



صحة لخدمات الغسيل الكلوي
SEHA Dialysis Services

Managed by:
Fresenius Medical Care

What has IT Ever Done For Me?

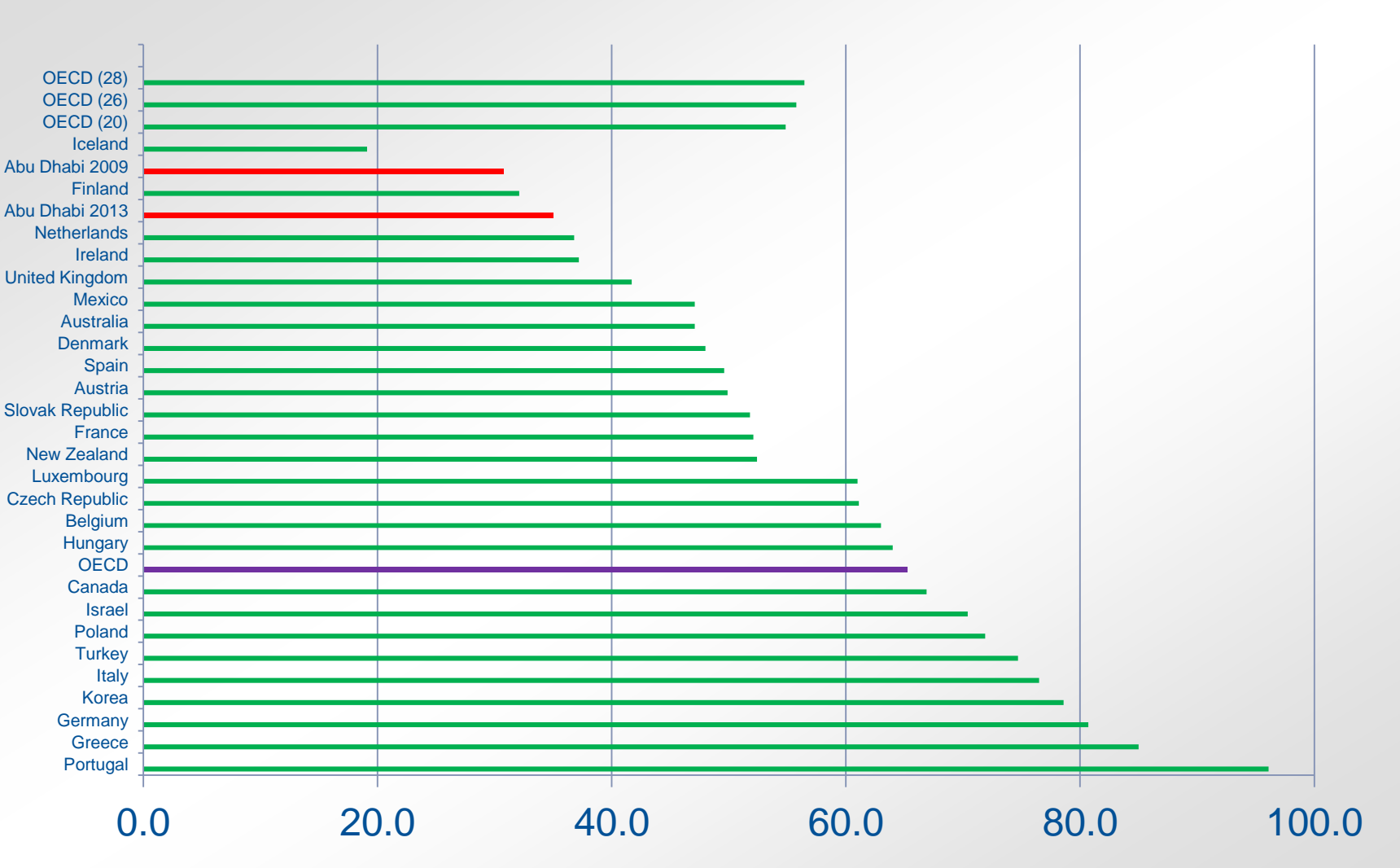
Dr Nick Richards

CEO SDS

SEHA Dialysis Services

- A partnership between SEHA
 - The Abu Dhabi Health care delivery company
 - One the largest employers in the Region
 - Unique feature - A unified IT system for the SEHA health system - Malaffi
- Fresenius Medical Care
 - The largest integrated provider of dialysis services and products worldwide
- Commenced operation in March 2011
 - Provides for SEHA all:
 - Outpatient chronic dialysis
 - Peritoneal dialysis
 - Acute inpatient dialysis

