CAER SUMMER WORKSHOP IN HEALTH ECONOMICS 2011

Out-of-pocket costs and Medicare: the Howard years

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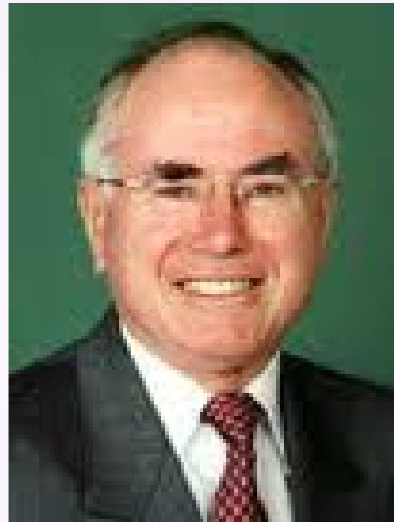
Does anyone remember this man?

Does this jog your memory?

Answer



John Howard

Prime Minister of Australia 1996 to 2007

Opposition leader 1985 to 1989 and 1995 to 1996

Opposition leader 1985-89

Medicare was a "miserable, cruel fraud", a "scandal", a "total and complete failure", a "total disaster", a "financial monster" and a "human nightmare”

"Bulk billing will not be permitted for anyone except the pensioners and the disadvantaged. Doctors will be free to charge whatever fees they choose.“

Opposition leader 1995-96

"We absolutely guarantee the retention of Medicare. We guarantee the retention of bulk billing"

- So what did he do in office?
- Which John Howard was telling the truth?

Outline

- Background to *Medicare* and *Strengthening Medicare*
- General practice
  - Examine changes to OOP costs
  - The impact of OOP cost on GP use
- Specialist services and consultations
  - The distribution of OOP costs and Medicare Safety Net benefits
  - The impact of the Medicare Safety Net
- Conclusions

Medicare (pre- Strengthening Medicare)

- Public, universal, tax financed
- Covers:
  - Out-of-hospital (OOH) health care (e.g. GP consultations, pathology, specialist consultations etc)
  - Private in-patient medical services
- For OOH:
  - Providers determine charges, paid fee-for-service
  - No supplementary private health care insurance
  - Medicare benefit = 85% of government determined Schedule fee
  - Patients pay remainder through OOP costs
  - If provider charge = Medicare benefit then OOP cost = 0 (bulk-billed service)

Strengthening Medicare

- Introduced and implemented 2004/2005
- Three main reforms:
  - Increase Medicare benefit to 100% of Schedule Fee for GP services
  - An incentive for GPs to bulk-bill children and concession cardholders (+ regional)
  - Medicare Safety Net
    - 80% of OOP costs after threshold (annual deductible)
    - Applies to all Medicare funded OOH services

GENERAL PRACTICE

Aim

- Have OOP costs changed following Strengthening Medicare?
- What impact do changes in OOP cost have on GP utilisation
- Does impact differ across population groups?

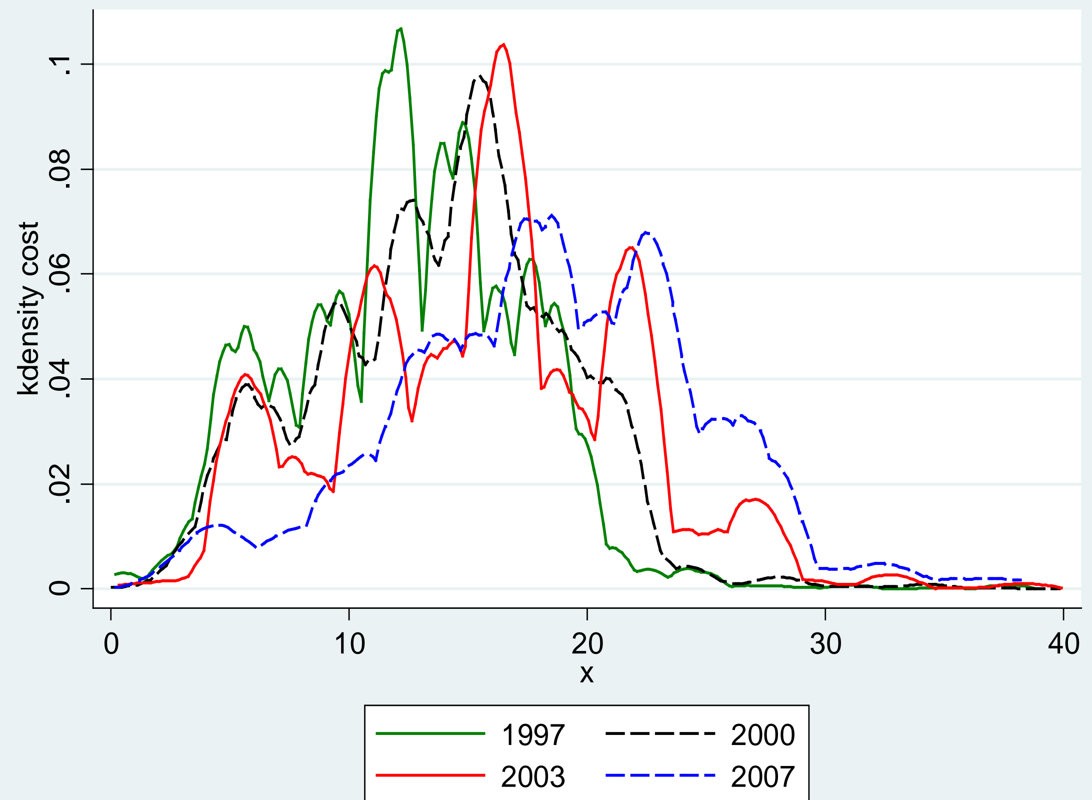
Government and patient expenditure: general practice

Year	Per capita			Per GP service	
	Gov ($)	OOP ($)	Services	Gov ($)	OOP ($)
1997–98	168.3	13.6	5.6	29.9	2.4
2002–03	158.8	21.7	5.0	31.8	4.3
2008-09	206.9	23.0	5.4	38.6	4.3
Average annual growth rates					
1997 to 2003	-1.2	9.9	-2.4	1.3	12.5
2003 to 2008	4.5	1.0	1.2	3.3	-0.3
1997 to 2008	1.9	4.9	-0.4	2.3	5.4

Constant 2007 dollars. Source: DOHA

OOP cost

year	Bulk-billing
1997	0.63
2000	0.59
2003	0.44
2007	0.56



(source: ALSWH)

