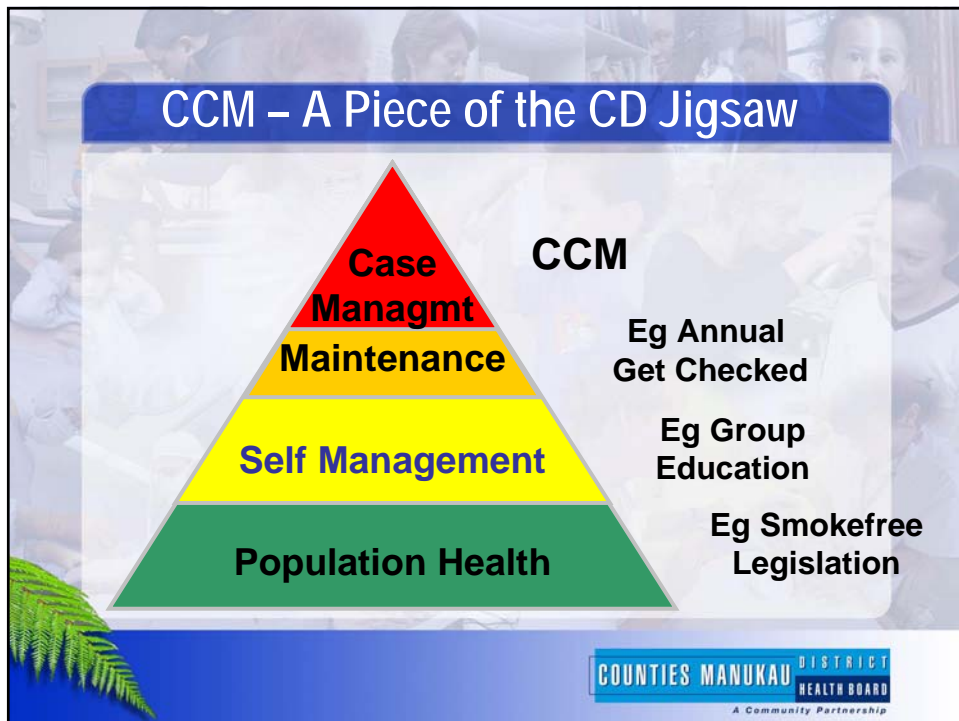


Chronic Improvement

Sarah Tibby - CMDHB
David Hay – health Alliance

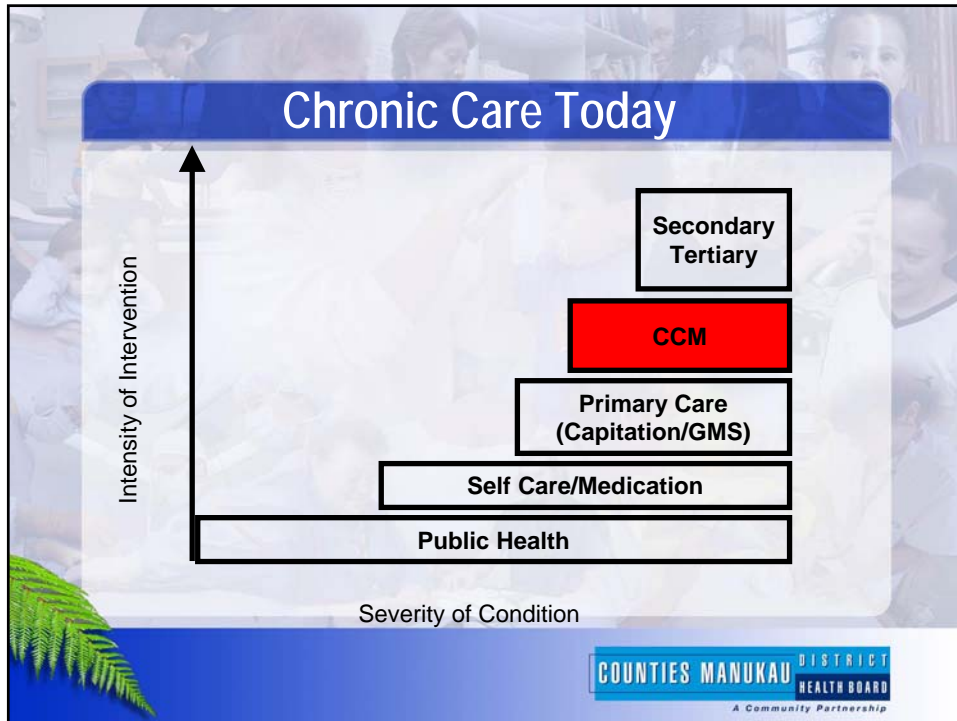
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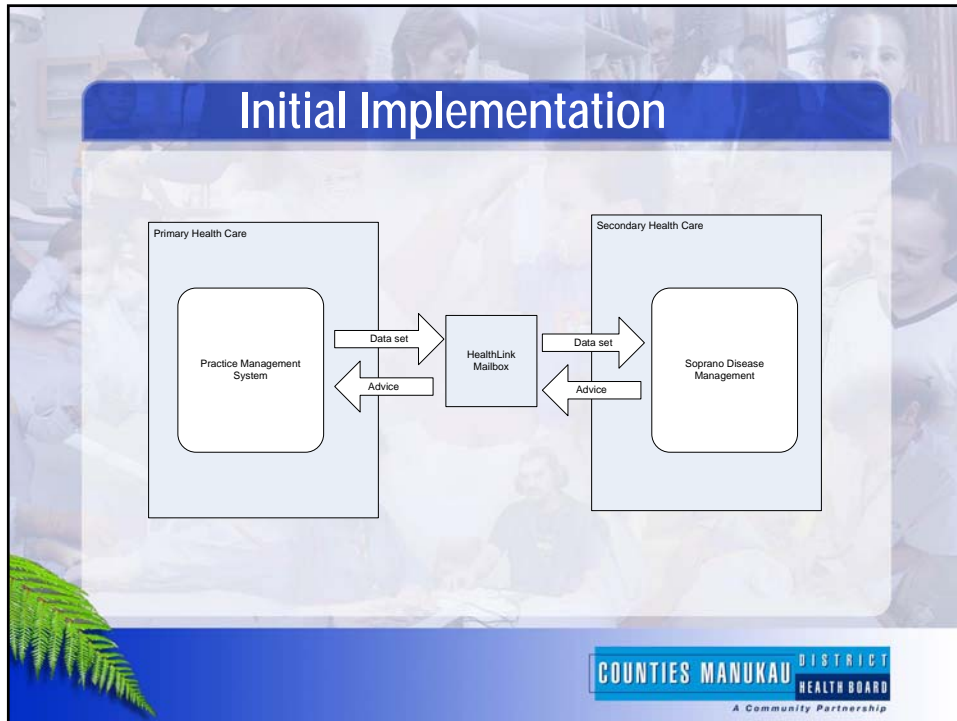
CCM – A Piece of the CD Jigsaw

Level	CCM
Case Managment	Eg Annual Get Checked
Maintenance	Eg Group Education
Self Management	Eg Smokefree Legislation
Population Health	

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- ### The CCM Programme
- Based on Wagner's Model:
 - High need patients
 - 4 free practice visits per annum
 - 6 hours nursing time per annum
 - Structured notes
 - Embedded within practice computer software
 - Empowered primary care
 - Secondary outreach/training
 - Electronic Decision Support