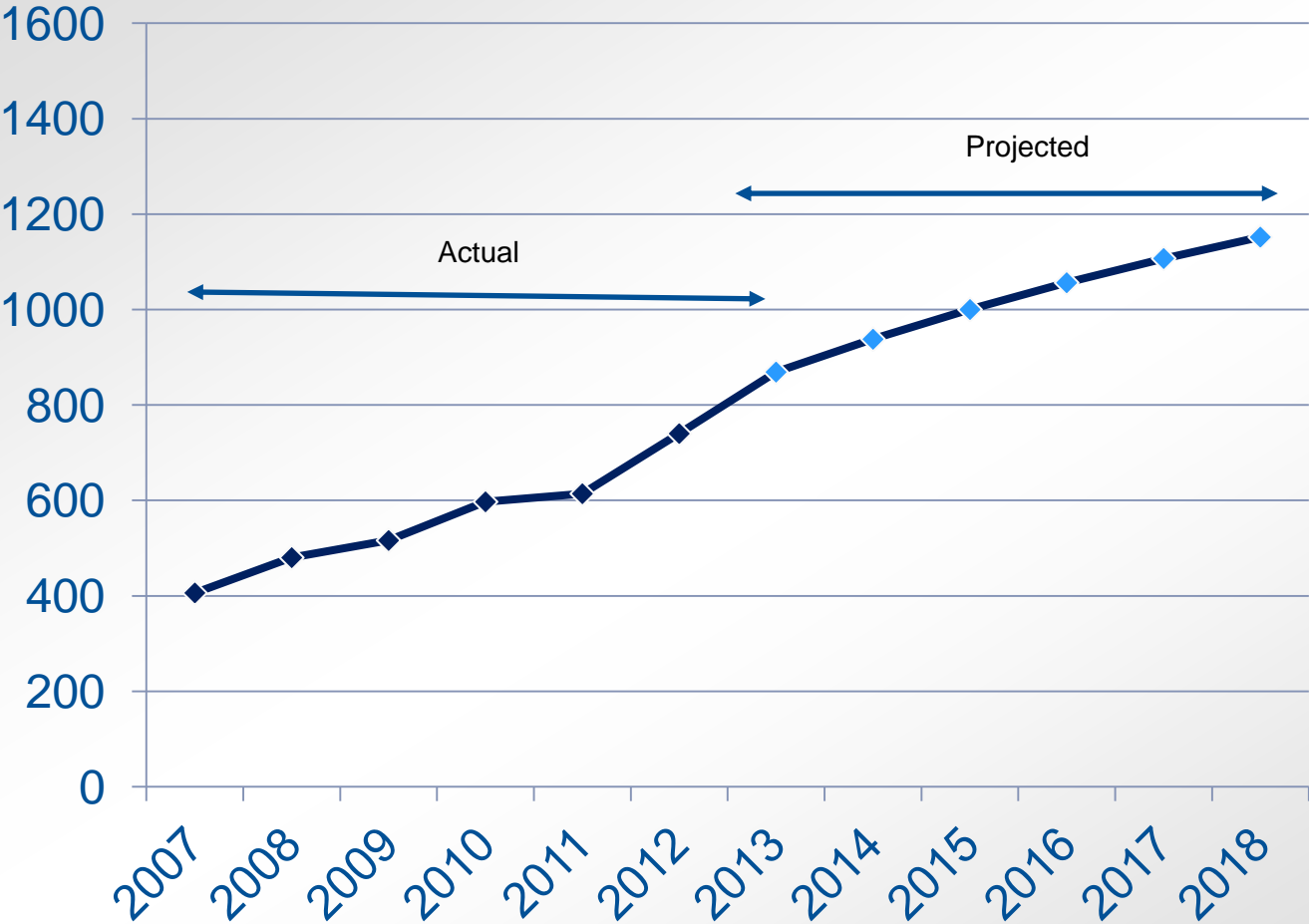
International Benchmarks – Dialysis Prevalence OECD



My Problem 1

Country	Dialysis growth PA	Dialysis Prevalence
Abu Dhabi	10-15%	370/Mil
KSA	7.3%	480/mil
UK	3.3%	440/mil
Europe	4.3%	650/Mil
USA	4.0%	1340/Mil

Actual and Projected Dialysis Population Growth



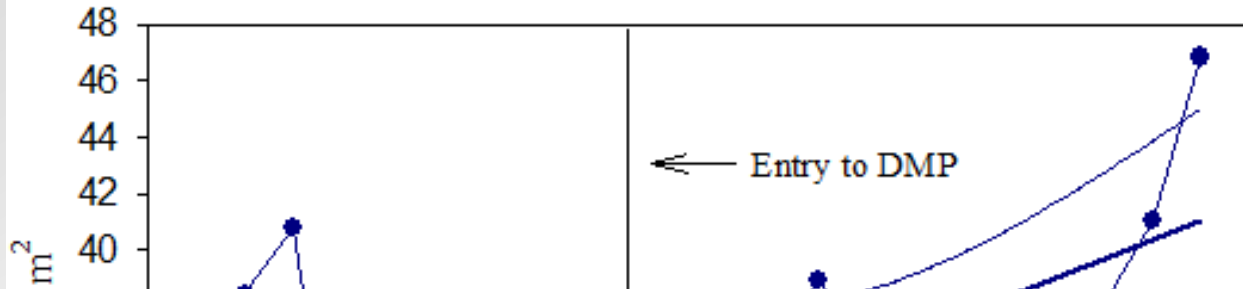
My Problem 2

- Dialysis numbers will double in the next 5 years
- 95% of patients present as an emergency
 - High mortality
 - High morbidity
 - High cost
 - Poor rehabilitation
 - No opportunity for preventative strategies to delay or avert dialysis
 - No opportunity to prepare patients for dialysis
- No data on the epidemiology of chronic kidney disease in Abu Dhabi
- We can keep building dialysis units BUT...

