Dunedin, New Zealand


SPECIALIST CARE TREATMENT
SPECIALIST HOSPITALS
Something had to change.
LOCAL AMBULANCE
PHARMACY
SERVICES
CLEAN AIR & WATER
LMC
DENTAL
CONNECTED COMMUNITIES
RURAL HOSPITALS & COMMUNITY HUBS
SPECIALIST MENTAL HEALTH
TECHNOLOGY
PEOPLE CENTRED
DIRECT ACCESS
COMMUNITY MENTAL HEALTH
YOUR HEALTH
LIBRARY
VOLUNTEER SERVICES
PATIENT PARTNERSHIP
A scarce & ageing workforce
LAB SERVICES
COMMUNITY REFERRED RADIOLOGY
Isolated General Practice
CONSULTANT
HOME
WHANAU ORA
GENERAL PRACTICE
COMMUNITY NURSING
MORE LOCAL SERVICES
FAST TRACK
GP SERVICES
PEER-LED SERVICES
health system

Aging and Multimorbidity

A major challenge for all healthcare systems

- Ageing populations
- Increasing long-term conditions
- Increasingly complexity
- Care is more specialist and fragmented
- More expensive and less affordable

NZ Triple Aim

Driving Principles Promoting Primary Care

- Measurable Quality Improvement
- Cost Reduction/containment
- Utilize Data to inform care
- Best Practice Advocacy
  - Education
  - Multidisciplinary working
  - Standards and Guideline development & uptake via expert systems
  - Professionalism vs compliance

Health System Funding

- predominantly publicly funded, universal coverage health system
- government funded 82.7% of national health care expenditures in 2012
- public expenditure on health care was equivalent to 10.3% of GDP, just above the OECD average of 9.3%
- Primary care funding ; capitation 45%, patient fees 38%, workers insurance cover 11% performance programmes 6%
- Life expectancy at birth 79.3 years for males and 83 years for females.

Capitation vs Fee for Service

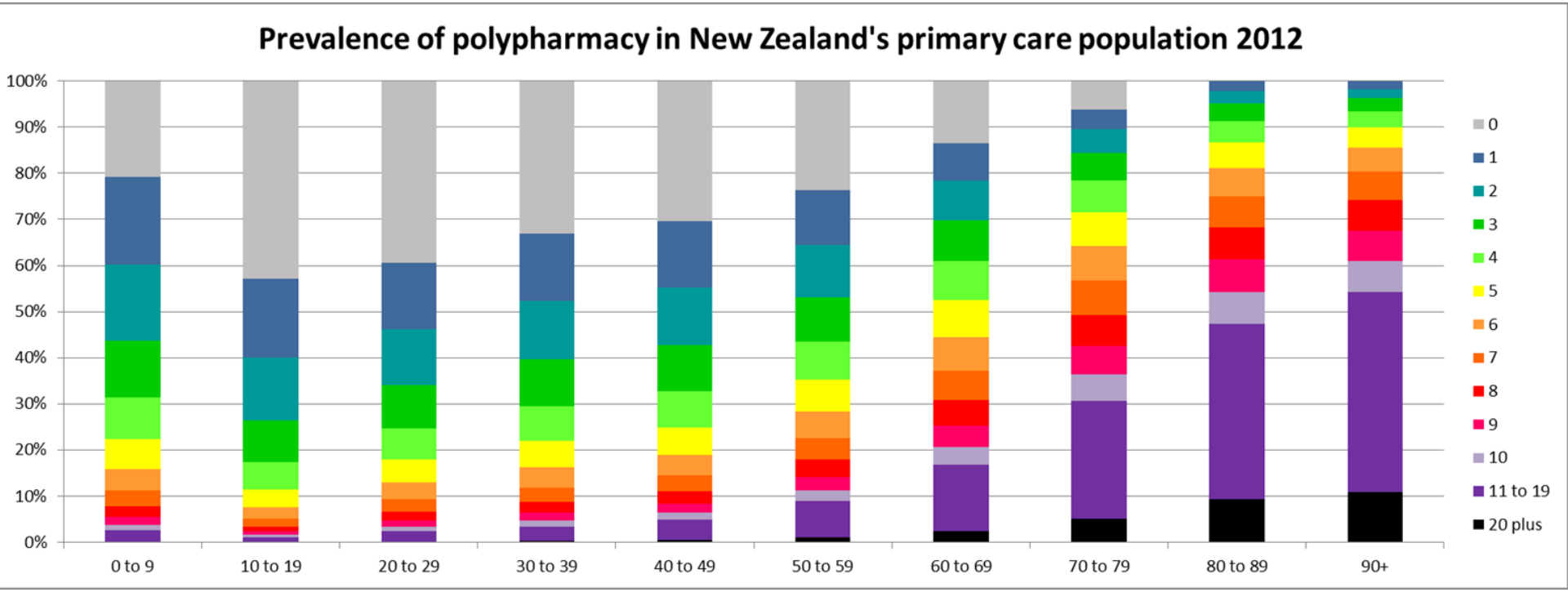
- Has had a significant impact
  - Still maintain focus on individual BUT
  - Now a focus on the enrolled population (Panel).
- Seeing measurable improvement in individual and population health
- Tied in to feedback and education on performance
- Focus on Professionalism and appropriate incentives vs compliance