	Cardholders				Non- cardholders			
year	Medicare	Charge	OOP	Bulk bill	Medicare	Charge	OOP	Bulk bill
1997	29.25	32.67	3.42	0.70	28.91	35.61	6.70	0.51
2000	30.54	33.88	3.34	0.70	30.13	38.61	8.48	0.46
2003	31.35	37.06	5.70	0.53	30.94	42.95	12.01	0.33
2004	35.32	40.91	5.58	0.62	31.92	44.49	12.57	0.34
2005	42.61	46.67	4.07	0.71	37.58	48.67	11.11	0.36
2006	42.46	46.81	4.35	0.73	37.21	48.75	11.54	0.39
2007	42.27	46.64	4.38	0.75	37.26	48.97	11.72	0.42
2007 - 2003	10.92	9.57	-1.32	0.22	6.31	6.02	-0.29	0.09

Data

- Australian Longitudinal Study on Women's Health
  - Survey questions on:
    - Socio-economic: income and concession card status (not in first wave), educational attainment
    - Demographic: age, ATSI, NESB region of residence
    - Health status

	Yng	Mid
Born	1973-1978	1946-1951
surveyed	1996*,2000, 2003, 2006,	1996*,1998, 2001, 2004, 2007*
Sample	14,247	13,715
Retention	W2: 68.6% W3: 65.4% W4: 67.5%	W2: 90.7% W3:84.3% W4: 84.0%

Data

– ALSWH has linked Medicare data (for those who consent)
  - Item, date of service, charge, benefit, OOP cost

Year	MBS consent sample
1997 to 1999	15,069
2000 to 2001	14,987
2002 to 2004	11,542
2005	11,534
2006	11,480
2007	11,603

Empirical strategy: GP use

$$Y_{it} = \beta_0 + \beta_1 OOP_{it} + \beta_2 Hlth_{it} + \beta_3 Z_{it} + \beta_4 Time_{it} + a_i + u_{it}$$

- Y is GP use for person i in time period t
- OOP is mean GP cost person i in time period t
- Hlth vector of SRHS and SR chronic disease
- Z other demographic, geographic, socio-economic variables
- Time =year dummies
- Poisson, negative binomial
- Pooled, random effects, fixed effects

Empirical strategy: GP use

- Does β_1 vary for different groups?
  - income groups;
  - health status;
  - hypertension;

Descriptive results: survey

	Wave 2		Wave 3		Wave 4	
	mean	sd	mean	sd	mean	sd
Eq household income	36,719	20,546	37,713	21,240	39,731	20,858
Health care card	0.19	0.39	0.17	0.38	0.18	0.39
Diabetes	0.02	0.15	0.02	0.14	0.03	0.17
Hypertension	0.07	0.25	0.10	0.30	0.12	0.32
Self-reported health status	2.49	0.90	2.49	0.89	2.45	0.89
Young age cohort	0.44	0.50	0.45	0.50	0.46	0.50
Metropolitan resident	0.71	0.45	0.70	0.46	0.70	0.46
Rural resident	0.26	0.44	0.27	0.44	0.27	0.44
Remote resident	0.03	0.16	0.03	0.16	0.03	0.16

Descriptive results: panel data

Variable		Mean	Std. Dev.	Min	Max	Observations
GP services	overall	4.97	4.85	0	150	N = 145011
	between		3.85	0	82	n = 17146
	within		3.13	-59.03	107.52	
OOP cost	overall	8.38	8.49	0	719.63	N = 132469
	between		6.14	0	78.59	n = 17051
	within		5.97	-70.22	649.41	
SRHS	overall	2.47	0.89	1	5	N = 132562
	between		0.80	1	5	n = 16374
	within		0.43	-0.73	5.01	

NB fixed effects results: overall

Variable	Coefficient	
OOP cost	-0.01	***
Income quintile 2	0.006	
Income quintile 3	-0.003	
Income quintile 4	0.01	
Income quintile 5	0.004	
Missing income	-0.157	**
Diabetes	0.024	
Hypertension	0.057	***
Depression	0.055	***
Cancer	0.031	**
Yng age cohort	-0.411	***
SRHS	0.058	***
Metropolitan resident	0.06	**
Rural resident	0.04	*
Constant	2.404	

*** = $p < 0.001$;
** = $p < 0.05$;
* = $p < 0.1$

Not shown: education, born OS, year dummies

NB fixed effects: groups

Dep var = GP use	OOP coeff	
Low income	-0.012	***
Mid income	-0.010	***
High income	-0.008	***
Non-cardholder	-0.009	***
Cardholder	-0.013	***
Good/excellent health:	-0.009	***
Fair/poor health	-0.010	***
Hypertension - no	-0.009	***
Hypertension- yes	-0.012	***

*** = $p<0.001$;

MEDICARE SAFETY NET

The Medicare Safety Net

- Implemented in March 2004:
- Covers 80% of all Medicare outpatient OOP costs above a threshold:
  - $300 pa for low/middle income families
  - $700 pa for all other families
- Threshold changes in January 2006
  - $300 ⇨ $500
  - $700 ⇨ $1,000
  - indexed to CPI at the start of every year
- Works on a calendar year basis
  - Threshold count starts afresh on 1 January

Total Medicare and Safety Net expenditure

	Net Medicare benefits	Safety Net	Recipients
Year	$ million	$ million	million
2004	8,340	210	
2005	9,359	292	1.880
2006	9,600	250	1.050
2007	10,295	324	1.207

Medicare population data

1. Distribution of OOP, government benefits
   - Number of individuals in $50 bands
   - Gender, Region, SEIFA
   - by year 2000 to 2007
2. Quarterly data from Q1 2000 to Q3 2008
   - 7000 Medicare items
   - aggregate fees charged, Medicare benefits, EMSN benefits, OOP costs and number of services
   - identify in and out hospital, type of service