My Hypothesis

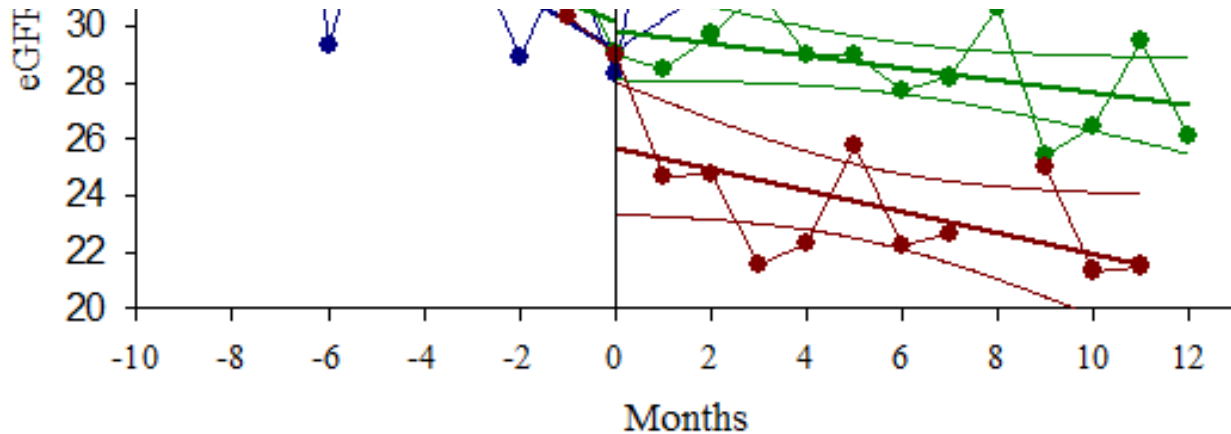
- The patients exist in the system
 - CKD is a public health issue
 - They are not identified in a timely manner
 - They have no symptoms
 - They do not think that they are unwell – Disease denial
 - Current screening tests have low sensitivity
 - You can lose 50% of kidney function before the tests become abnormal
- We needed to:
 - Define the size of the problem
 - Put simple measures in place to address it

Effect of Intervention on Renal Function



20%

Every year of dialysis avoided saves 234,000 AED



60%

20%



So What Did We Do?

SDS Abu Dhabi Study - Data Collection

- Abu Dhabi (SEHA) has a single unified IT system
- Creatinine - all values from outpatients and ER Sept 2011-Oct 2012
- Date of birth
- Gender
- Nationality
- Calculated an estimate of kidney function - eGFR
 - A mathematical manipulation of common data to produce an accurate result

What Did We Find?

331,360 results

212,314 Patients \approx 10% of the population

194 Countries of origin

	Nationals	Expatriates
Females	59,277 (58.9%)	45,644 (40.9%)
Males	41,430 (41.1%)	65,963 (59.1%)
Total	100,707 (47.4%)	111,607 (52.6%)

Creatinine values for:

23% of the Emirate population

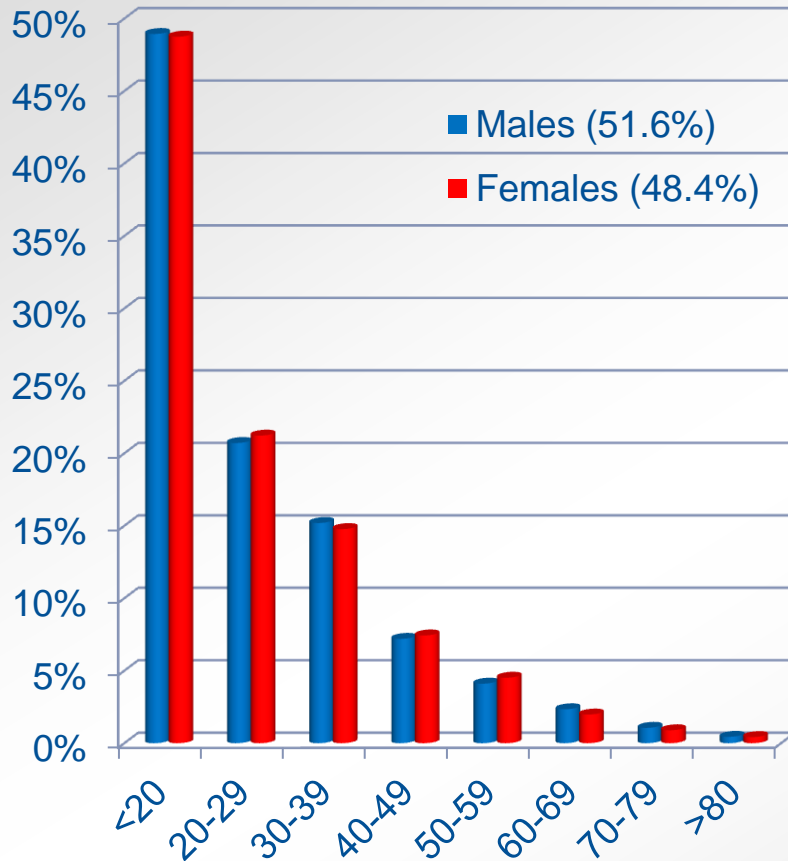
6.6% of the expatriate population

Prevalence of CKD

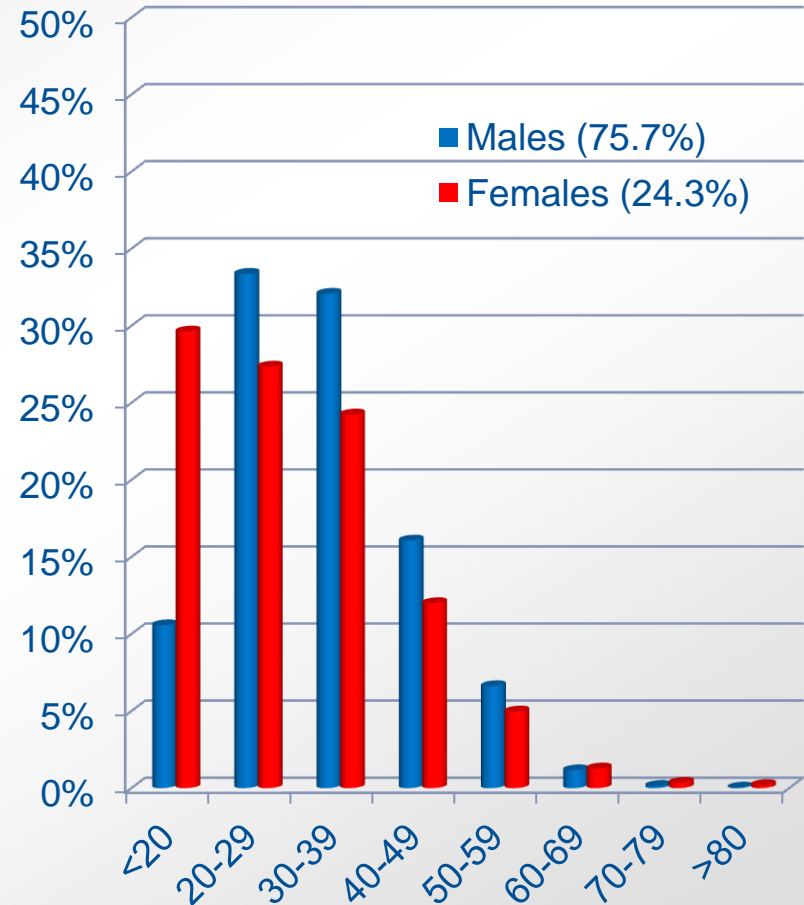
	Nationals		Expatriates	
	Males	Females	Males	Females
CKD2	18.01%	10.06%	22.43%	13.25%
CKD 3a	2.38%	1.41%	2.28%	1.67%
CKD 3b	1.20%	0.68%	0.83%	0.71%
CKD 4	0.56%	0.34%	0.51%	0.36%
CKD 5	0.48%	0.36%	0.60%	0.46%
CKD 3-5	4.62%	2.8%	4.22%	3.19%

