

BEACH



Pathology ordering by general practitioners in Australia



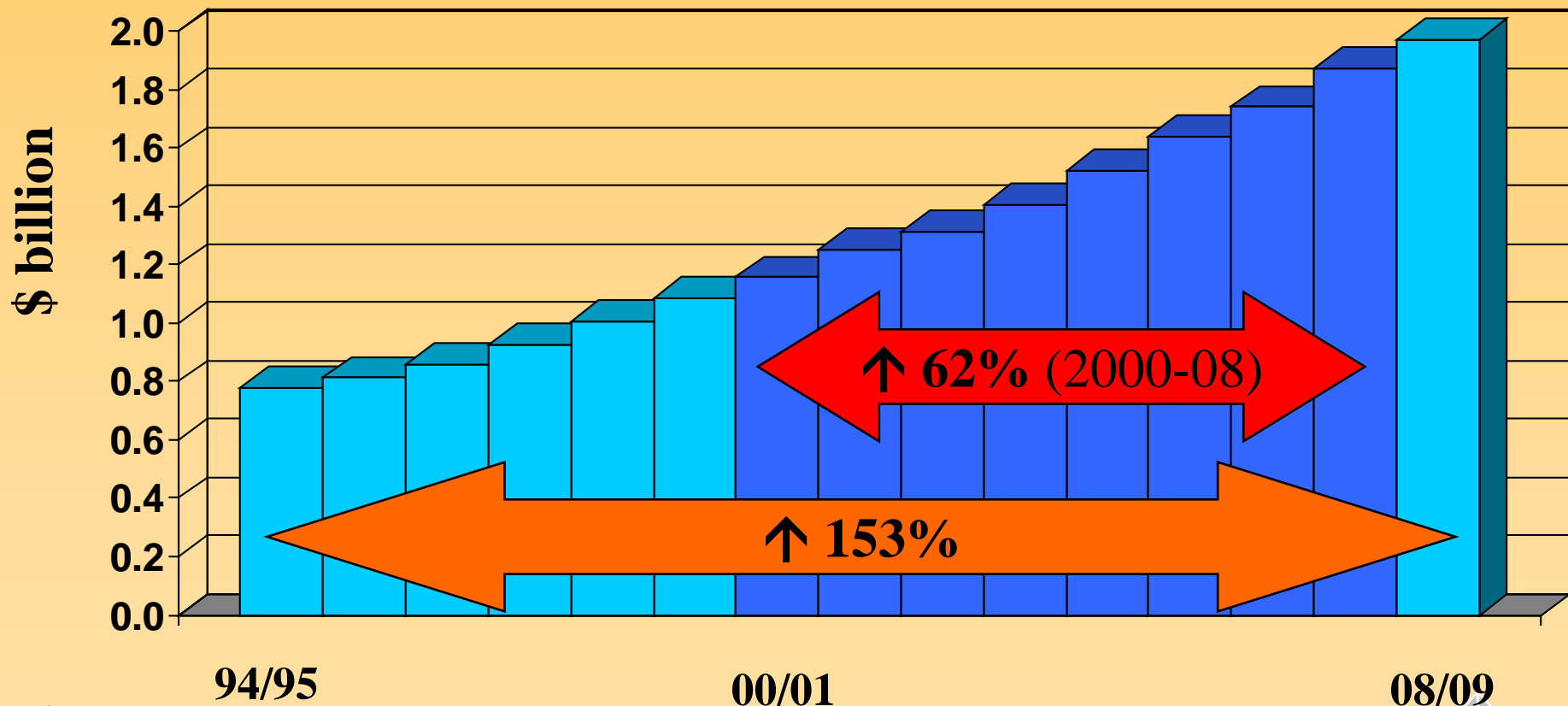
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Background