Methods

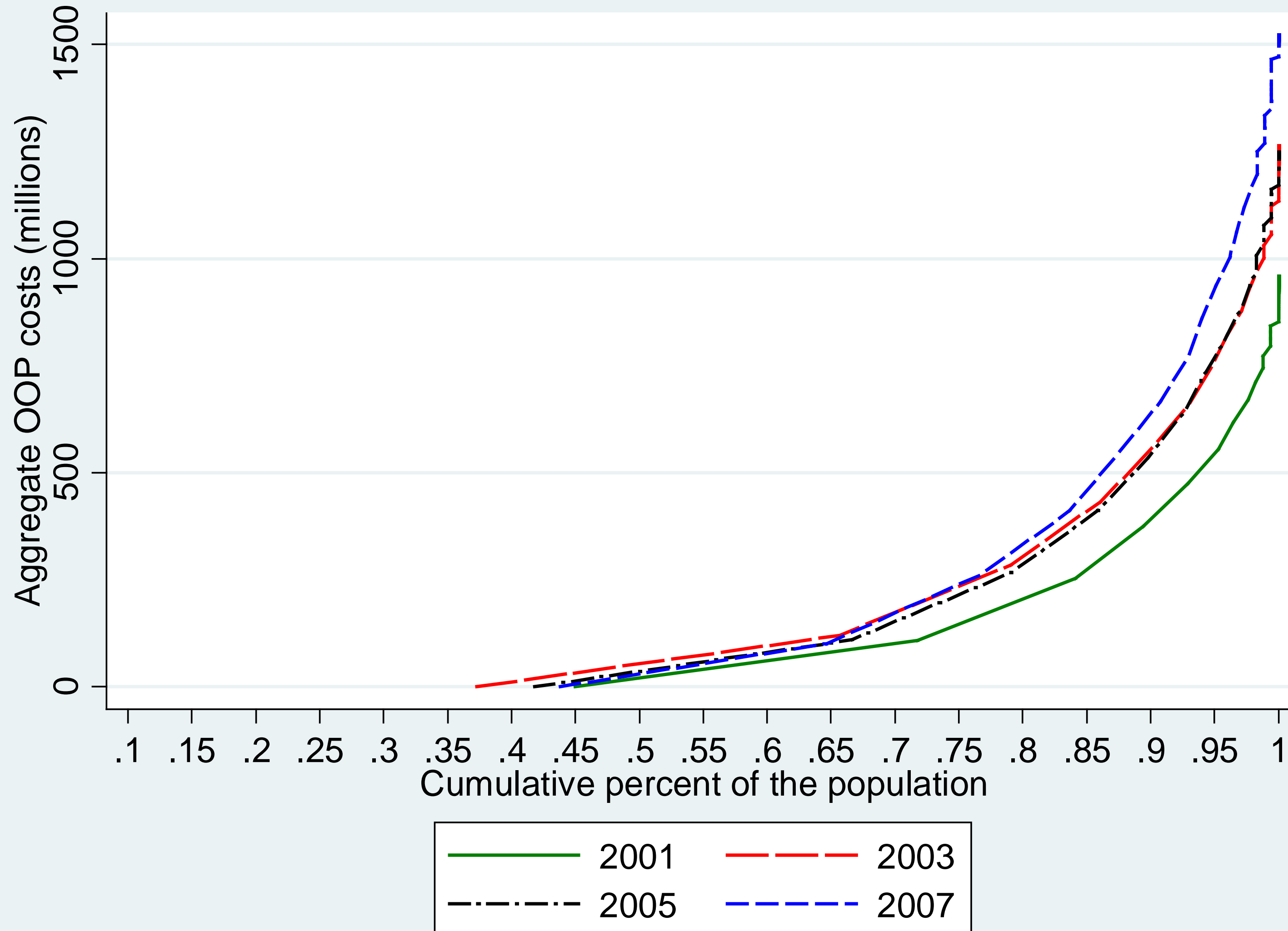
- To estimate Q (EMSN impact on average fees, Medicare benefits and OOP costs per service) for profession i and time t:

$$Q_{it} = \alpha_i + \beta_i T_{t=1,\dots,35} + \gamma_i S + \delta_i S * T_{t=1,\dots,19} + \mu_{it}$$

- Employ several strategies to strengthen causal interpretation:
  - Exclude GP and pathology
  - Examine changes to Medicare benefits (net benefits)
- Compare out-of-hospital and in-hospital

$$Y_{it} = \varphi_i + \omega_i IN + \tau_i (T_{t=1,\dots,35} * IN) + \rho_i (S * T_{t=1,\dots,19} * IN) + \vartheta_i (S * IN) + \theta_i S + \pi_i T_{t=1,\dots,35} + \epsilon_i (S * T_{t=1,\dots,19}) + \mu_{it}$$

Cumulative distribution of OOP cost



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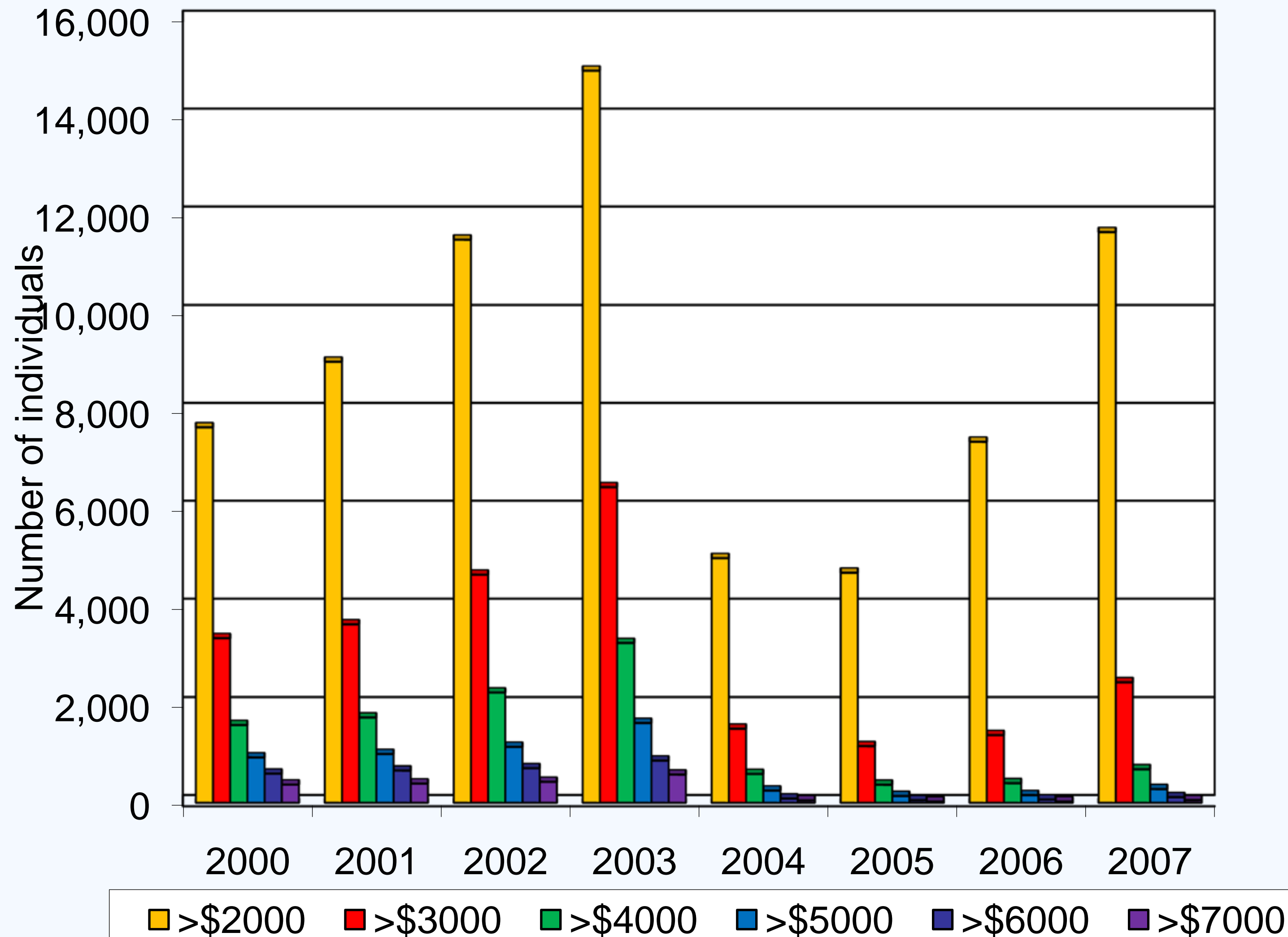
Individuals with OOP costs > $2000