Population Breakdown by Age

Nationals



Expatriates



Abu Dhabi Age and CKD Prevalence as %

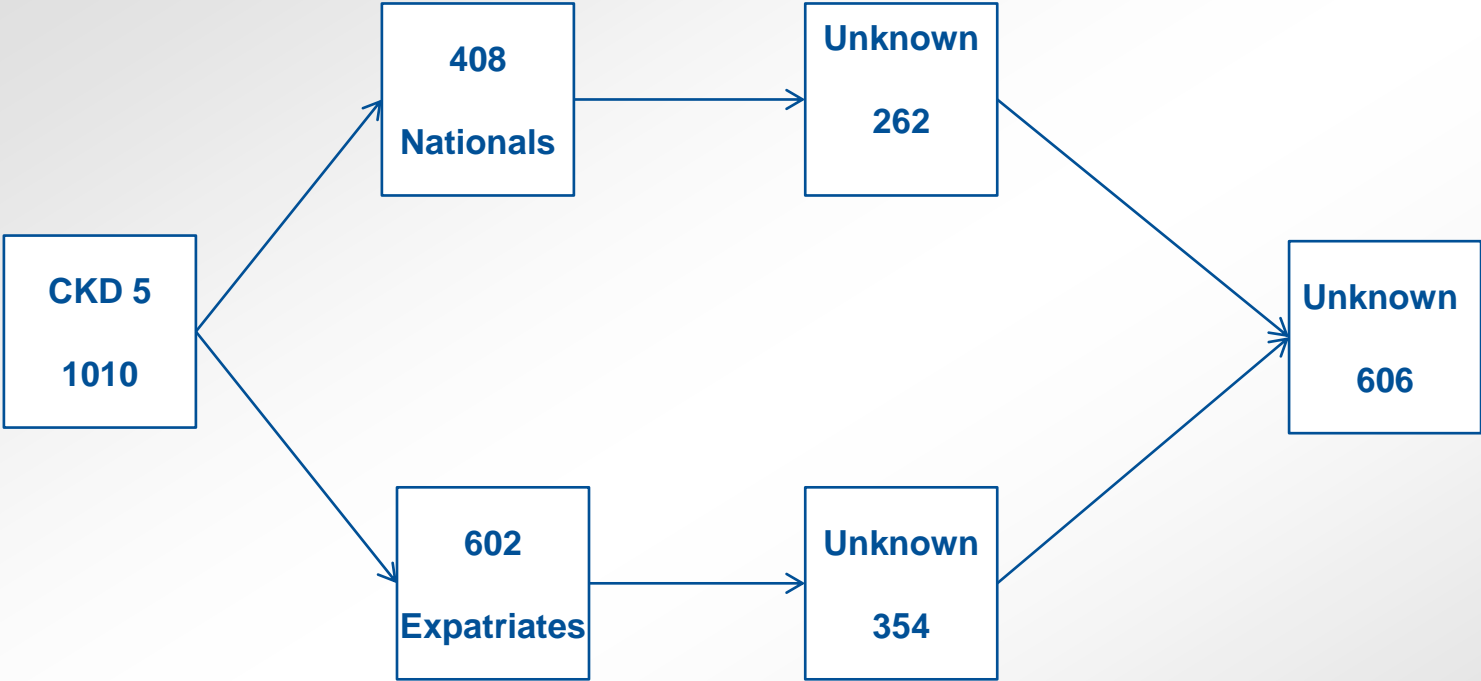
CKD	<20	20-29	30-39	40-49	50-59	60-69	70-79	≥80
Nationals								
3-5	0.4	0.5	0.8	1.9	5.2	13.4	21.1	29.6
Expatriates								
3-5	0.7	0.9	1.6	2.9	6.1	13.7	23.9	30.0
UK								
3-5	0.04	0.09	0.6	2.4	7.6	19.1	29.3	

A very high prevalence of CKD 3-5 in younger people compared to UK

Time From First Identification to OPD

	AHS to OPD		ER to OPD	
	Mean Days	95% CI	Mean Days	95% CI
CKD 3a	246±7	231-261	152±6	140-165
CKD 3b	218±12	194-241	164±10	144-184
CKD 4	151±20	111-191	119±11	97-141
CKD 5	105±27	52-158	247±12	159-178