Cost of testing (MBS items) 1994 to 2009



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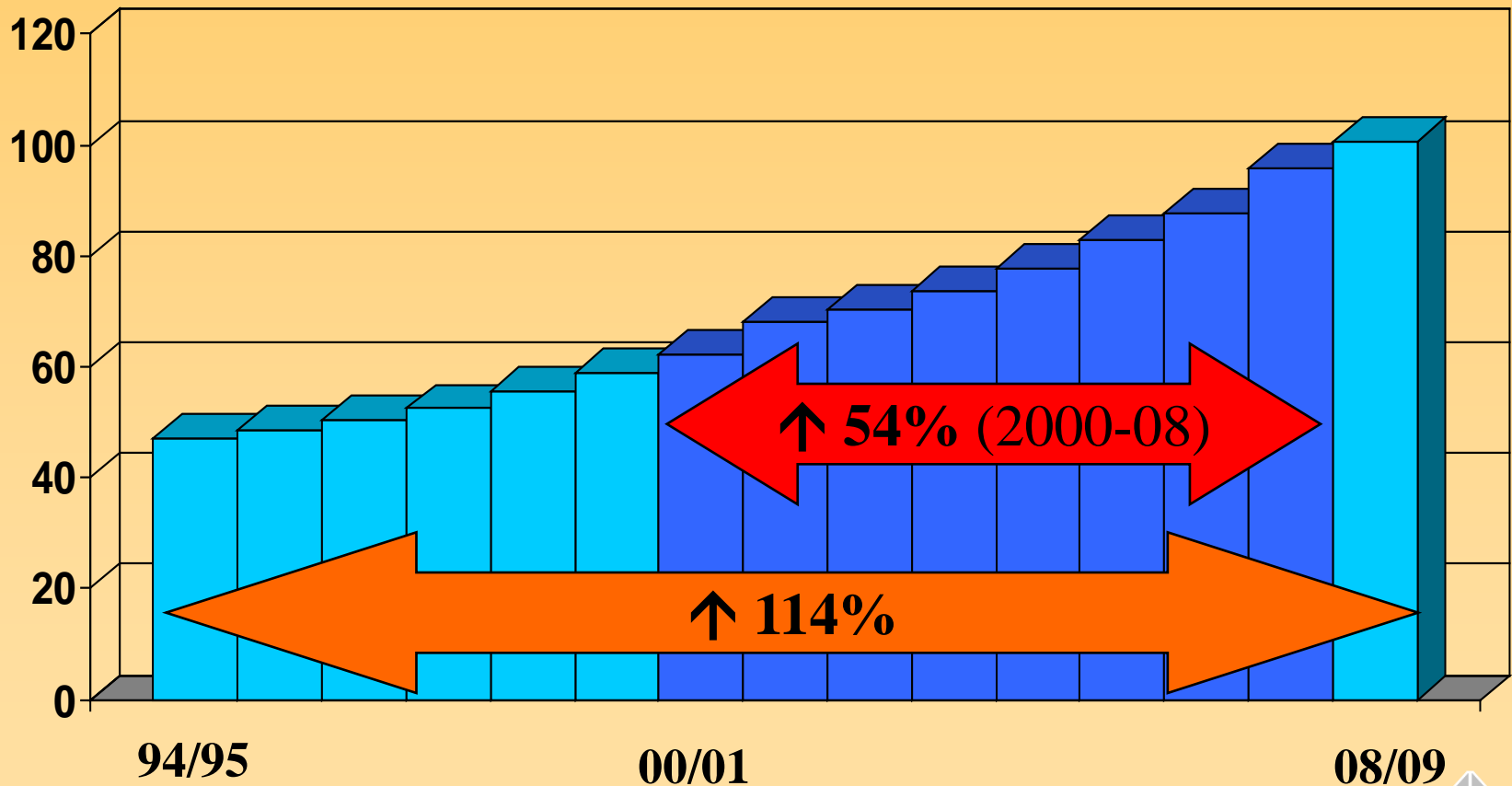
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Volume of testing 1994 to 2009

MBS pathology items (millions)



Objectives



- ◆ To identify which problems generate high volume and/or high growth of pathology orders
- ◆ To isolate whether increases in pathology rates are due to:
 - changes in GPs' pathology ordering behaviour
 - changes in the GP workload
 - changes in the volume of national GP encounters.



Objectives (cont)



◆ For selected problems

- To review GP guidance (guidelines and other sources of published guidance)
- To evaluate the extent to which GP pathology ordering behaviour aligns with GP guidance





Method

- ◆ Data collected in the BEACH study
 - National GP random sample (drawn by DoHA)
 - 1,000 GPs per year (20 per week x 50 weeks)
 - 100 consecutive encounters per GP
 - National data 100,000 encounter records p.a.
- ◆ Data period: 8 years April 2000 to March 2008 (encounters n=784,300, pathology tests n= 307,013)





Method (cont)

◆ Pathology data

- Max 5 tests/batteries of tests per encounter
- Each test is linked by the GP to problem(s) for which it was ordered

◆ Problems generating >1% of pathology tests/batteries or a National Health Priority Area were investigated





Method (cont)

- ◆ Changes over 8 years, 2000-02 to 2006-08
 - GP workload:
 - management rate of problems
 - GP pathology ordering behaviour:
 - likelihood of pathology testing (% of contacts with at least one pathology test)
 - number of pathology tests ordered per tested contact



Factors influencing volume



1. Number GP MBS items in Australia
2. Management rate of the problem*
3. Likelihood of pathology testing*
4. The number of tests per tested contact*

