

DRG GROUPING AND REQUIRED INFORMATION

DRG development

Prof Ric Marshall OAM

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AGENDA – of PRESENTATIONS

DRG Implementation

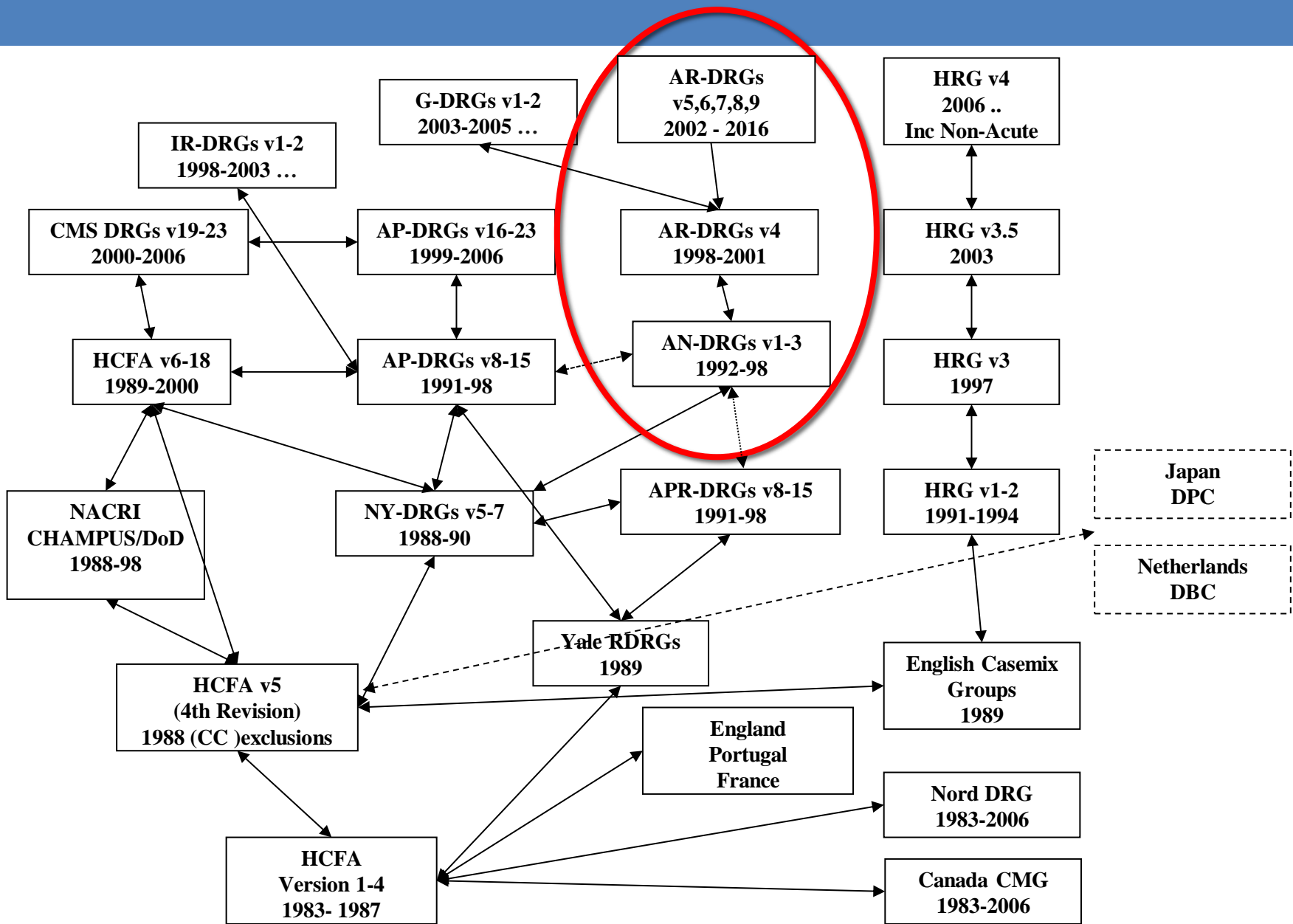
1. WHY: ICT - DRG PRICING and improving healthcare
 - Making PERFORMANCE information work for better healthcare
2. WHERE: DRG IMPLEMENTATION IN PHILIPPINES
 - Scheduling the implementation phases – and achieving improvement
3. WHAT: DRG grouping and required information support
4. HOW: USING ICT - DRG DATA for performance
 - Asking the questions that stimulate improvement.