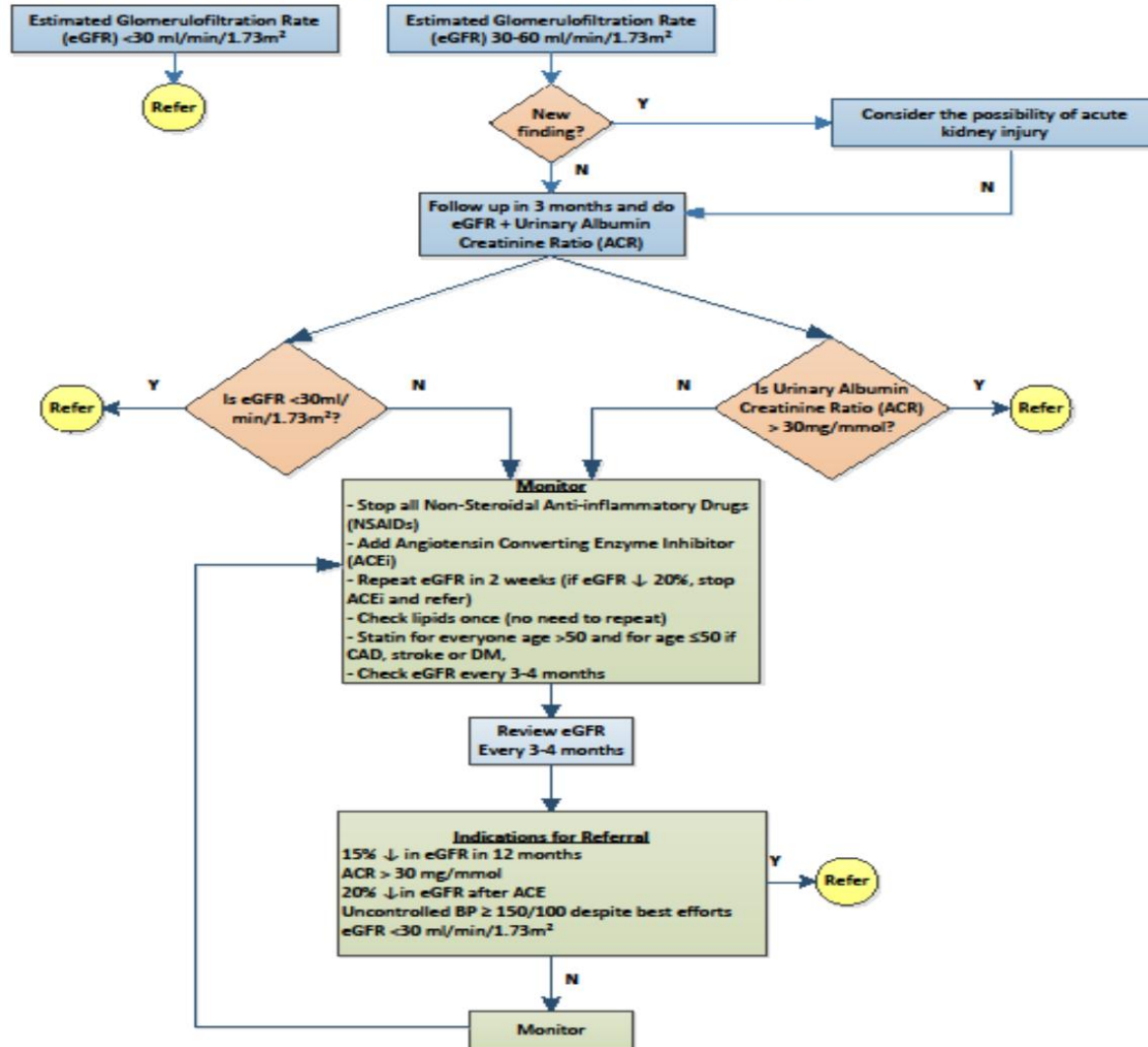
CKD 5 Patients Unknown to Dialysis



The Solution? - The Early Detection Programme

- Automated eGFR reporting for all OPD serum creatinine results
- Automated flagging of CKD ICD 9 code in Malaffi
- Malaffi embedded algorithm with physician decision support
- 4 Nurse educators
 - Patients
 - Doctors
 - Ensure follow up and address disease denial
- Pre ESRD clinics
- Commenced Feb 2014

Management of Chronic Kidney Disease (CKD)