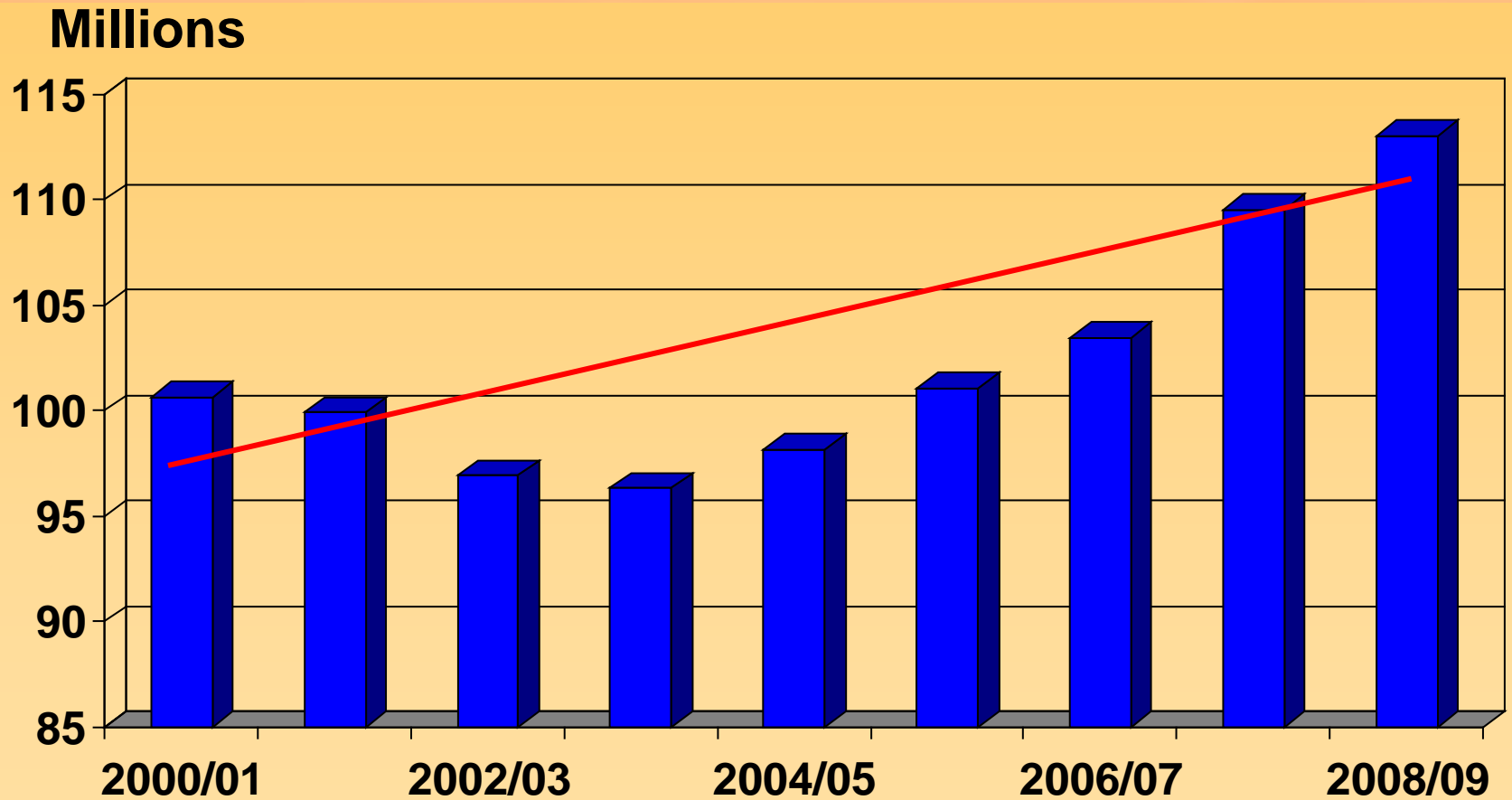
* measured in the BEACH study



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Change in GP encounters in Aust



Source: Medicare statistics 2000 to 2009



GP use of pathology (2006-08)

- ◆ 18.7% of encounters at least one pathology test is ordered
 - 20 million GP encounters per year that involve pathology orders (106.5 million total GP encounters p.a.)
- ◆ 2.5 tests/batteries of tests are ordered per tested encounter
 - 50 million pathology tests/batteries of tests p.a.





Increase in total pathology testing

- ◆ From 2000-02 to 2006-08 increase of 35% tests or 17.7 million additional tests
 1. ↑ total number MBS GP encounters (100.3 to 106.5 million p.a.)
 2. ↑ number problems managed (147.3 to 153.3 per 100 encs)
 3. ↑ likelihood of path tests being ordered (11.4% to 14.2% of problems)
 4. ↑ number of tests ordered per 100 tested probs (200.1 to 221.3)