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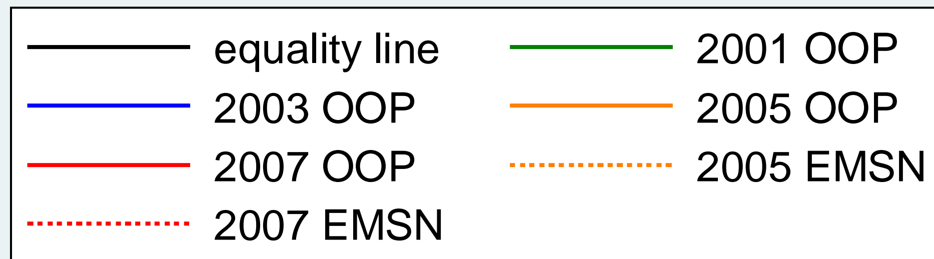
Cumulative proportion of individuals

0 .2 .4 .6 .8 1

0 1 2 3 4 5

SEIFA Category



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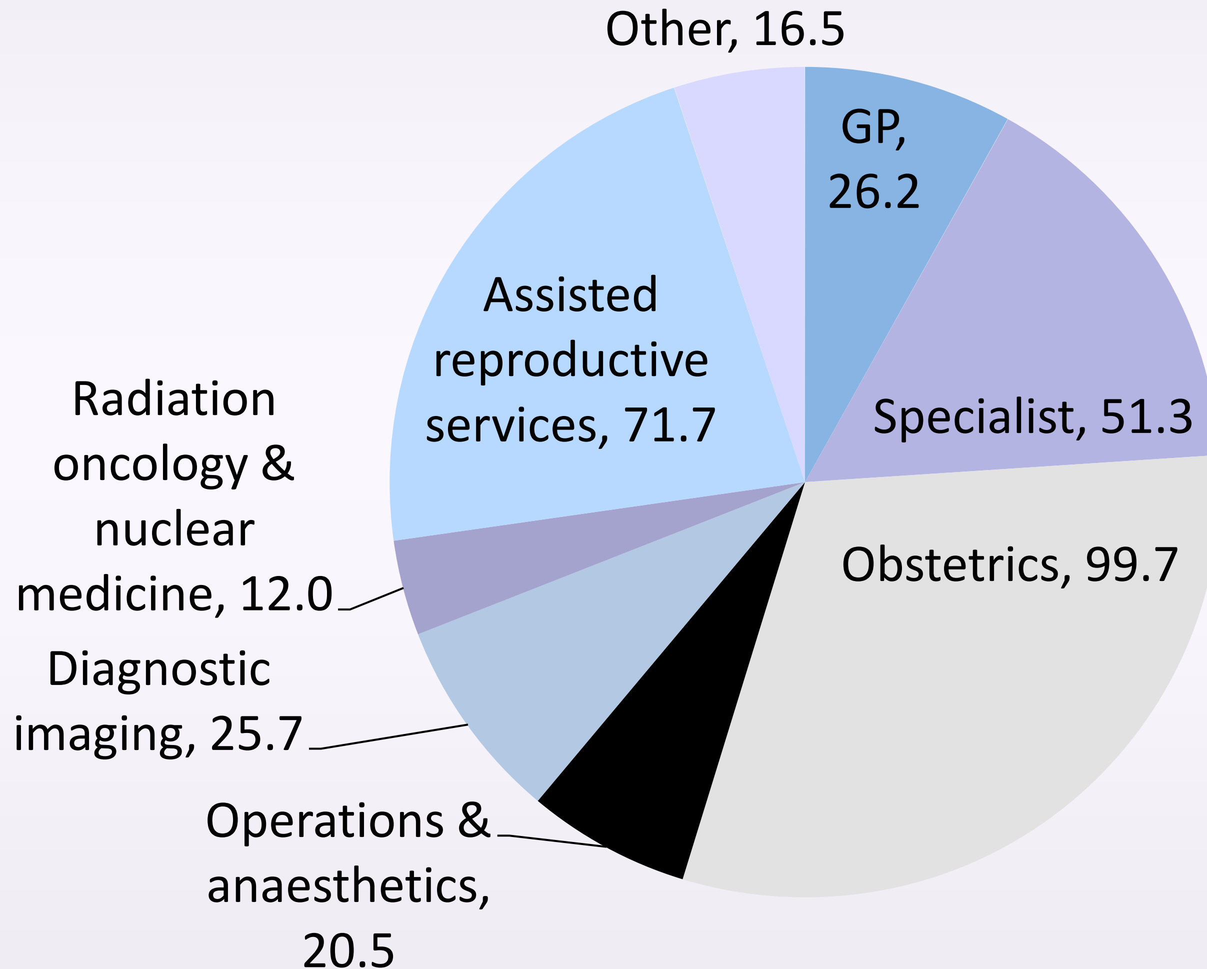
Safety Net expenditure, 2007 ($ millions)