 - Regular reporting on progress
 - Empowered Patients
 - Patient held care plans
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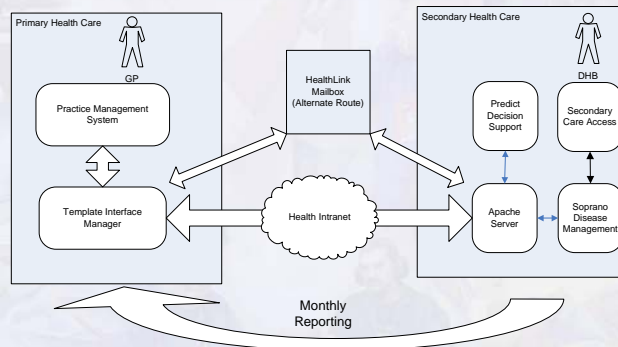


- ## IS Review
- Administration overhead was high by GP and server
 - Only partial validation at PMS
 - Patient eligibility status was reported only monthly
 - In order for patients to be eligible for the programme they had to meet specific Clinical Entry Criteria for Funding. Criteria was not enforced by PMS, and ineligible patients were only identified monthly.
 - No centralised error tracking at server
 - Limited uptake by PMS Vendors
 - Time consuming to modify programmes
 - No real time Electronic Decision Support
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The Way Forward