Investigation of selected problems



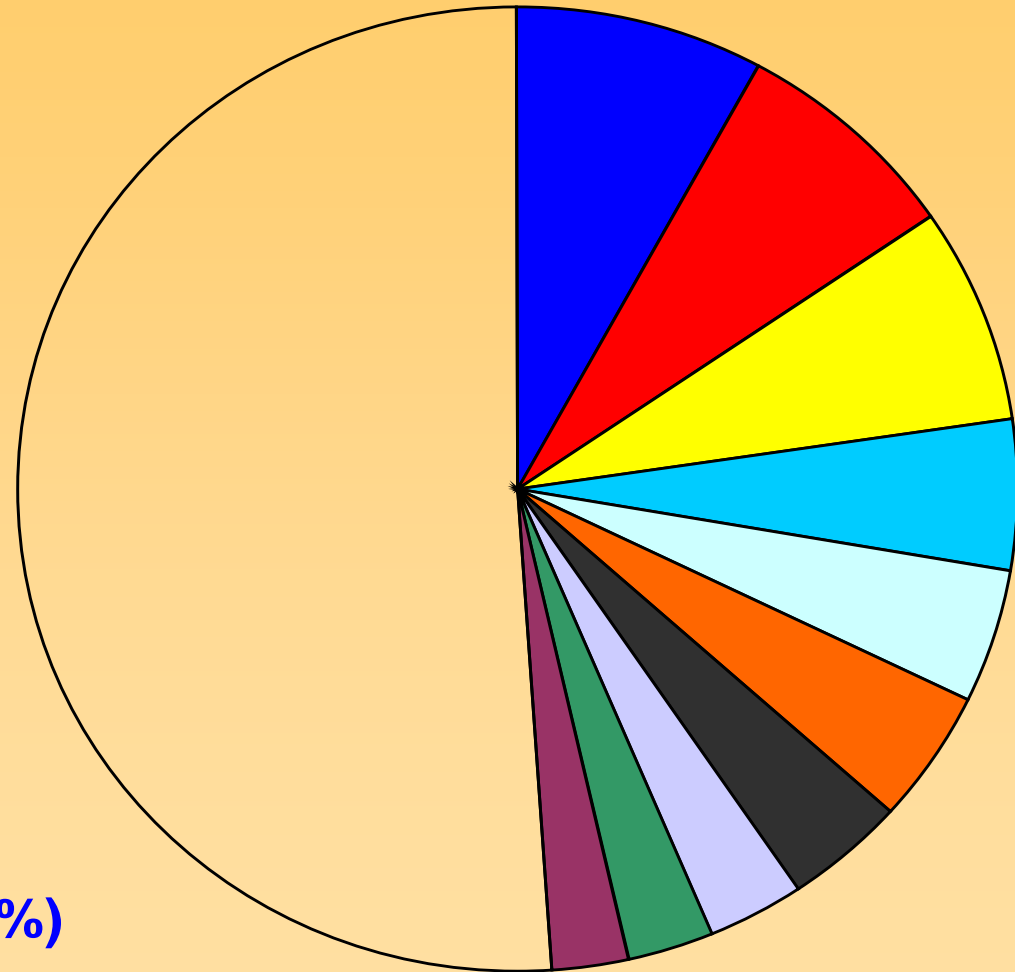
- ◆ Problems accounting for >1% path tests or were a National Health Priority Area
- ◆ GP's pathology ordering behaviour was investigated for 25 problems:
 - 56% of total pathology tests
 - 61% of the national growth in pathology testing



Top 10 problems contributing to increase

Proportion of 17.7 million national growth 2000 to 2008

- Diabetes T2 (8.0%)
- Health check (7.6%)
- Hypertension (7.2%)
- Blood test (4.9%)
- Lipid disorders (4.5%)
- Female check-up (4.4%)
- STI (3.9%)
- Pregnancy (3.0%)
- Abnormal result (3.0%)
- Weakness/tiredness (2.5%)
- Other probs (51.0%)





Changes in top 10 problems 2000-02 to 2006-08

	GP MBS encs	Management rate	Pathology	
			% at least 1 path test	No. tests per prob
1. Type 2 diabetes	↑	↑	↑	↑
2. Health check	↑	↑	—	↑
3. Hypertension	↑	—	↑	↑
4. Blood test—all	↑	↑	↑	↑
5. Lipid disorders	↑	↑	—	↑





Changes in top 10 problems 2000-02 to 2006-08

	GP MBS encs	Management rate	Pathology	
			% at least 1 path test	No. tests per prob
6. Female check-up	↑	↑	↑	↑
7. STI	↑	↑	—	—
8. Pregnancy	↑	↑	—	—
9. Abnormal test result	↑	↑	↑	—
10. Weakness/ tiredness	↑	—	↑	—



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Investigation of the quality of pathology ordering for 6 selected problems

A comparison of BEACH pathology data and recommended testing

A Quality Use of Pathology Program project





Selection of problems

- ◆ Problems were considered if
 - National health priority area
 - High volume of pathology tests
 - **Change in GP's pathology ordering behaviour**
 - Area of potential growth
- ◆ Review of available GP guidance



Evidence base



- ◆ National and international guidelines
- ◆ Other sources of GP guidance
 - Fact sheets/GP guides
 - RCPA manual
 - Journal articles
 - Medication information (e.g. MIMS)
 - Other published resources (e.g. Murtagh's general practice)