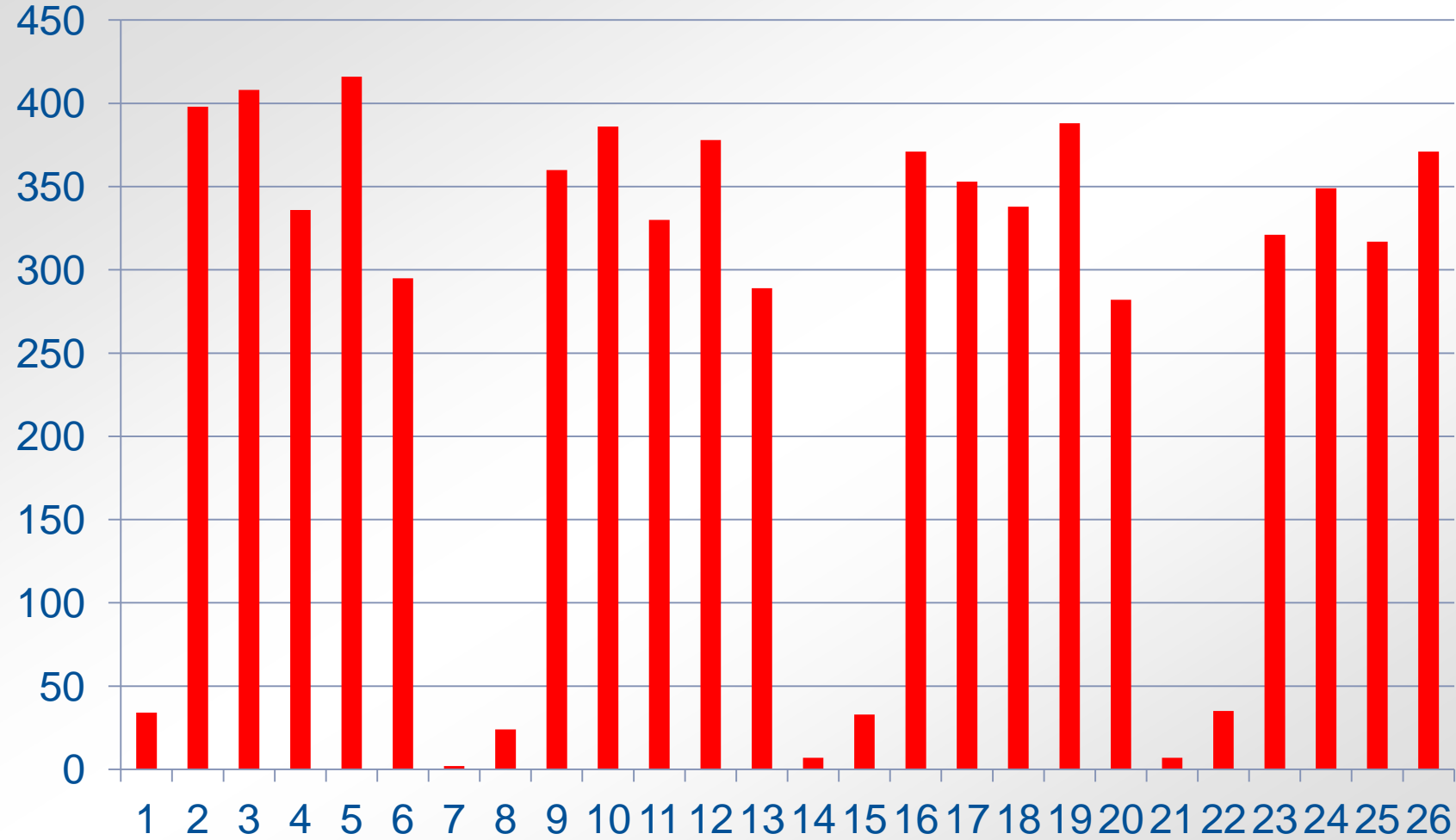


References:

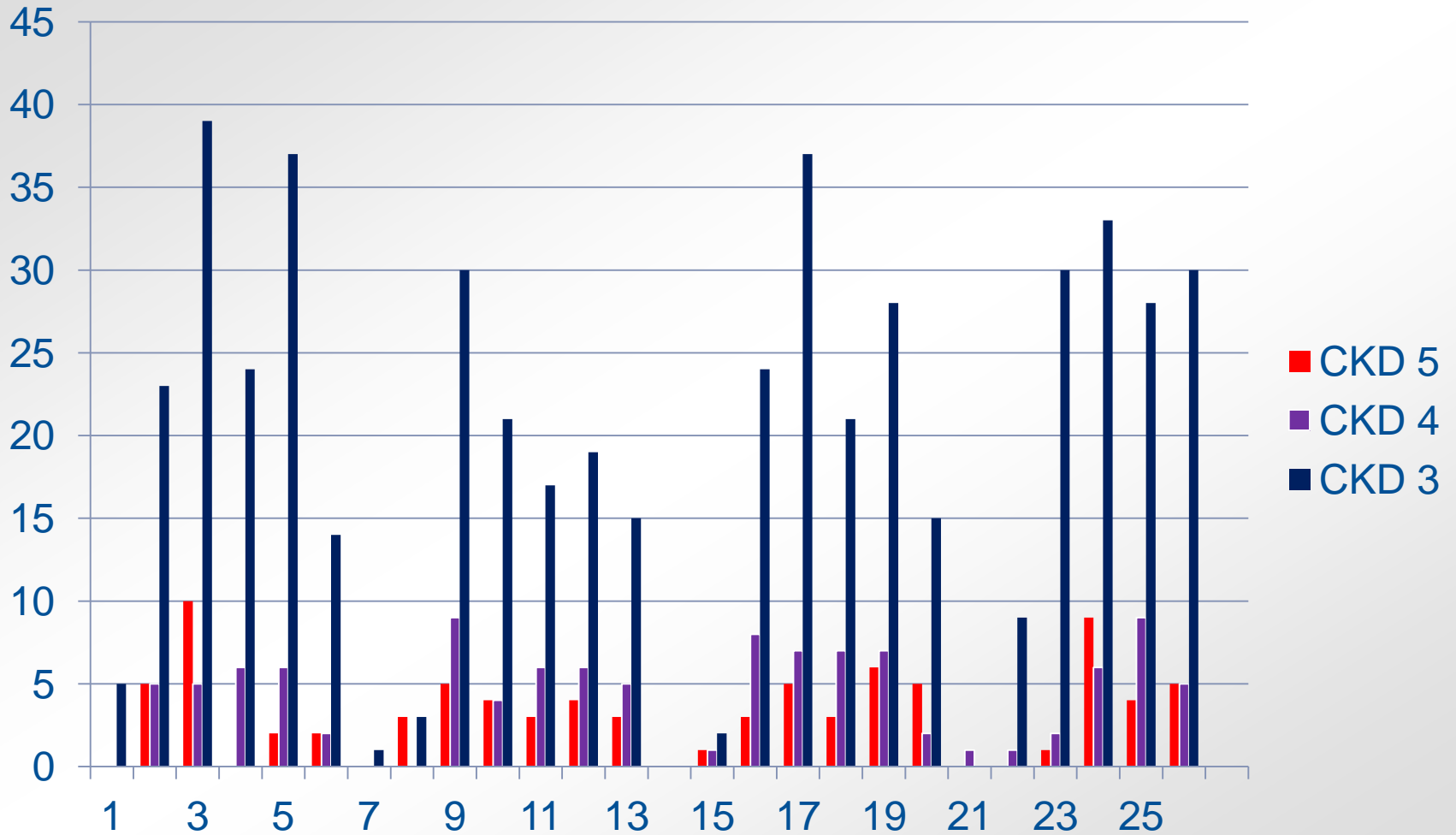
KDIGO 2012 Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease, Vol. 3, Issue 1, January 2013