- Provide on-line capacity
- Improve central administration ability
- Entry Criteria warning
- Improve message validation
- Make it easier for PMS vendors to implement
- Make it easier to deploy new/changed programmes
- Use alternative decision support
- Other Funding/Programme Streams

Architecture



The Key Components of this Solution:

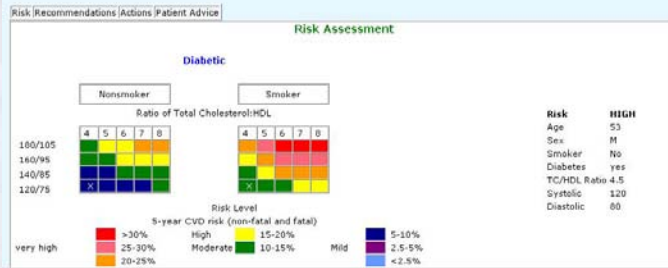
- The Template Interface Manager (TIM)
 - Developed using dynamic HTML technologies (AJAX)
 - Interface is created by XSLT transformation of an XML definition file
 - Can be run either 'within' a PMS or directly from a Browser
- Apache/PHP server
 - On-line (Health Network) & batch (Healthlink)
 - Validation with same XML file as used for User Interface Definition
- Predict
 - Decision support. (Some Decision Support in Apache)
- Orion SDM
 - As before, but 'behind' Apache
- Secondary Care Access via Concerto
 - Allows clinicians in secondary care to view CCM Data
 - If patient attends EC, clinician is alerted
 - Using service based infrastructure (SOA)

TIM – (making the right thing the easiest thing to do)

Management			
Funding Stream	CPlus and CDM	Provider	
Participation Status		Outcome	Annual
Wellness Plan discussed	No	Program Consent	Yes
		Management goals met	Recently enrolled
Assessment			
Ischaemic Stroke/TIA	No	Smoker	No
Type of Diabetes	Type 2	Smoking advice	
IHD	No	Pregnant	Not applicable
Genetic Lipid Disorder	No	Family History CVD	Yes
PTCA,CABG	No	Physical Activity	
PVD	No	Green Rx	Yes
		Systolic BP	120
		Diastolic BP	80
		Height	195
		Weight	78
		BMI	22.8
		NHF Diet advice	No
Medication			
Aspirin	Yes	ACE Inhibitor	No
Clopidogrel	No	Beta-Blocker	No
Warfarin	No	Ca Channel Blockers	No
		Thiazide	No
		Other Antihypertensive Meds	No
		Statin	No
		Fibrate	No
		Other Lipid Lowering Drug	No
Lab			
Fasting Total Cholesterol	6.1	HDL Cholesterol	1.1
Fasting Triglycerides	3.3	LDL Cholesterol	4.5
		TC/HDL Ratio	4.5

Lab Results
Auto-populate

Incorporating Best Practice Guidelines



Key Technical Advantages of TIM

- On-Line (real-time) access
 - Across Health Network
- Remote Updating
 - (In practice not useful as PMS configuration required)
- Consistent User Interface across PMS's (MedTech, my Practice, Profile for Windows, Profile for Mac)
- Integrated with PMS
 - Both pre-population & storage of advice in PMS
- Reduced requirements of PMS Vendor
 - We can implement program changes
- Use of Open-Source software

Access to CCM Information via EC Whiteboard

Information Available: **DIABETES**

Advises what CCM Programme the patient is on

Category	Description	Comments	Start	End	Critical	Active
Clinical Pathways/Outlines	Unstable Angina		26 Dec 2001	31 Dec 2001	N	N
Clinical Pathways/Outlines	Unstable Angina		15 Jun 2001	15 Jun 2001	N	N

Arrived date	TC	Presented with	Seen by	Speciality	Diagnosis	Discharge method
27 Feb 2006 10:47	2	Chest pain, r40		Acute Care Medicine		
02 Feb 2005 04:30	4			Medicine - ED		Discharge to Care of OP
10 Aug 2004 04:55	4			Emergency Medicine - ED		Discharge to Care of OP
09 Aug 2004 20:10	4			Emergency Medicine - ED		Self discharge - signed
06 Aug 2003 09:05	2	Chest pain		General Medicine		Admit to Ward
12 Jul 2003 00:37	3			General Medicine		Admit to Ward
06 Mar 2002 23:37	2	Palpitations, Shortness of breath, post cabg 14/1/02 with L) arm pain		General Medicine		Discharge to Care of OP
12 Feb 2002 21:28	3			General Medicine		Discharge - no follow-up required
03 Jan 2002 11:09	2	Chest pain		General Medicine		Admit to Ward
26 Dec 2001 22:39	3	Chest pain		General Medicine		Admit to Ward

