN Medicare items with average OOP costs between \$10 and \$50

MODERATE OOP GROUP							
	AVERAGE FEE	AVERAGE NET BENEFIT	AVERAGE BENEFIT	AVERAGE OOP COSTS	SERVICES PER 1,000	TOTAL BENEFITS (MILL)	TOTAL NET BEN (MIL)
Pre-EMSN time	0.476	0.008	0.017	0.460	0.553	1.787	1.737
SE	0.058	0.044	0.087	0.085	0.322	0.752	0.472
EMSN dummy	3.945	1.666	5.271	-1.326	4.440	32.144	13.468
SE	0.717	0.549	1.089	1.061	4.013	9.366	5.874
Post EMSN time	-0.293	-0.060	-0.059	-0.234	-1.179	-1.588	-1.598
SE	0.073	0.056	0.111	0.108	0.407	0.950	0.596
Constant	80.101	64.912	65.162	14.939	242.421	300.529	299.389
SE	0.557	0.426	0.846	0.824	3.116	7.273	4.562
R_squared	0.961	0.411	0.728	0.777	0.255	0.777	0.769
Adj_R_squared	0.957	0.354	0.701	0.756	0.183	0.755	0.746

Table C16: High EMSN Medicare items with average OOP costs > \$50

	HIGH OOP GROUP						
	AVERAGE FEE	AVERAGE NET BENEFIT	AVERAGE BENEFIT	AVERAGE OOP COSTS	SERVICES PER 1,000	TOTAL BENEFITS (MILL)	TOTAL NET BEN (MIL)
Pre-EMSN time	1.995	-1.342	-1.333	3.328	0.044	0.177	0.175
SE	1.066	0.611	1.115	0.941	0.012	0.152	0.051
EMSN dummy	47.175	22.541	86.271	-39.096	-0.159	5.061	0.881
SE	13.277	7.613	13.879	11.713	0.144	1.894	0.637
Post EMSN time	8.994	1.019	9.182	-0.188	0.035	1.443	0.288
SE	1.347	0.773	1.408	1.189	0.015	0.192	0.065
Constant	324.626	244.555	244.951	79.675	3.685	16.990	16.963
SE	10.311	5.912	10.778	9.096	0.112	1.471	0.495
R_squared	0.965	0.264	0.949	0.562	0.898	0.961	0.951
Adj_R_squared	0.961	0.193	0.944	0.520	0.888	0.957	0.946

Table C17: Sensitivity analysis results – obstetrics and assisted reproductive services

	OBSTETRICS (WITH \$1,000 BOOKING FEE FOR ITEM 16590)				ASSISTED REPRODUCTIVE TECHNOLOGIES (WITH \$250 BOOKING FEE FOR ITEM 13209)			
	AVERAGE FEE	AVERAGE NET BENEFIT	AVERAGE BENEFIT	AVERAGE OOP COSTS	AVERAGE FEE	AVERAGE NET BENEFIT	AVERAGE BENEFIT	AVERAGE OOP COSTS
Pre-EMSN time	0.34	0.06	0.06	0.28	10.24	0.96	0.96	9.28
SE	0.40	0.11	0.87	0.79	1.54	0.47	1.72	2.46
EMSN dummy	-8.24	2.76	20.58	-28.82	8.59	10.31	133.24	-124.64
SE	4.94	1.34	10.84	9.86	19.19	5.81	21.39	30.58
Post EMSN time	2.73	0.56	4.40	-1.68	6.32	-1.76	17.64	-11.32
SE	0.50	0.14	1.10	1.00	1.95	0.59	2.17	3.10
Constant	117.86	25.28	25.28	92.58	626.10	410.44	410.86	215.24
SE	3.83	1.04	8.42	7.66	14.90	4.51	16.61	23.75
R_squared	0.87	0.89	0.86	0.70	0.97	0.39	0.97	0.56
Adj_R_squared	0.85	0.88	0.85	0.67	0.96	0.33	0.97	0.52

Table C18: Sensitivity analysis results – all professional groups

	ALL PROFESSIONAL GROUPS (OBSTETRIC BOOKING FEE = \$1,000; ASSISTED REPRODUCTIVE = \$0)				ALL PROFESSIONAL GROUPS (OBSTETRIC BOOKING FEE = \$1,000; ASSISTED REPRODUCTIVE = \$250)			
	AVERAGE FEE	AVERAGE NET BENEFIT	AVERAGE BENEFIT	AVERAGE OOP COSTS	AVERAGE FEE	AVERAGE NET BENEFIT	AVERAGE BENEFIT	AVERAGE OOP COSTS
Pre-EMSN time	0.30	-0.16	-0.16	0.46	0.30	-0.16	-0.16	0.46
SE	0.07	0.04	0.12	0.14	0.07	0.04	0.12	0.14
EMSN dummy	1.03	0.91	5.52	-4.48	0.63	0.91	5.12	-4.49
SE	0.91	0.52	1.52	1.72	0.92	0.52	1.50	1.74
Post EMSN time	0.71	0.39	0.91	-0.20	0.70	0.39	0.94	-0.23
SE	0.09	0.05	0.15	0.17	0.09	0.05	0.15	0.18
Constant	89.06	66.58	66.96	22.10	89.57	66.58	66.96	22.62
SE	0.70	0.41	1.18	1.33	0.72	0.41	1.17	1.35
R_squared	0.98	0.80	0.91	0.40	0.97	0.80	0.91	0.36
Adj_R_squared	0.97	0.78	0.90	0.34	0.97	0.78	0.90	0.30

The results for the scenario where there are no booking fees for either obstetric or assisted reproductive services are reported in Tables C1, C2 and C4.