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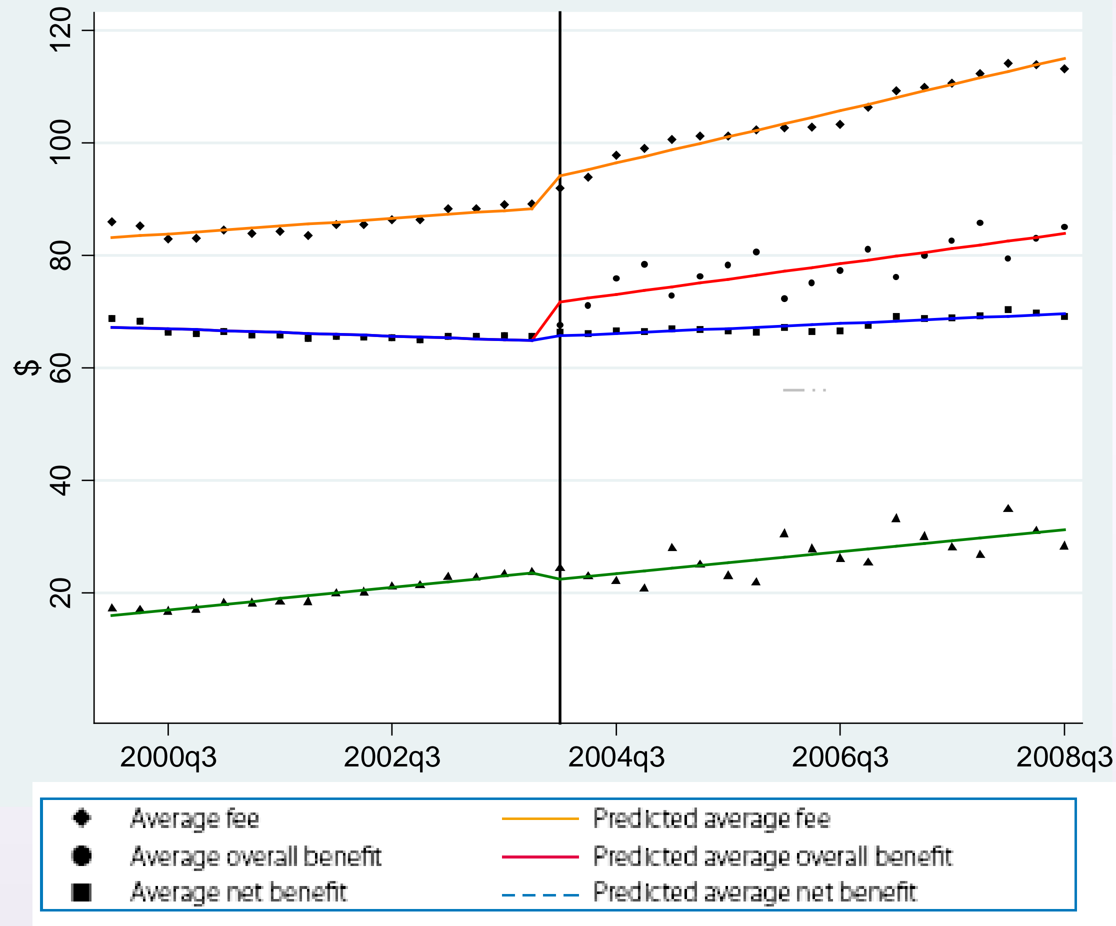
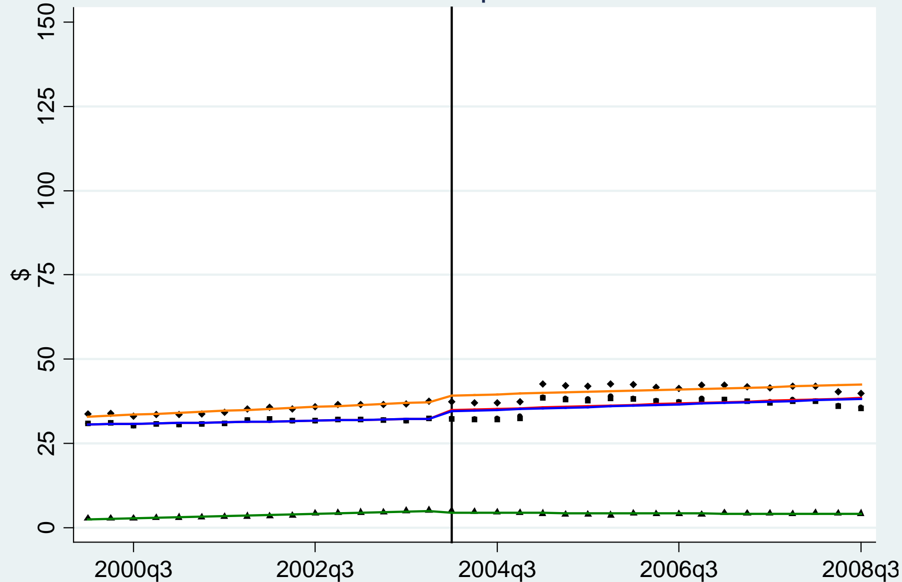
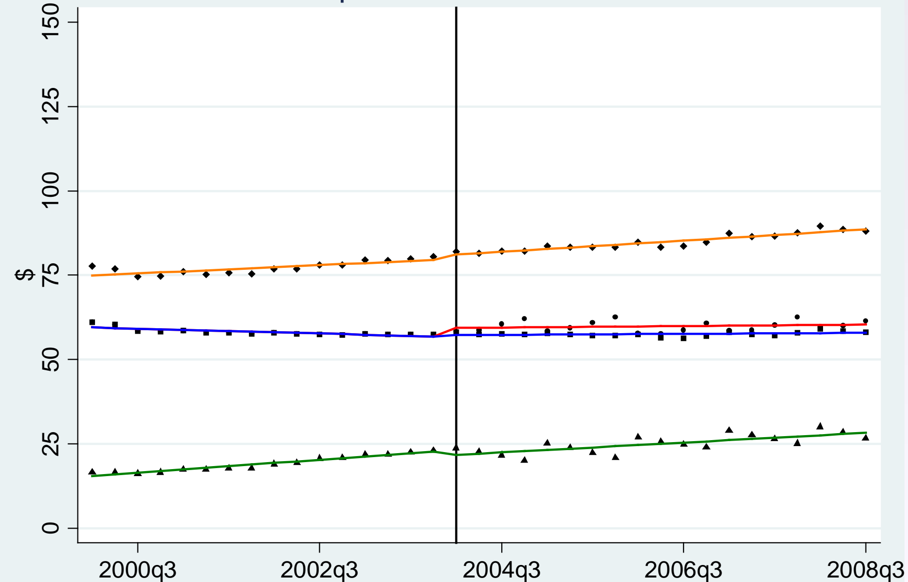
Regression results for "all professional groups" (excludes GP and pathology) per service