KDIGO Clinical Practice Guideline for Lipid Management in Chronic Kidney Disease, Public Review Draft, November 2012

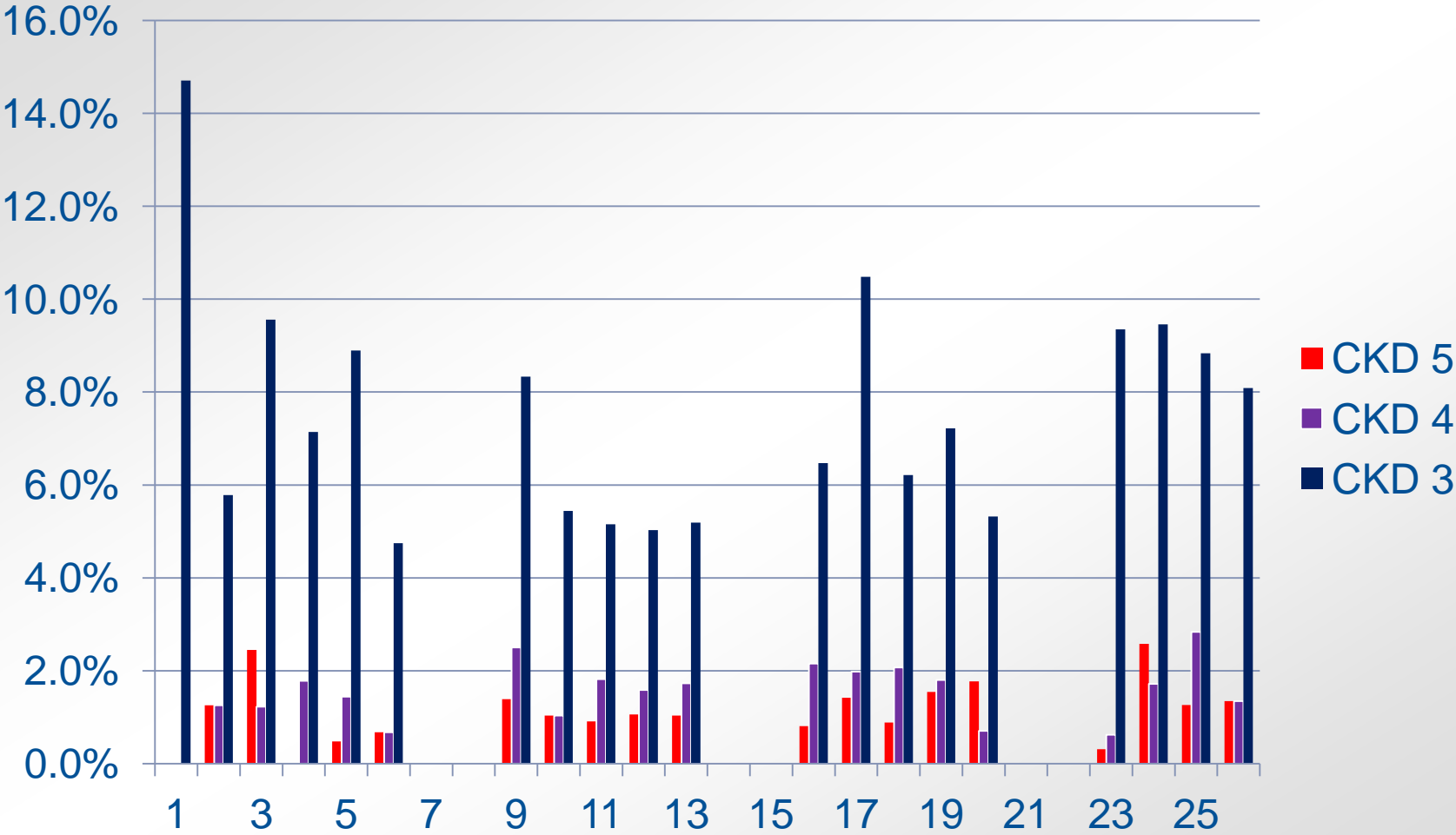
eGFR per Day Feb 2014



CKD Stage Per Day Feb 2014



CKD Stage as % Feb 2014



What Now, New Problems?

- e Referral a problem
 - Slow and inappropriate
- Change the e referral process
 - SDS community nurses act as gatekeepers/navigators
 - Referrals go to the community team
 - Arrange appointment at appropriate clinic
 - Speak with patients
 - Explain why
 - Explain when
 - Explain where
 - Explain what to expect
- Patient adherence increases
- DNA rate falls thus increasing outpatient capacity

So What Will Happen?

- We can now identify the patients
- The physicians are assisted in their decision making
- Patients should be managed appropriately
- Arrival in secondary care will be more efficient
- There are significant potential savings to the Health economy

So What Has IT Done For Kidney Patients?

Everything!

Thank You Very Much

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