Data into Information

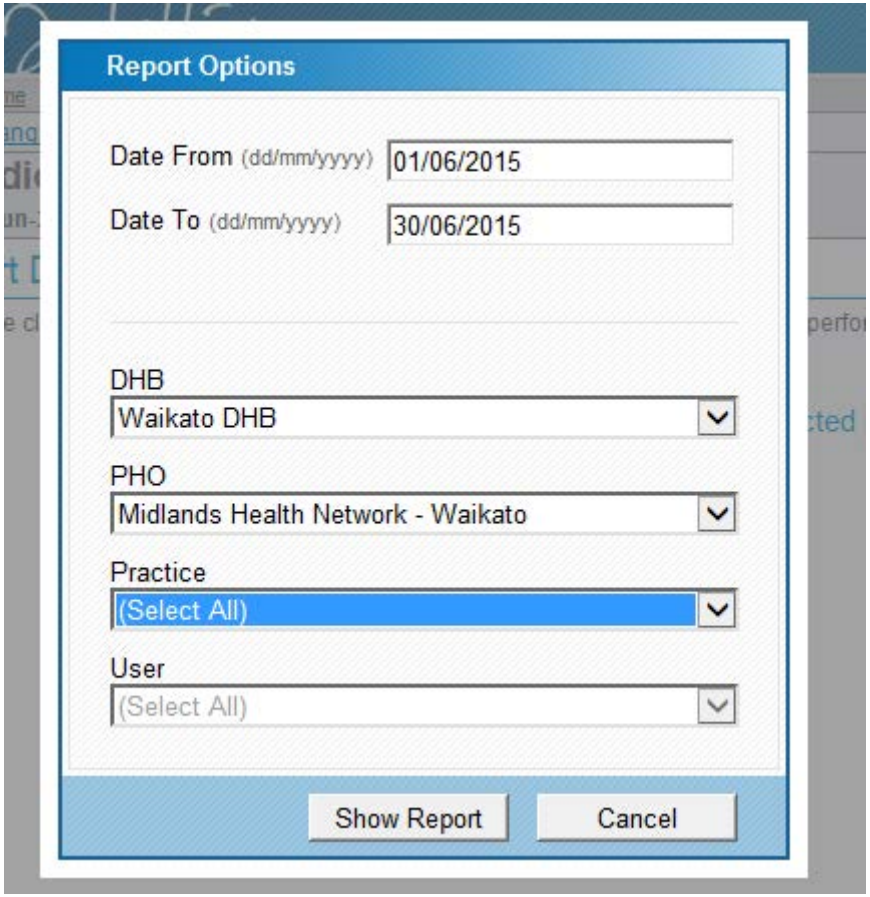
- National data sets including social determinants are used to identify populations requiring intervention and support

- Practice data sets including social determinants can and do identify individuals requiring intervention/support