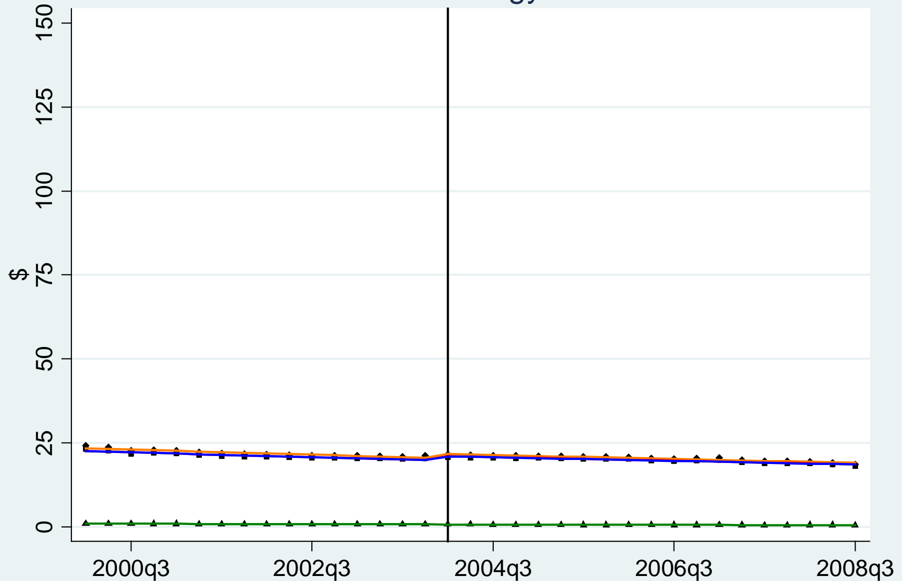
	Ave charge		Ave benefit		Ave net benefit		Ave OOP	
Pre-EMSN time	0.35	***	-0.16		-0.17	**	0.50	***
	(0.074)		(0.124)		(0.043)		(0.118)	
EMSN dummy	4.62	***	6.19	***	0.75		-1.57	
	(0.925)		(1.540)		(0.538)		(1.466)	
Post-EMSN time	0.82	***	0.84	***	0.38	***	-0.02	
	(0.094)		(0.156)		(0.055)		(0.149)	
Constant	83	****	67	***	67	***	15	****
	(0.718)		(1.196)		(0.418)		(1.139)	
Adj R^2	0.984		0.892		0.724		0.801	

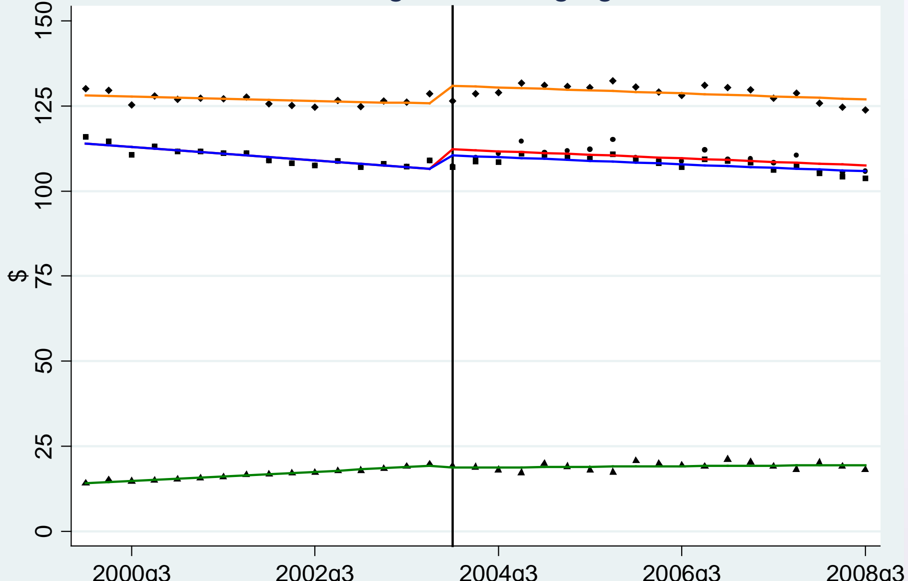
Trend in average fees, benefits and OOP costs, all professional groups (excludes GP and pathology)




General practice
$
0
25
50
75
100
125
150
2000q3
2002q3
2004q3
2006q3
2008q3


Specialist attendances
$
0
25
50
75
100
125
150
2000q3
2002q3
2004q3
2006q3
2008q3


Pathology
$
0
25
50
75
100
125
150
2000q3
2002q3
2004q3
2006q3
2008q3


Diagnostic imaging
$
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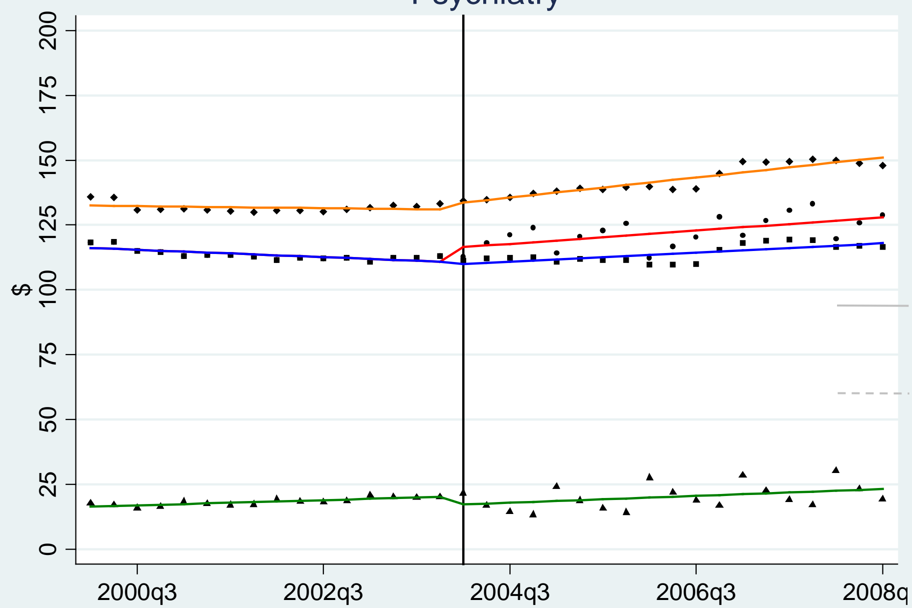
25
50
75
100
125
150
2000q3
2002q3
2004q3
2006q3
2008q3