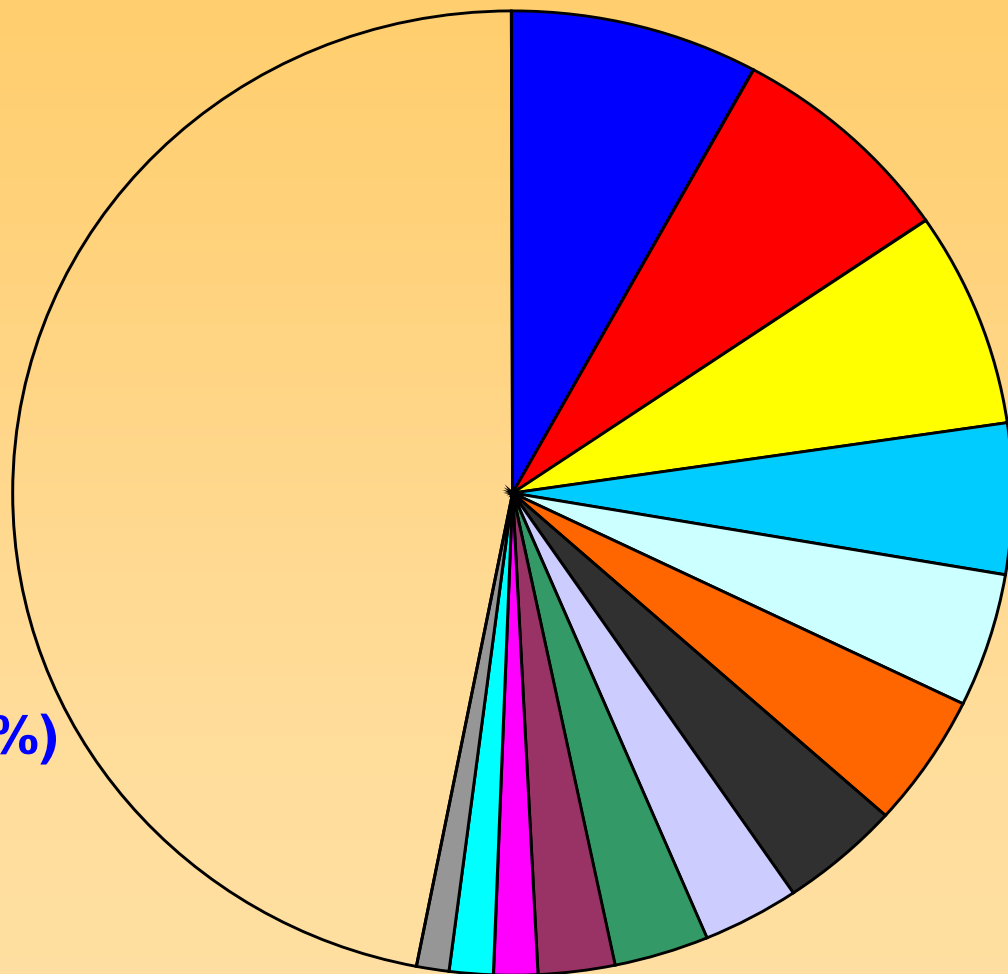
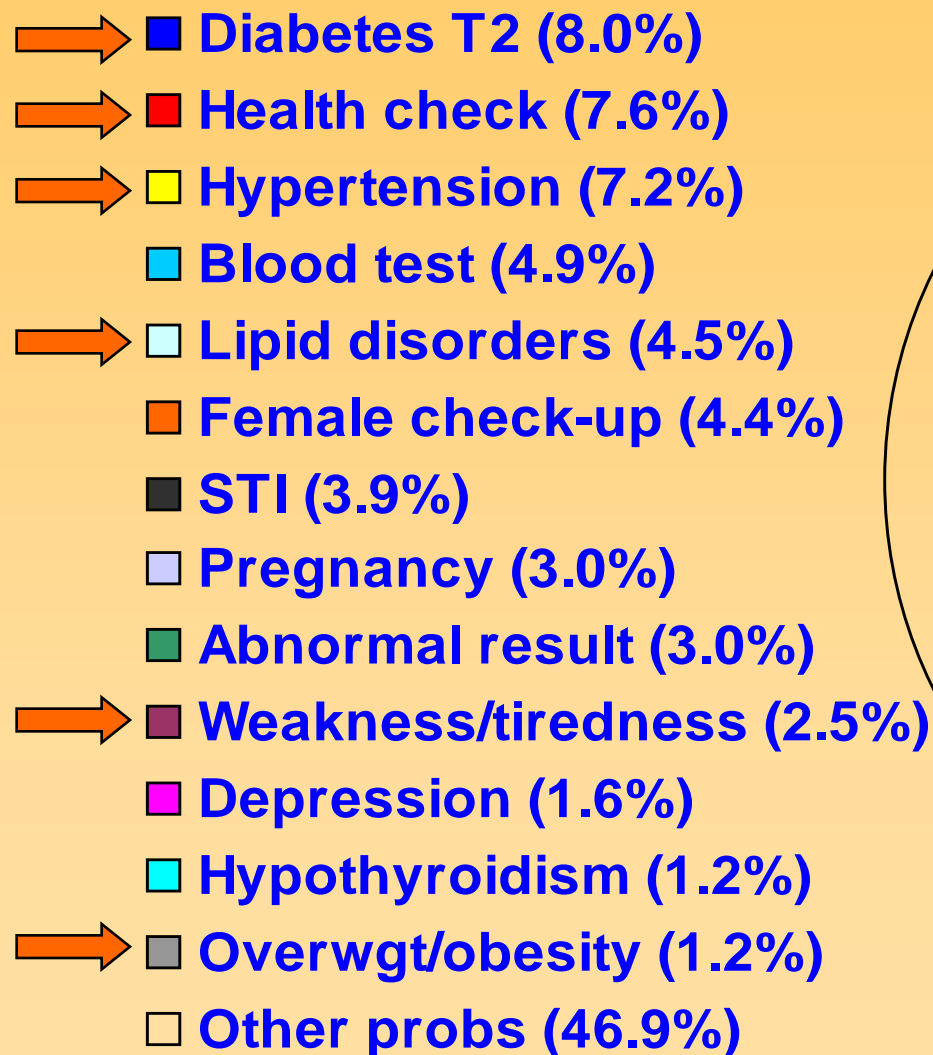
Support for pathology testing

- ◆ Evaluation of individual tests $>1\%$ of pathology for each selected problem (95-97% tests for each problem)
 - **Supported**
 - **Conditional support or unclear support**
 - **Not supported**