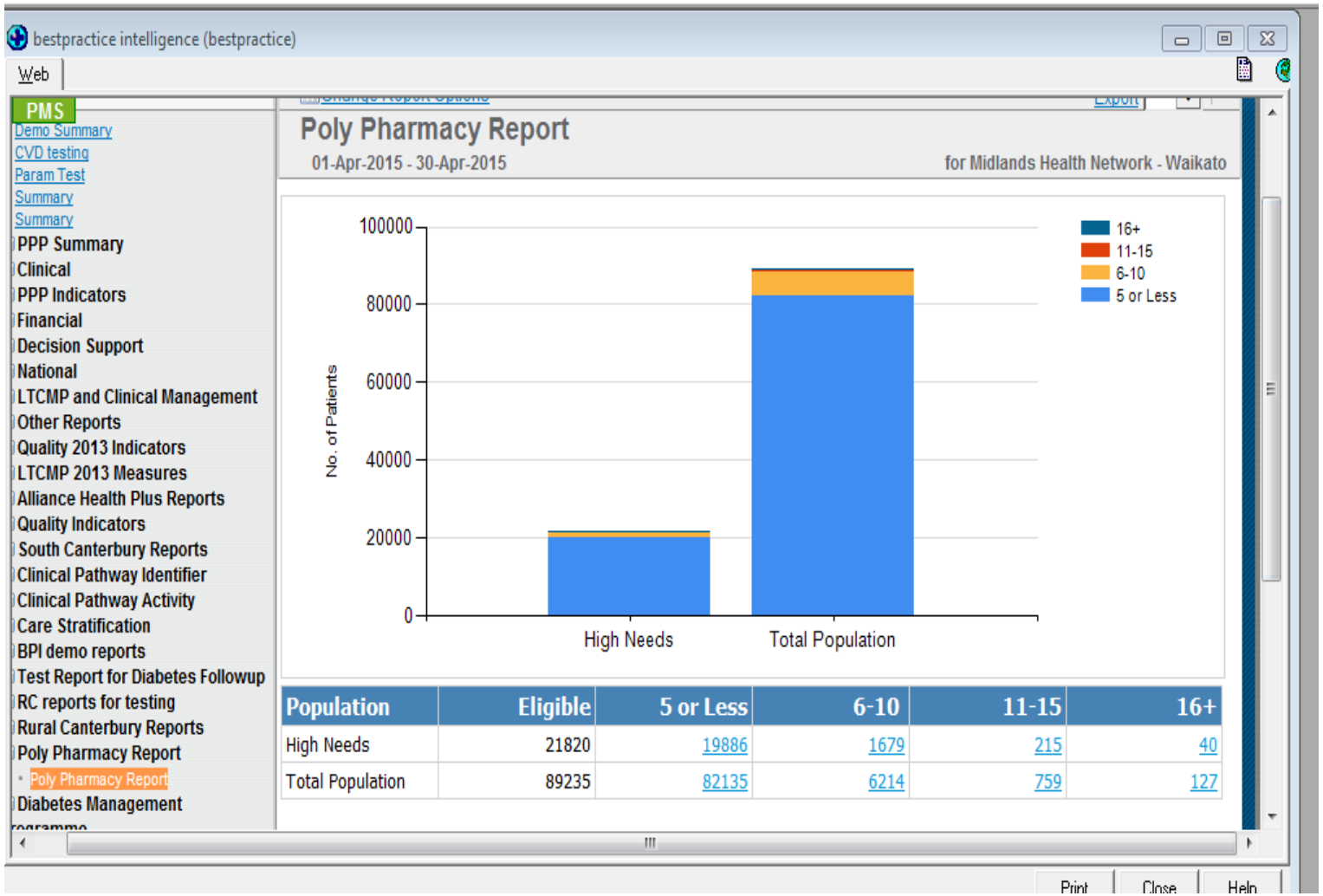
National dataset - Polypharmacy



Regional/Practice dataset Real Time



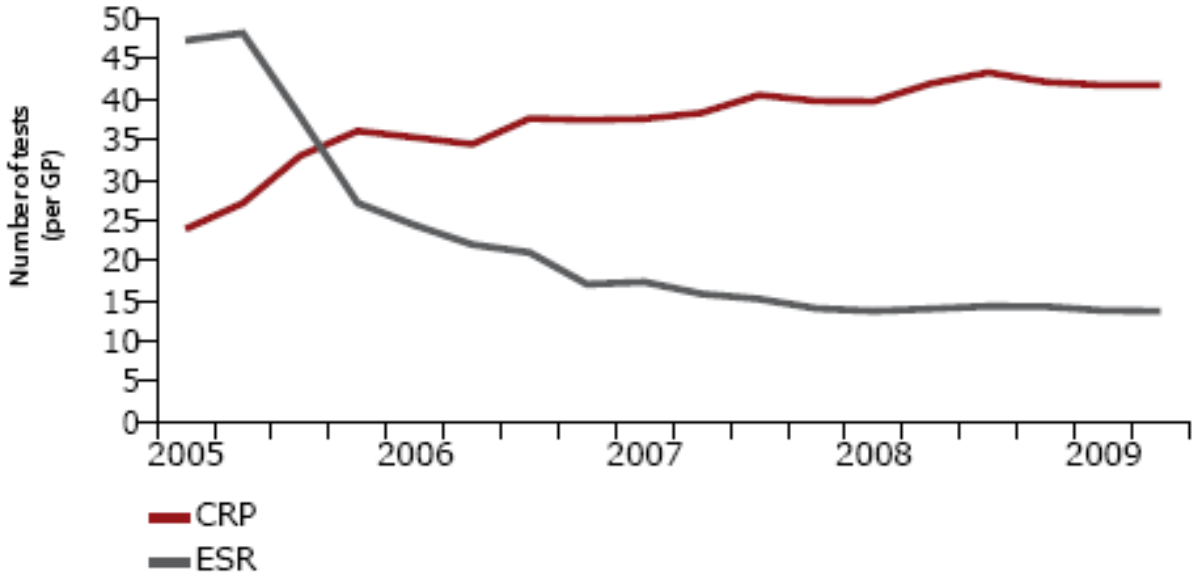
bestpractice Intelligence
Business and Clinical Intelligence for Primary Care



Population	Eligible	5 or Less	6-10	11-15	16+
High Needs	156	141	14	1	0
Total Population	1211	1127	80	4	0


BEST PRACTICE
APRIL 2009
THE COMPLETE WORKS
20
best tests
best practice
TREATMENT OF GOUT
bpac nz
better medicine

Focused Education



- **CRP vs ESR Assessing & Measuring the Inflammatory Response**
- **ESR ~ 68% decrease**
- **CRP ~ 54% increase**