Psychiatry
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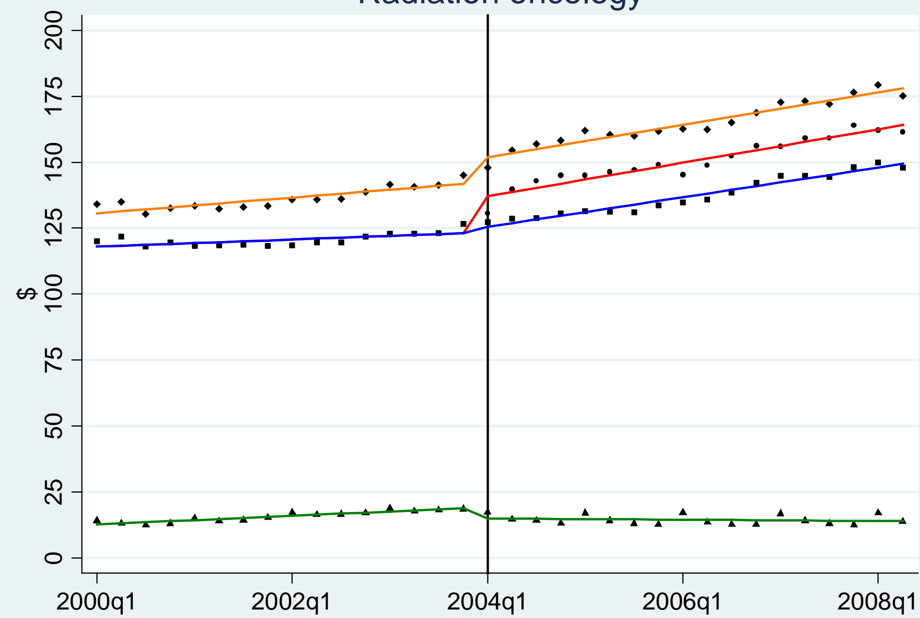
2008q


Radiation oncology
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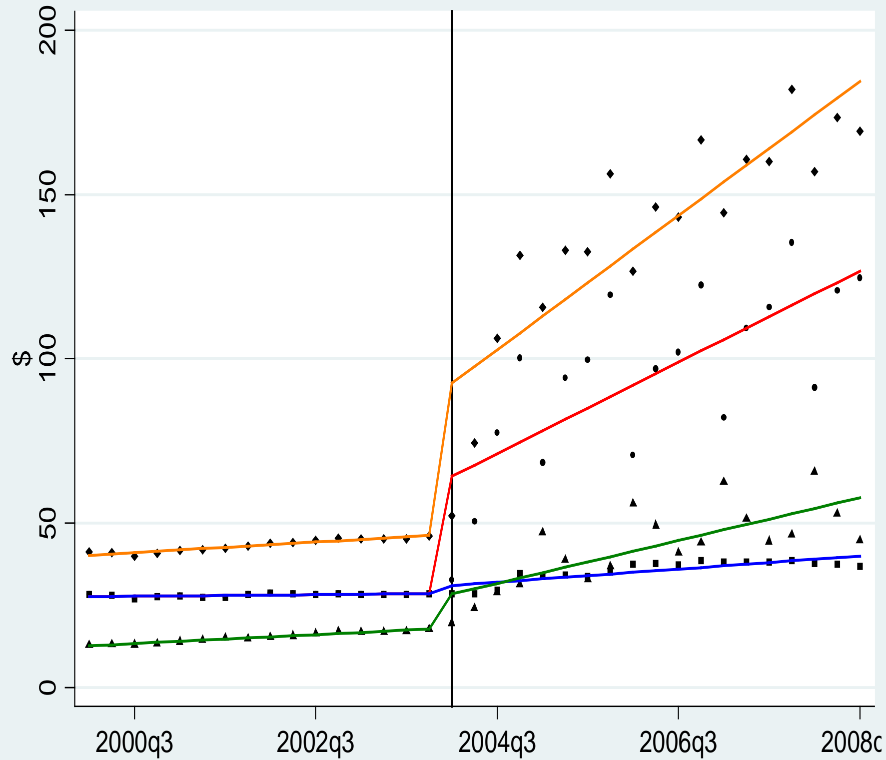
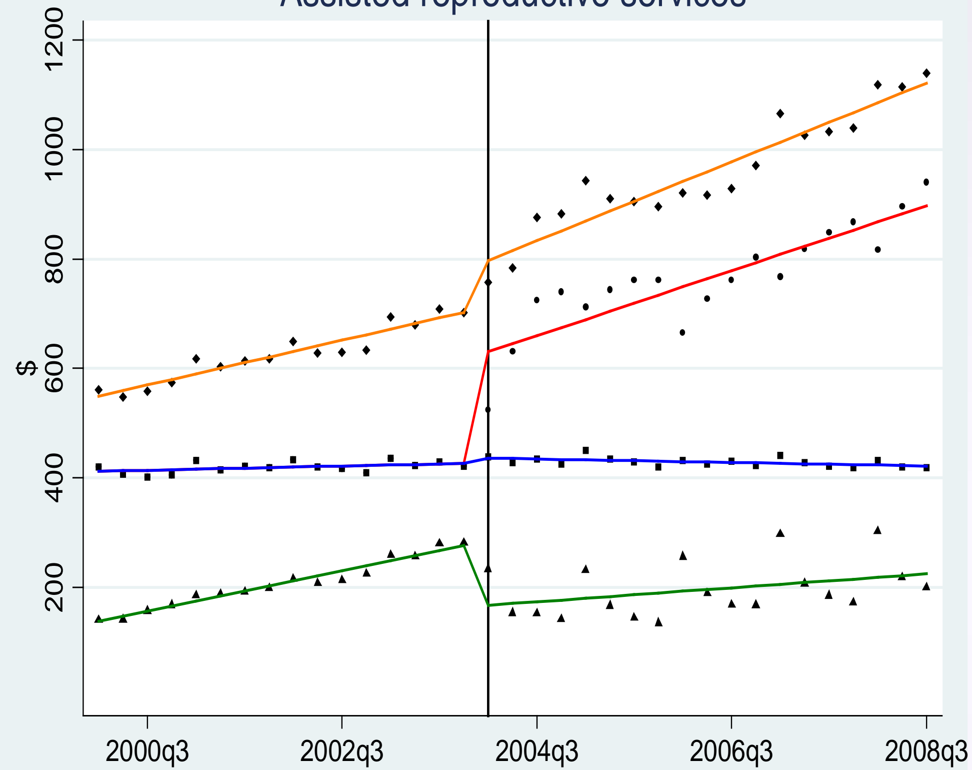
150
175
200
2000q1
2002q1
2004q1
2006q1
2008q1