Top problems contributing to increase

Proportion of 17.7 million national growth 2000 to 2008

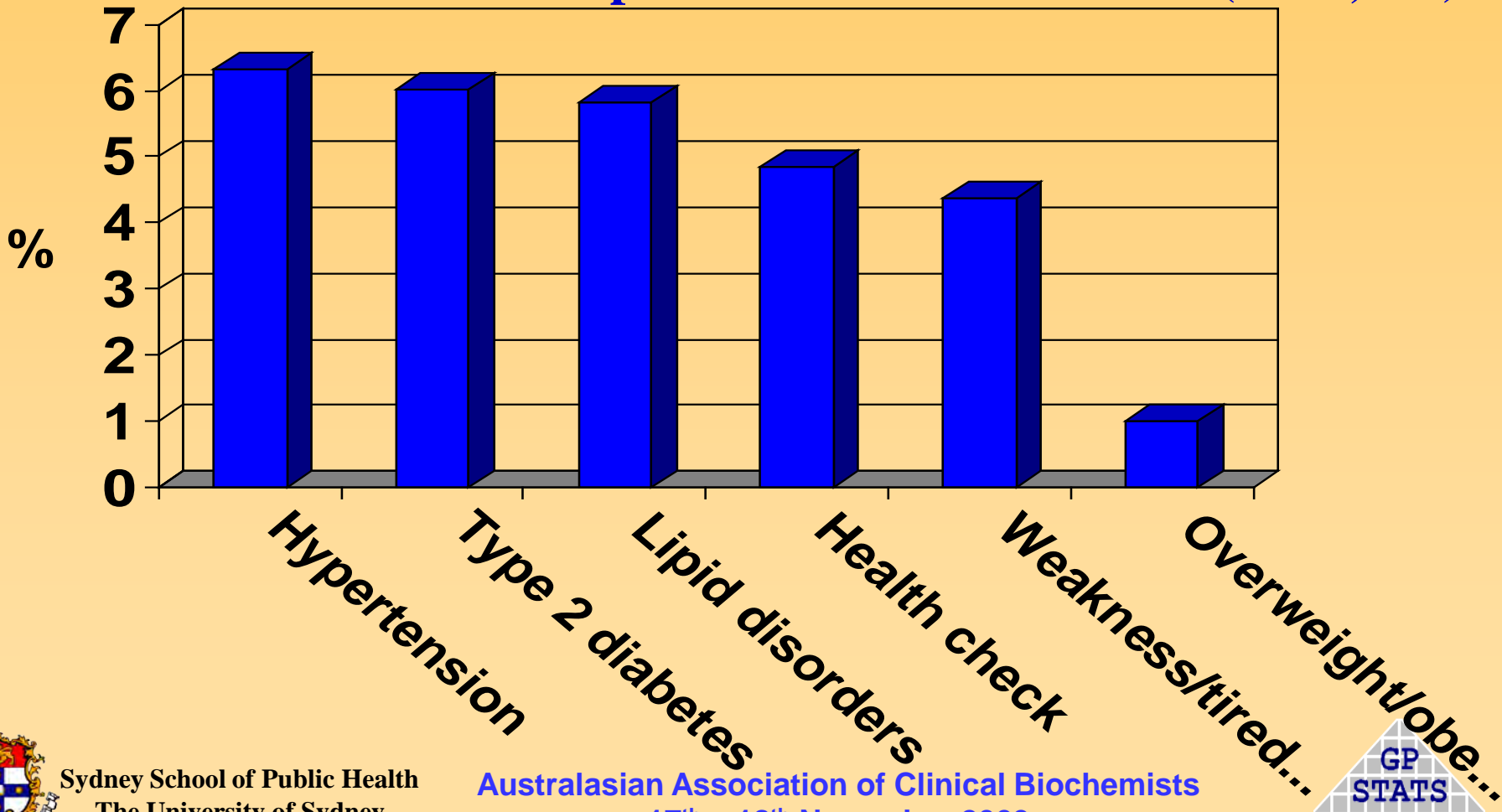


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Proportion of total pathology (2006-08 data)

6 problems = 28.4% of total (n=87,444)