Overall 29% decrease in total tests

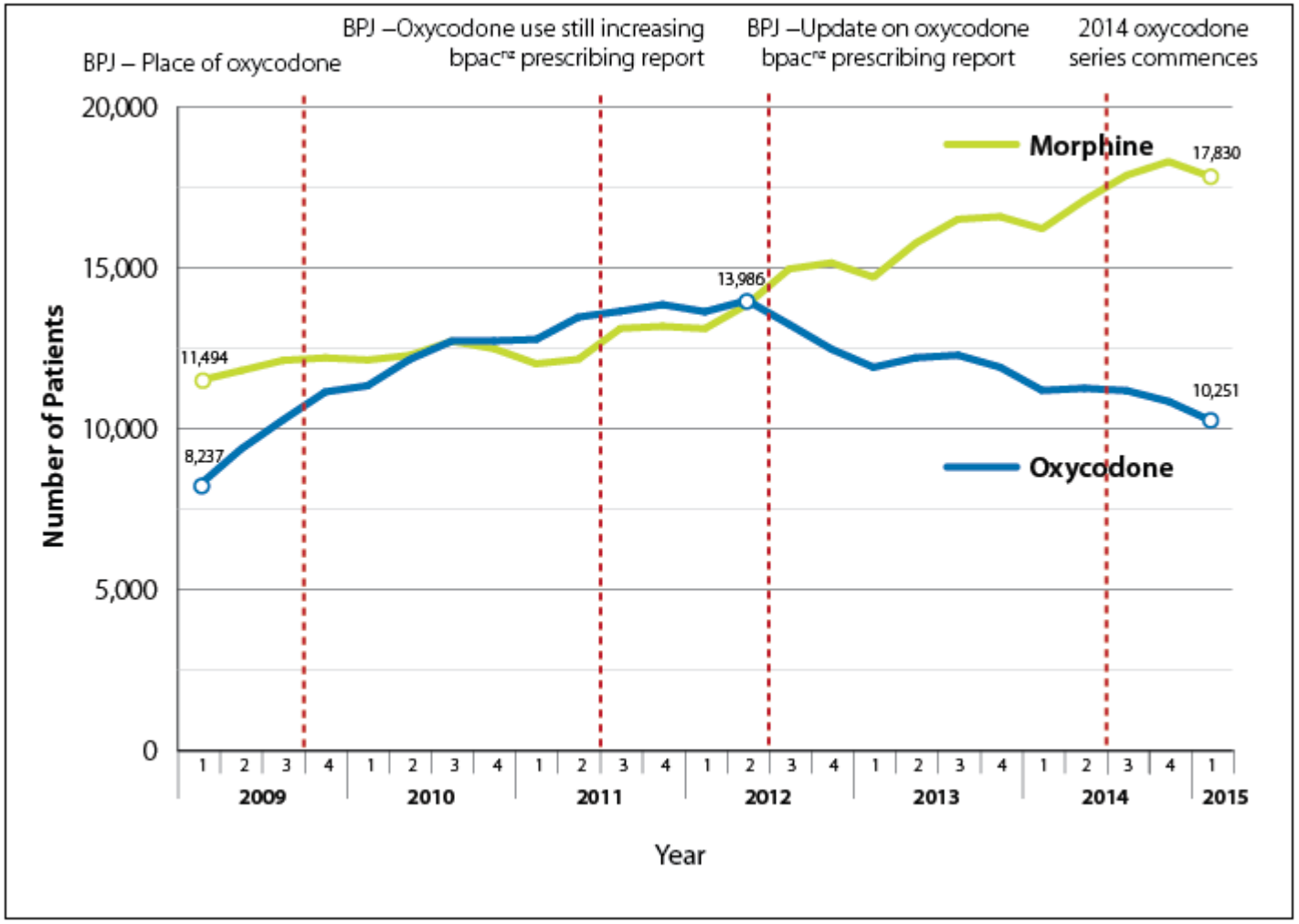
Focused Education

CRP vs ESR 2005 -2012

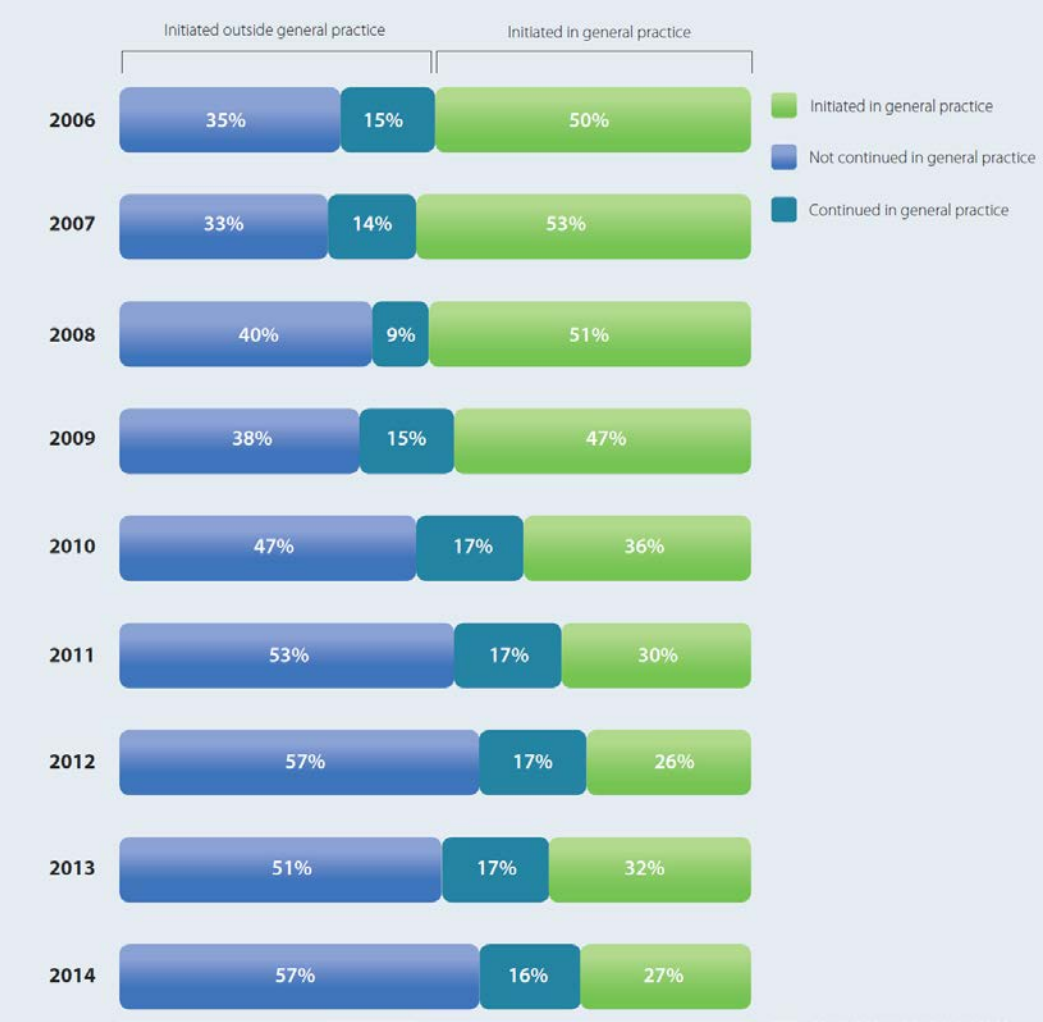
Combined total savings
> $17 Million

Cost of $1.5 million

Oxycodone use



The **majority of oxycodone** is now initiated outside of general practice



bestpractice care

NEW ZEALAND TODAY

Integrated into the standard workflow

Average of 140,000 hits per working day or 29.5 million per year

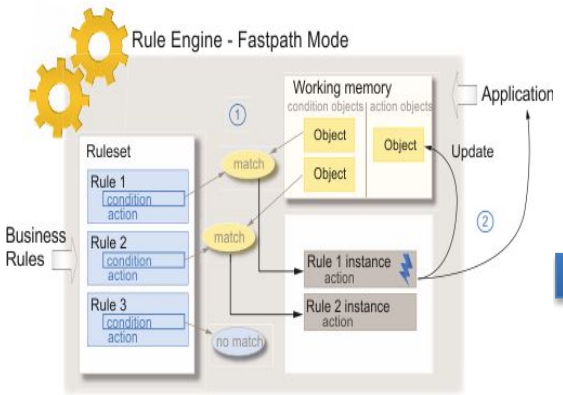
Used in 98% of practices

New Zealand Population: 4.5 million

Basic Principles

Guidelines or Pathways Care Information

Business Rules Engine



Guidelines Digitised on BPAC servers

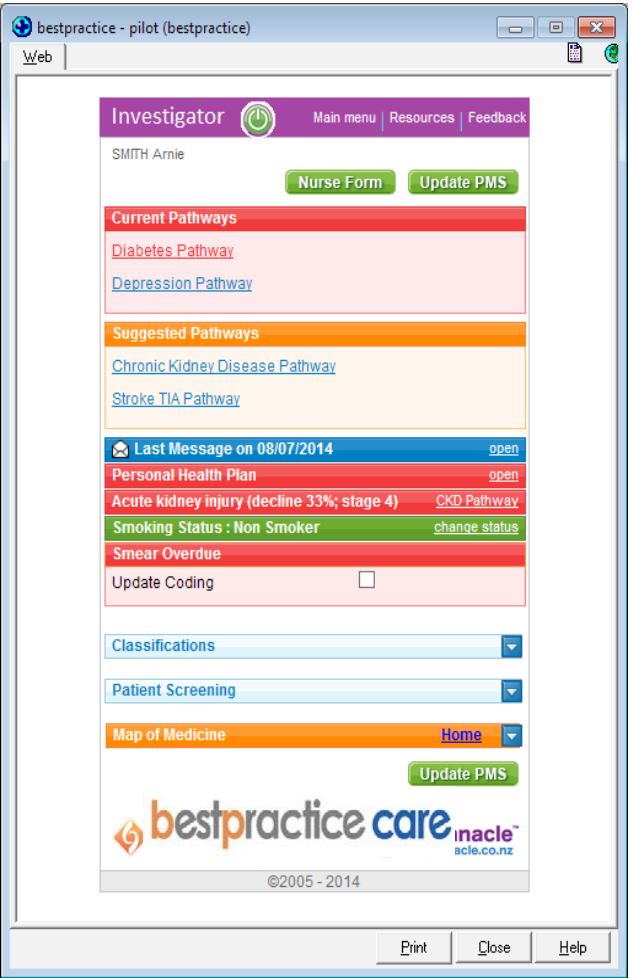
bestpractice care at a glance

Diagnosis Support

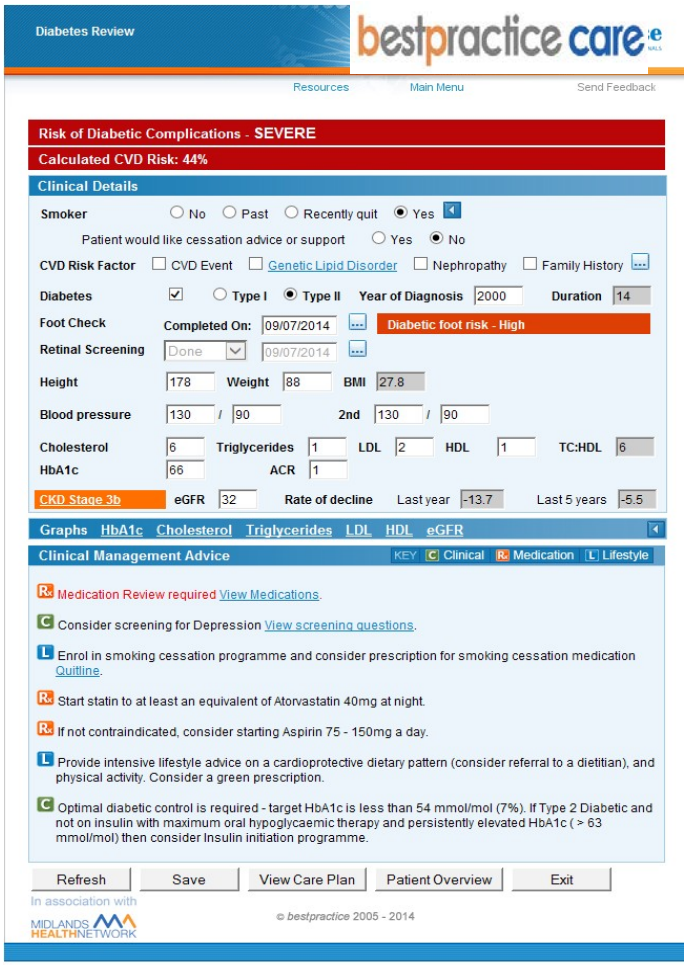
In-consultation Guidance

Referral Management

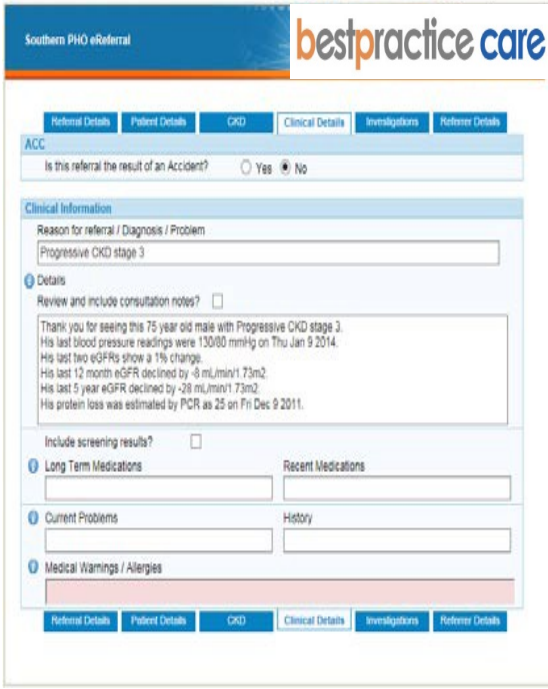
Patient Prompt



Clinical Modules



Intelligent Referrals



CKD in consultation clinical decision module

NICE National Institute for Health and Care Excellence

Stage	Description	GFR (ml/min/1.73 m²)
1*	Kidney damage with normal or raised GFR	≥90
2*	Kidney damage with mild decrease in GFR	60-89
3A	Moderately lowered GFR	45-59
3B		30-44
4	Severely lowered GFR	15-29
5	Kidney failure (end-stage renal disease)	<15

Chronic kidney disease

early identification and management of chronic kidney disease in adults in primary and secondary care

Issued: July 2014 last modified: March 2015

NICE clinical guideline 182
guidance.nice.org.uk/cg182