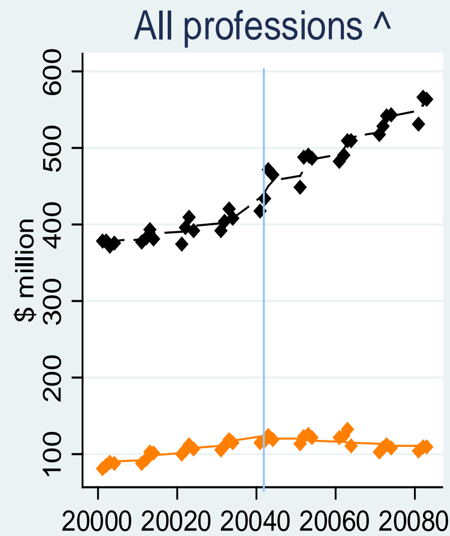


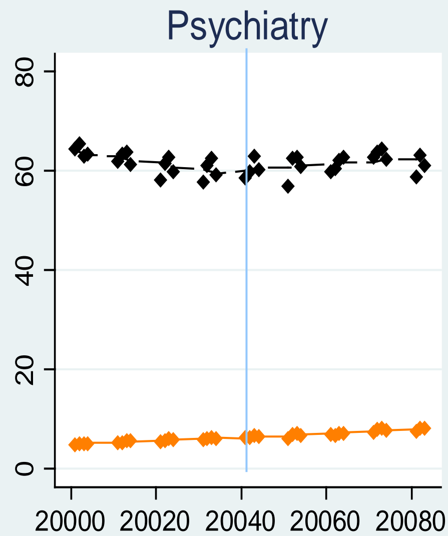


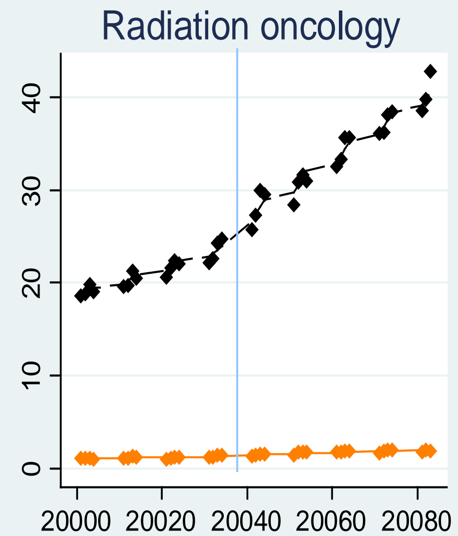
Note: scale $0 to $200

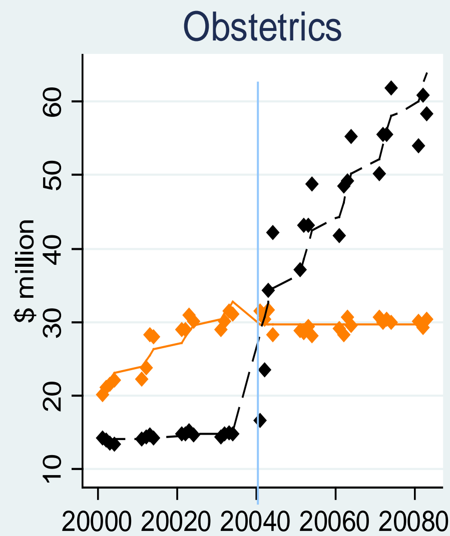
Note: scale $0 to $1200

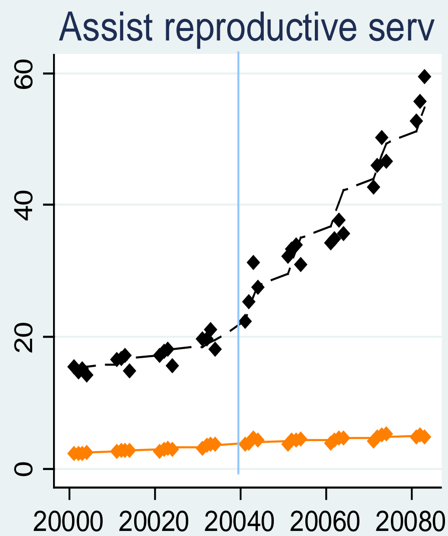
All professions^ (in and out of hospital charges)	Ave charge	Total charge ($ million)
Pre-EMSN time in	0.46	-0.23
	(0.28)	(0.65)
Post-EMSN time in	-0.17	-7.69***
	(0.35)	(0.82)***
In dummy	15.26***	287.87***
	(2.68)	-(6.25)
EMSN dummy in	-13.6***	-13.12
	(3.46)	(8.05)
EMSN dummy	5*	20**
	(2.44)	(5.69)
Pre-EMSN time out	0.34*	2.53***
	(0.20)	(0.46)
Post-EMSN time out	0.82**	4.57***
	(0.25)	(0.58)
Constant	83***	368***
	(1.90)	(4.42)

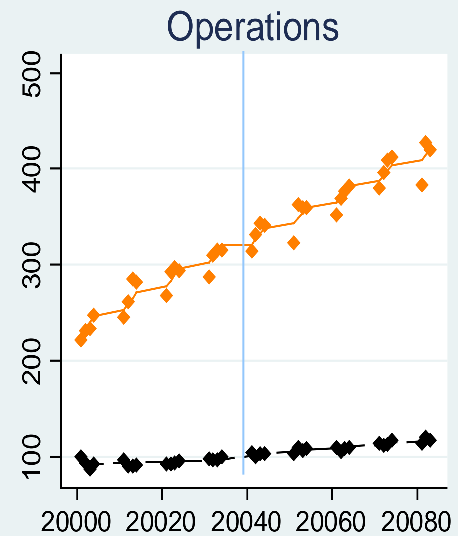












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Estimated allocation of $1 EMSN benefits between increased fees and lower OOP costs

	Change in provider fees	Change in OOP costs
Obstetrics (with booking fee)	0.33	-0.67
Assisted reproductive services (no booking fee)	0 52	-0.48
All professional groups (with booking fee)	0.38	-0.62

Conclusion

- General practice
  - Increases in OOP costs 1997 to 2003
  - Post 2004, Strengthening Medicare, period : increase in benefits that (mostly) went to providers and to a lesser extent patients but bulk-billing rates increased, especially for cardholders.
  - Higher OOP cost lead to small but significant reductions in GP use
  - Those on lower incomes are more responsive to OOP cost changes
  - Those in worse health state are at least as responsive at the healthy
- Medicare Safety Net
  - Regressive policy
  - Highly skewed towards ART and private obstetrics
  - Has increased provider fees amongst some professions
  - Has led to provider capture of benefits

Limitations and further research

- GP analysis
  - Non-elderly
  - Attrition
  - Explore other models (zero use, zero OOP cost)
- Safety Net
  - At the mean, but what happened in the tails (charges, OOP)?
  - Distribution of specialist service use

So, which Howard was telling the truth?

Howard.'87: "Bulk billing will not be permitted for anyone except the pensioners and the disadvantaged. **Doctors will be free to charge whatever fees they choose**."