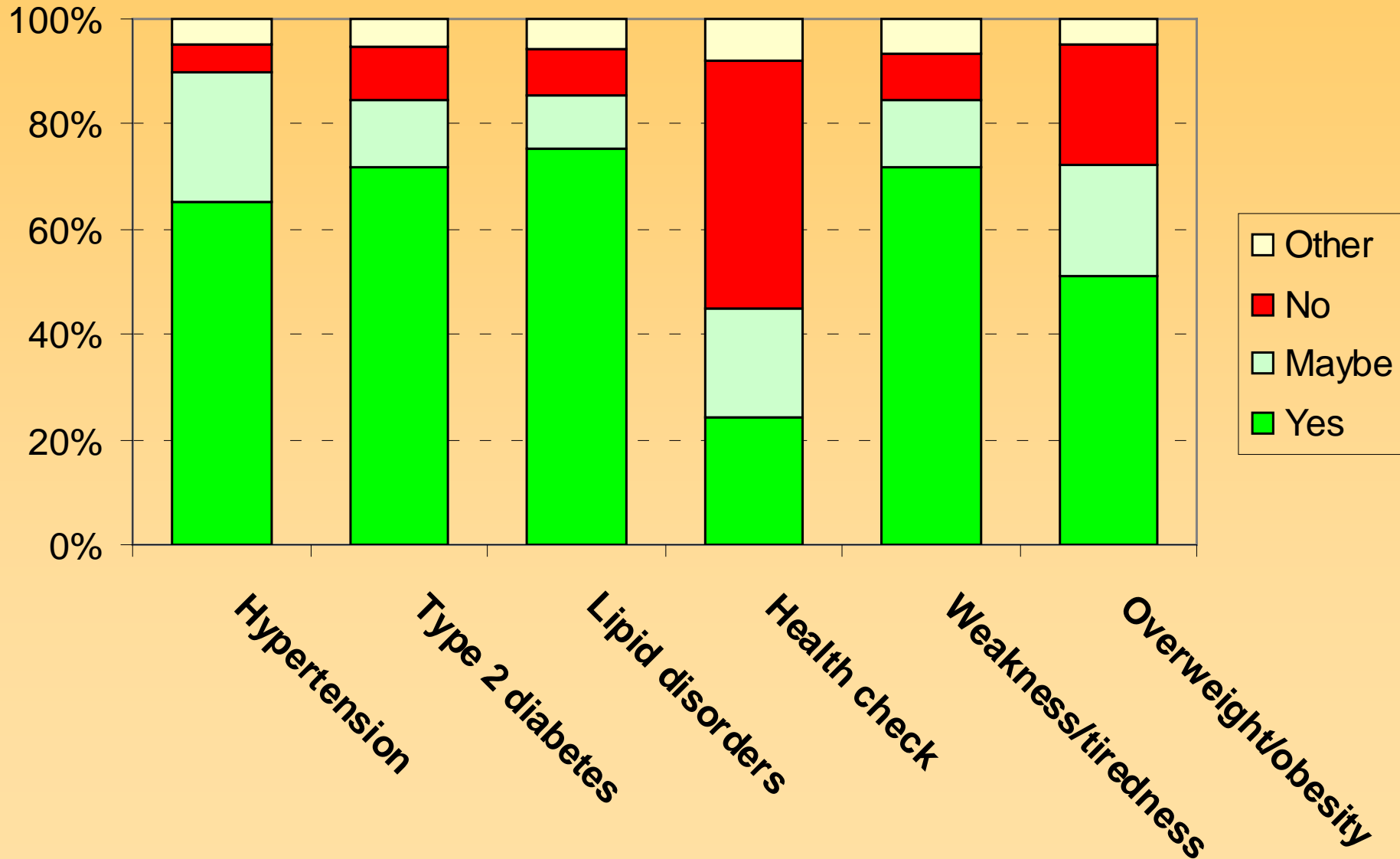




Changes in selected problems 2000-02 to 2006-08

	Management rate	Pathology	
		Likelihood of testing	Tests per problem
Type 2 diabetes	↑	↑	↑
Health check (15+yrs)	↑	—	↑
Hypertension	—	↑	↑
Lipid disorders	↑	—	↑
Weakness/tiredness	—	↑	—
Overweight/obesity	—	↑	—

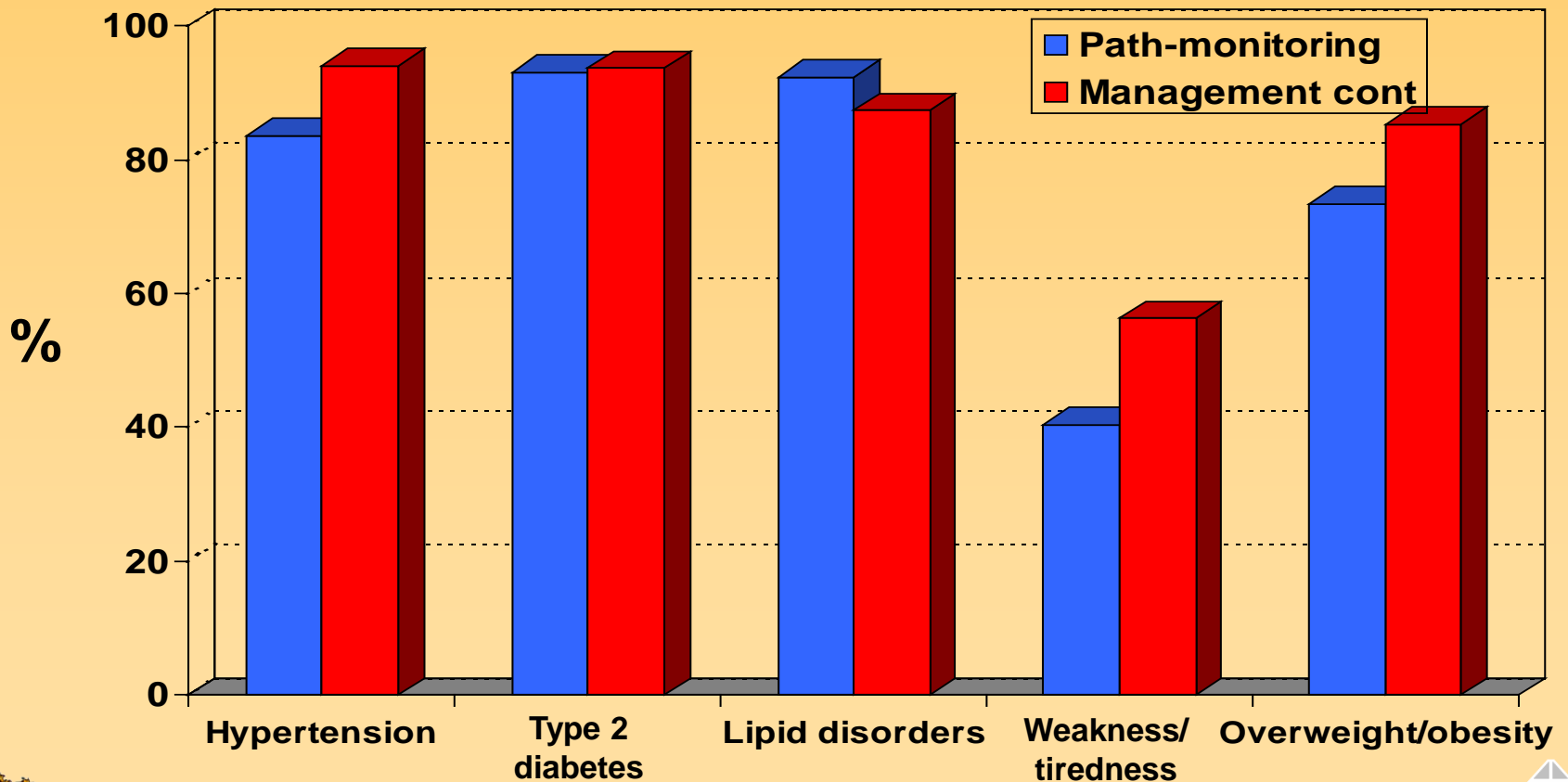
Level of support (2006-08 data)