NICE has accredited the process used by the Centre for Clinical Practice at NICE to produce guidelines. Accreditation is valid for 5 years from September 2009 and applies to guidelines produced since April 2007 using the processes described in NICE's 'The guidelines manual' (2007, updated 2009). More information on accreditation can be viewed at www.nice.org.uk/accreditation

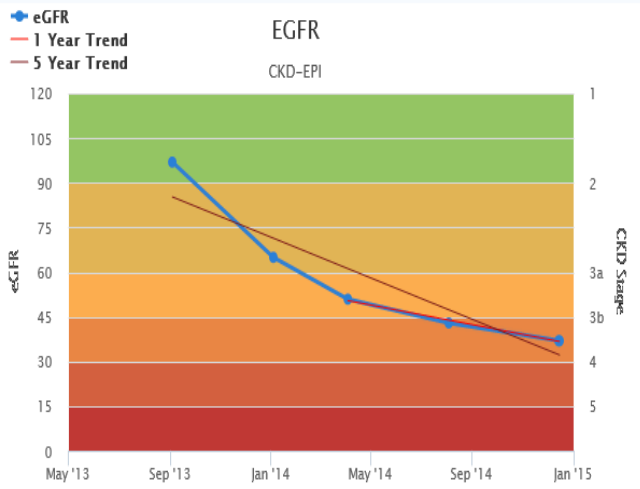
NICE accredited

Extracts EGFR results from PRS (calculates EGFR from creatinine)

- Determines stage
- Does regression
- Determines estimated time to stage 4

Progressive CKD stage 3b

Charts



Current/Existing Data

Laboratory Results

Serum Creatinine (most recent)	175	µmol/l	(15/12/2014)
eGFR	37	ml/min/1.73m²	0% change from previous (15/12/2014)
Annual Rate of Change	-27	ml/min/1.73m²/year	(03/04/2014 - 15/12/2014)
Five Year Rate of Change	-208	ml/min/1.73m²/5 years	(03/09/2013 - 15/12/2014)
ACR (most recent)	45	mg/mmol	(01/09/2014)

Patient specific advice based on Guideline

Clinical Advice

Progressive renal decline, predicted to enter stage 4 soon: consider referral if patient may be affected during their lifetime

Referral may be less useful if patient unlikely to be affected by their renal decline

Offer influenza and pneumococcal vaccinations

Minimise nephrotoxic drugs and consider renal doses of medication

Review every six months with FBC, creatinine, electrolyes, lipids, HbA_{1c}, and urine albumin-creatinine ratio

Urinary protein-creatinine ratio is less sensitive but sometimes used to monitor significant levels of proteinuria

No recent serum potassium found: do not implement any advice about starting or increasing ACE inhibitors or ARBs until normokalaemia verified

Target BP is systolic 120 - 139 and diastolic less than 90

Blood pressure above target; consider reviewing antihypertensive therapy with priority to ACE inhibitors or ARBs