Sharing with Secondary Care

CCM Summary

Programme	Current Status	Status Date	Date Last Visit
COPD	ACTIVE	22/10/2004	24/02/2005
CHF	ACTIVE	15/02/2005	15/09/2005
CVD	ACTIVE	29/09/2005	29/09/2005
OTHER	ACTIVE	30/11/2004	30/11/2004
DEP	ACTIVE	27/05/2005	6/10/2005

Standard charts for patient on these programmes

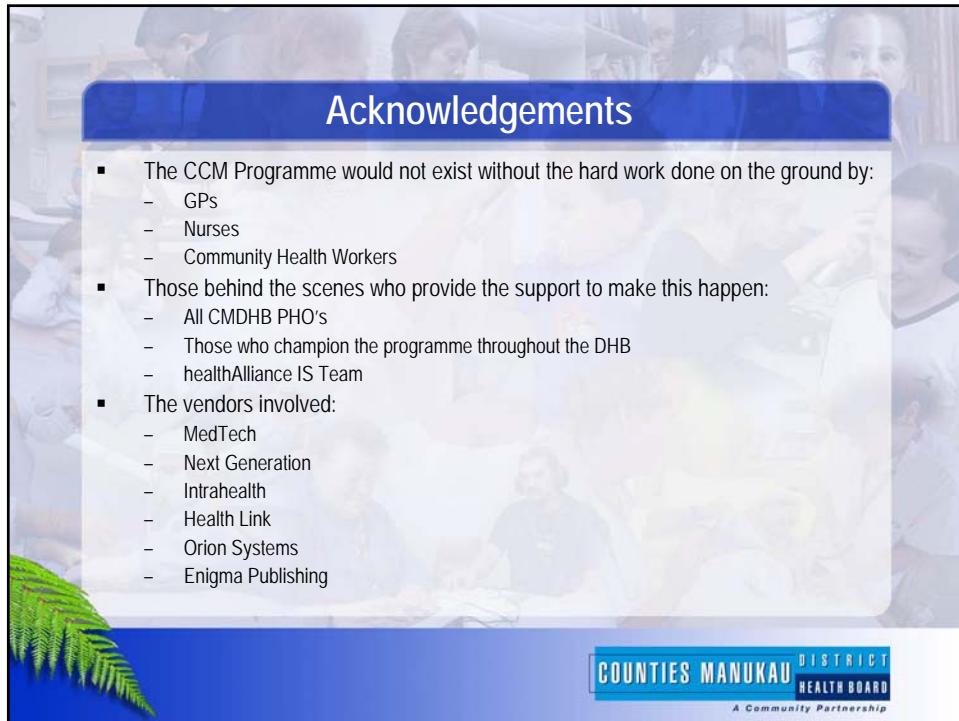
Blood Pressure

Future Plans

- Link data more closely with Enterprise
 - To allow a more holistic view – already viewable by Concerto users
- Improve PMS Integration
 - Based on user feedback, there are improvements that would improve the user experience
- Implement new programmes and funding streams
 - Renal Disease
- Patient Access
 - More in the long term.

Business Advantages

- Patients
 - Care Plans
 - Free visits
- Primary Care
 - Facilitating workflow and funding through feedback on entry criteria to the programme
 - Decision support and Structured data entry to empower nursing staff
 - Comparative Reporting
- Secondary Care
 - If patients attend EC, they are alerted that the patient is on a CCM programme
 - All secondary clinicians have access to CCM data
- DHB
 - Reporting
 - Overall improved health of population



Acknowledgements

- The CCM Programme would not exist without the hard work done on the ground by:
 - GPs
 - Nurses
 - Community Health Workers
- Those behind the scenes who provide the support to make this happen:
 - All CMDHB PHO's
 - Those who champion the programme throughout the DHB
 - healthAlliance IS Team
- The vendors involved:
 - MedTech
 - Next Generation
 - Intrahealth
 - Health Link
 - Orion Systems
 - Enigma Publishing

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Thank you!

Comments and Questions?

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