Monitoring

- ◆ Ongoing problem management and monitoring pathology





Diabetes, hypertension, lipid disorders

- ◆ initial assessment – pretest probability
- ◆ monitoring – 83-93% of tests
 - retesting interval
 - intra-individual variation (within the same patient)
 - medication side effect



Overweight/obesity



- ◆ 1 management for 49 encounters with overweight/obese patients
- ◆ Obesity:
 - 1 management per 23 encounters with obese pts
 - Gap between measured prevalence of obesity (25.4% calculated BMI) and GP perception of obesity (8%)
- ◆ initial assessment – 26% of testing
- ◆ monitoring – life long condition, limited guidance about role of pathology in ongoing monitoring





Health checks

- ◆ Guidance is limited – 2 current guidelines
RACGP guidelines for preventive care and
the US Preventive Task Force
- ◆ Yes = lipids, Pap smear, FOB
- ◆ Maybe = glucose, STI
- ◆ Unclear = MBA, chemistry other
- ◆ No = FBC, LFT, EUC, PSA, TFT, Fe, ESR





Limitations

- ◆ Max 5 tests - increase from 11% of tested encounters in 2000 to 19% in 2008
- ◆ Snapshot of GP encounters
 - Test interval - time since last test
 - Presence/absence of other diseases or risk factors
 - Indicates the test has a recommended role in management – too much or not enough?





Improvements in guidance for GPs

- ◆ Quality of guidelines (e.g. NHMRC guidelines: type 2 diabetes, overweight/obesity)
- ◆ Standardise pathology terminology within guidelines
- ◆ Monitoring — Intraindividual variation, interval to retest, medication side effects monitoring (e.g. statins), duration of monitoring for side effects and outcomes
- ◆ Combining guidance for common multiple morbidity patterns





Multiple morbidity

- ◆ The whole patient, ageing population, secondary prevention
- ◆ Hypertension - prevalence is 27.2% of attending patients. Of these patients:
 - 44.9% hyperlipidaemia
 - 22.2% type 2 diabetes
 - 16.6% obese
 - 5.3% chronic renal failure
 - 4.1% thyroid disease





Areas of concern

◆ Abnormal test results

- volume of pathology testing
- variation of tests
(coefficient of variation)

} false positive
test results

◆ Pathology tests of concern: FBC, TFT, MBA in long term monitoring

◆ Priority areas: health checks and overweight/obesity





Achieving change

- ◆ Producing guidelines/guidance alone is ineffective
- ◆ Engage GPs with the need for change
- ◆ Health cost alone (i.e. cost to Medicare) is not a factor in GP's decision making. However cost to the patient is a factor.
- ◆ Co-payments are a blunt instrument - all patients regardless of health need
- ◆ National Diagnostic Requesting Service (NPS)
“promote high quality and appropriate requests”





Wyeth



*Many thanks
to the GPs*



BEACH 1998-09



Australian Government

**Australian Institute of
Health and Welfare**

N P S

National Prescribing Service Limited



Australian Government

Department of Health and Ageing

and endorsed by



AMA



BEACH 1998-09



Australian Government
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Health and Welfare

General practice activity in Australia, health priorities and policies 1998 to 2008

*Australian GP Statistics
and Classification Centre*



The University of Sydney



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