Please use the Common Form for more detailed advice on management of hypertension

Urine ACR indicated due to previous proteinuria (no recent ACR or PCR found)

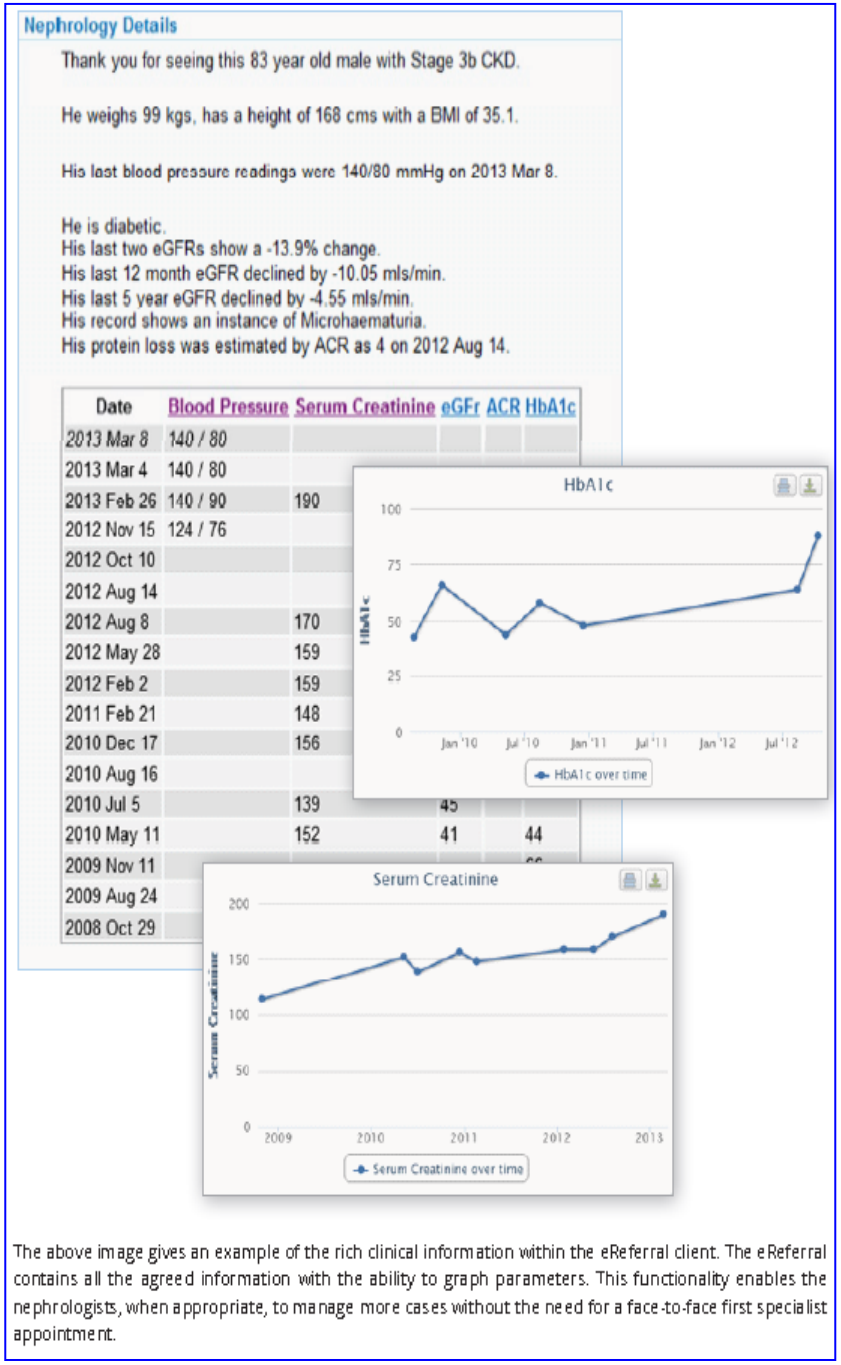
Arrange imaging of renal tract due to persistent invisible haematuria unless benign transient cause of haematuria identified. Recall to monitor haematuria within a year

http://www.bpac.org.nz/BT/2013/June/urine-tests.aspx contains advice on investigating haematuria. Risk factors for urological malignancy include smoking, recurrent UTI or other urological disorders, occupational exposure to chemicals or dyes, pelvic irradiation, history of excessive analgesic use, and others

Refer to nephrology due to invisible haematuria with proteinuria in CKD stage 3

Nephrology Referral

Refer patient to Nephrology



The above image gives an example of the rich clinical information within the eReferral client. The eReferral contains all the agreed information with the ability to graph parameters. This functionality enables the nephrologists, when appropriate, to manage more cases without the need for a face-to-face first specialist appointment.

bestpractice
DECISION SUPPORT FOR HEALTH PROFESSIONALS

Standardised electronic referral

View Patient Inbox

Main | Audit

External Details

Name: **Maze, Bronwyn Esther (22 Apr 1951)** Reference No: 28655012_45333 (bpacincx)

Internal Details

Patient: MAZE Bronwyn (MAZ1) Confidential: ☐ Do Not Upload to MMH: ☐

Subject: Declined Scn Referral Centre Date: 18 Mar 2015 Attention:

Comment: From: Provider: Murray Tilyard (MT)

Classification: Status: Folder: Referral/Discharge (RSD)

Referral/Discharge Status: Request Referral
Referral Description: Declined SCN Referral Centre
Referred to Provider: Prof Murray Tilyard
Primary Care Provider: Prof Murray Tilyard
Referring Physician: Prof Murray Tilyard
NHI: CHK8232

18 Mar 2015

Prof Murray Tilyard
Helensburgh Medical Centre

Dear Prof Murray Tilyard

Re: BRONWYN ESTHER MAZE
NHI: CHK8232
DOB: 22 Apr 1951

Your Nephrology referral for the above patient has been received by the SCN Referral Centre and forwarded onto the appropriate specialty.

Decline With Advice:

Thanks for referral

The change in creatinine may be a transient rise as a result of relative hypotension.

I would suggest stopping the spironolactone and allowing BP to get up to 130 systolic.

I would suggest repeating renal function at this stage

If back to baseline then would carry on with regular monitoring

If doesn't settle check urine microscopy and rerefer

Yours sincerely

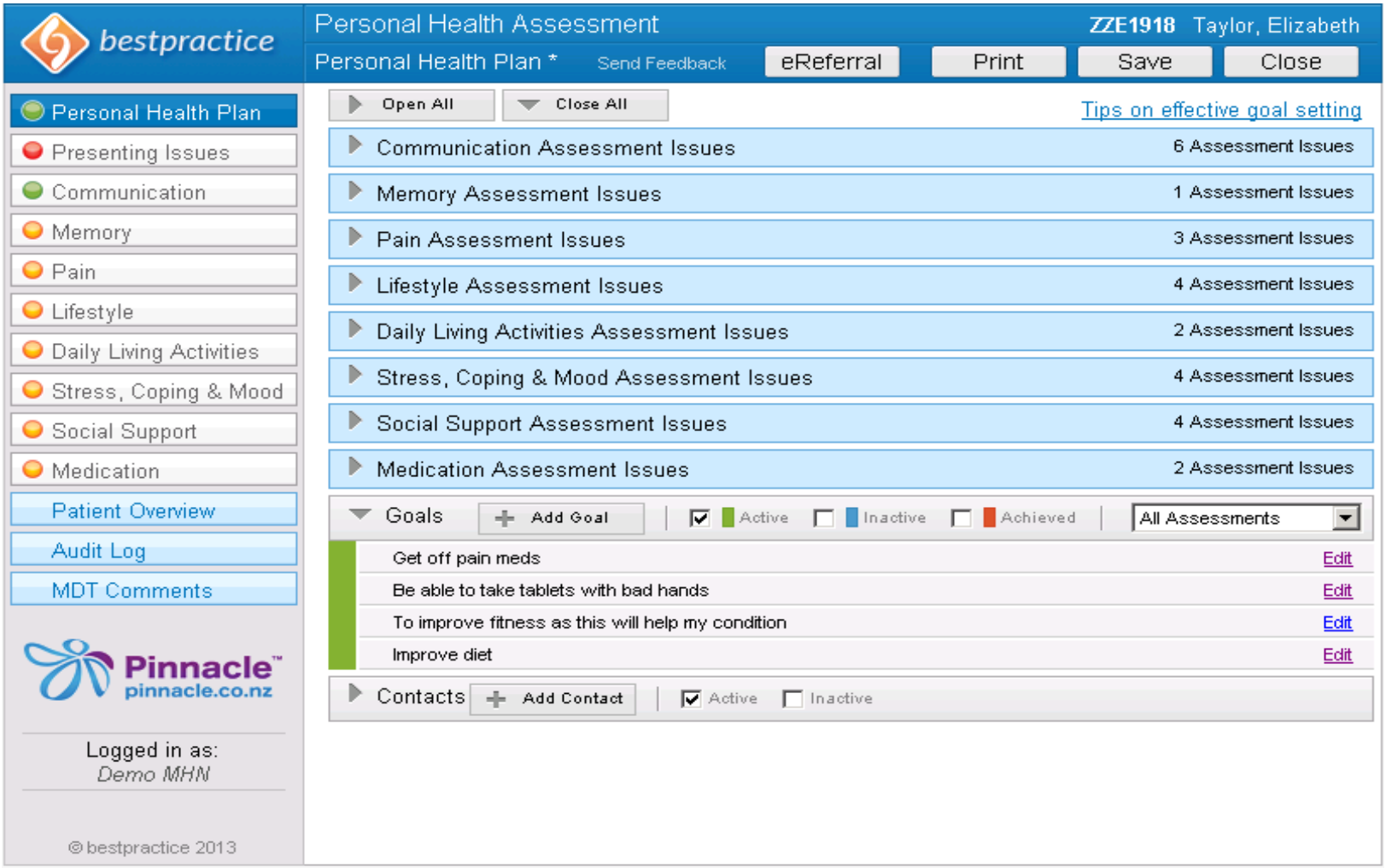
SCN Referral Centre

New Zealand Risk Stratification

1,409,506 general practice patients were included

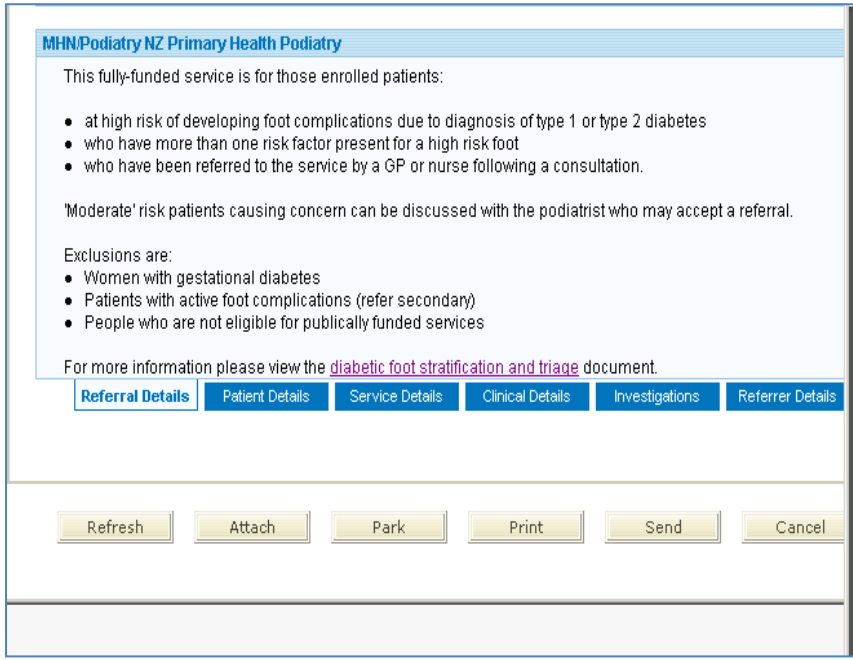
Probability of Acute Admission in 2013	Number of patients	2013 Acute Admission: Yes	No	Positive Predictive value
>=90%	597	419	178	70.2%
>=80%	1598	1126	472	70.5%
>=70%	3884	2589	1295	66.7%
>=60%	9173	5657	3516	61.7%
>=50%	20921	11564	9357	55.3%
>=40%	47,013	22,644	24,369	48.2%
>=30%	101988	40688	61300	39.9%
>=20%	222658	68355	154303	30.7%
>=10%	567005	111268	455737	19.6%
>=0%	1409506	154892	1254614	11.0%

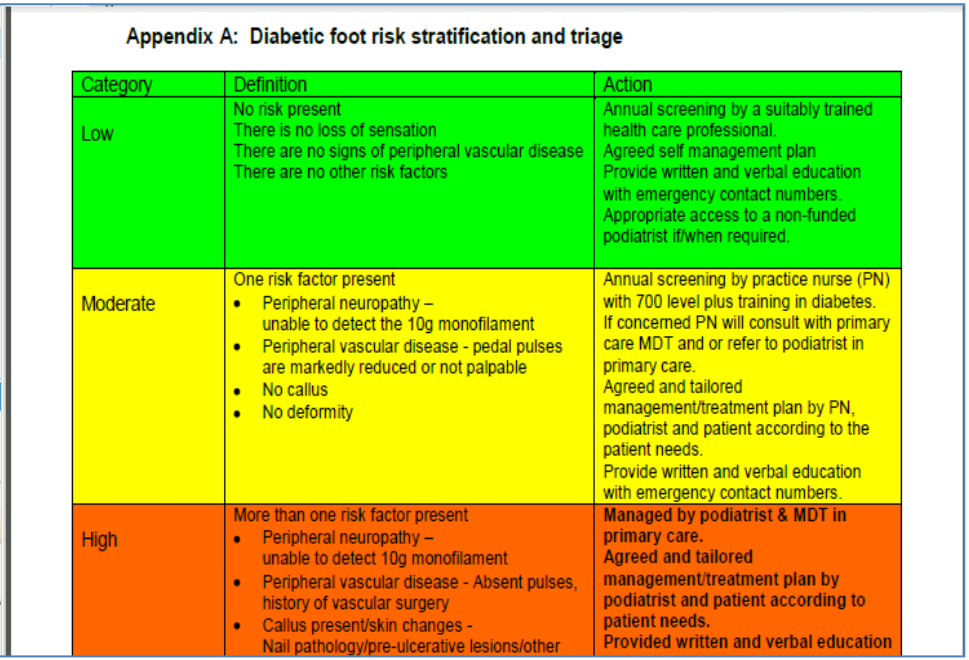
The Personal Health Plan creating, sharing & updating



The Personal Health Plan – eReferrals to MDT

- Dieticians to provide nutrition education for individuals and groups.
- Social workers to provide psycho-social support services.
- Pharmacists to optimise the patient's medicine self management and adherence
- Podiatrists to focus on the prevention and management of foot problems, a leading cause of hospitalization for people with diabetes



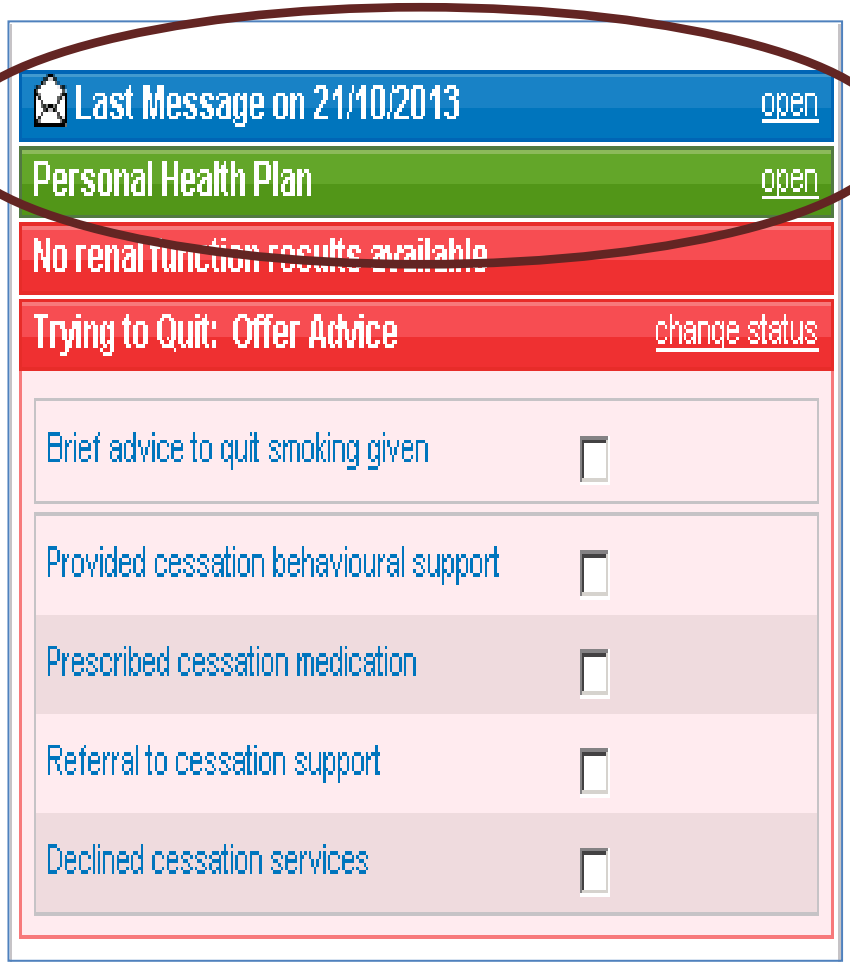


Appendix A: Diabetic foot risk stratification and triage

Category	Definition	Action
Low	No risk present There is no loss of sensation There are no signs of peripheral vascular disease There are no other risk factors	Annual screening by a suitably trained health care professional. Agreed self management plan Provide written and verbal education with emergency contact numbers. Appropriate access to a non-funded podiatrist if/when required.
Moderate	One risk factor present • Peripheral neuropathy – unable to detect the 10g monofilament • Peripheral vascular disease - pedal pulses are markedly reduced or not palpable • No callus • No deformity	Annual screening by practice nurse (PN) with 700 level plus training in diabetes. If concerned PN will consult with primary care MDT and or refer to podiatrist in primary care. Agreed and tailored management/treatment plan by PN, podiatrist and patient according to the patient needs. Provide written and verbal education with emergency contact numbers.
High	More than one risk factor present • Peripheral neuropathy – unable to detect 10g monofilament • Peripheral vascular disease - Absent pulses, history of vascular surgery • Callus present/skin changes - Nail pathology/pre-ulcerative lesions/other	**Managed by podiatrist & MDT in primary care.** **Agreed and tailored management/treatment plan by podiatrist and patient according to patient needs.** **Provided written and verbal education**

The Personal Health Plan – MDT replies visible in Patient Prompt

- **Accessing MDT replies from the Patient Prompt**
- Joined up working with integrated systems and messaging
- A banner on the Patient Prompt gives a ‘quick view’ of recent eReferral replies
- Open this, and you are taken to the eReferral Message Logging screen. You can select within this screen to view messages by patient, for your user account or by practice.



Future Health System