THE DRG

- Used to describe and compare caseload and casemix
- Describes types of episode of care – particularly inpatient
 - a key international reference standard since 1990's
- 400 800 categories depending on degree of detail used
- Description of episode based on:
 - Principle diagnosis
 - Procedures
 - Additional diagnoses
 - Severity and complexity of the episode of care
 - Characteristics of patient
 - Reasons for admission and mode of discharge
- Normative costs and resource utilization tabulated
- May be priced and used for payment and benchmarking

DRG development

- Four guidelines are important as guiding principles for the DRG system's formation:
 - The patient characteristics used in the DRG definition should be limited to information routinely collected on the hospital billing form.
 - There should be a manageable number of DRGs that encompass all patients seen on an inpatient basis.
 - Each DRG should contain patients with a similar pattern of resource intensity.
 - Each DRG should contain patients who are similar from a clinical perspective (i.e., each class should be clinically coherent).
- Resource homogeneity **AND** Clinical meaning

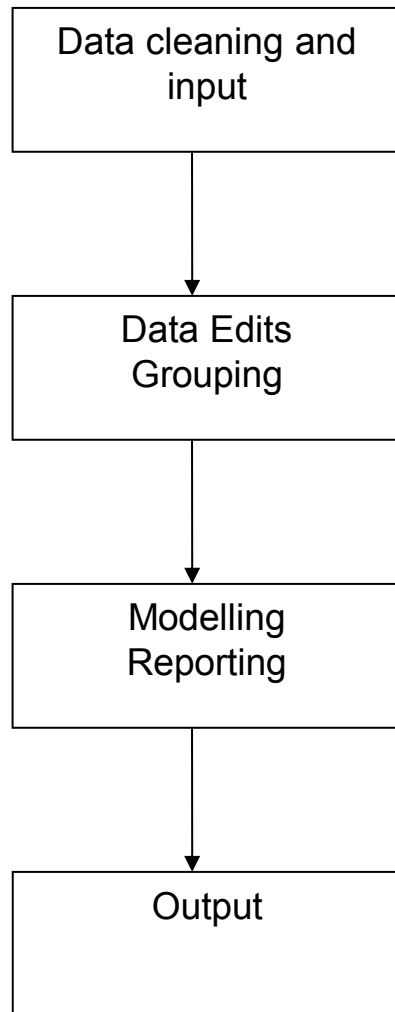


Adapted from R Fetter et al

DRG Data Inputs

GROUPER MANDATORY	CONDITIONAL
Organisation identifier (state/territory), NNNNN	Contracted hospital care—organisation identifier, NNX[X]NNNNN
Record identifier, X[X(79)]	Newborn number of qualified days, total N[NNNN]
Postcode patient {NNNN}	Condition onset flag, code N
Date of birth, DDMMYYYY	intended length of hospital stay, code N
Person identifier, XXXXXX[X(14)]	length of stay in intensive care unit, total hours NNNN
Sex, code N	Number of leave days, total N[NN]
INFANT weight (measured), total grams NNNN	Source of funding, patient funding source code NN
Admission date, DDMMYYYY	Care type, code N[N]
Separation date, DDMMYYYY	INJURY activity type, code (ICD-10-AM 8th edn) ANNNN
Principal diagnosis, code (ICD-10-AM 8th edn) ANN{.N[N]}	INJURY external cause, code (ICD-10-AM 8th edn) ANN{.N[N]}
Additional diagnosis, codes (multiple) (ICD-10) ANN{.N[N]}	INJURY place of occurrence, code (ICD-10-AM 8th edn) ANN{.N[N]}
Procedure, codes (multiple) (ACHI 8th edn) NNNNN-NN	Eligibility status, Medicare code N
Duration of continuous ventilatory support, total hours NNNN	Admission mode, code N
Mental health legal status, code N	Admission urgency status, code N
Separation mode, code N	Indigenous status, code N

Grouping Process



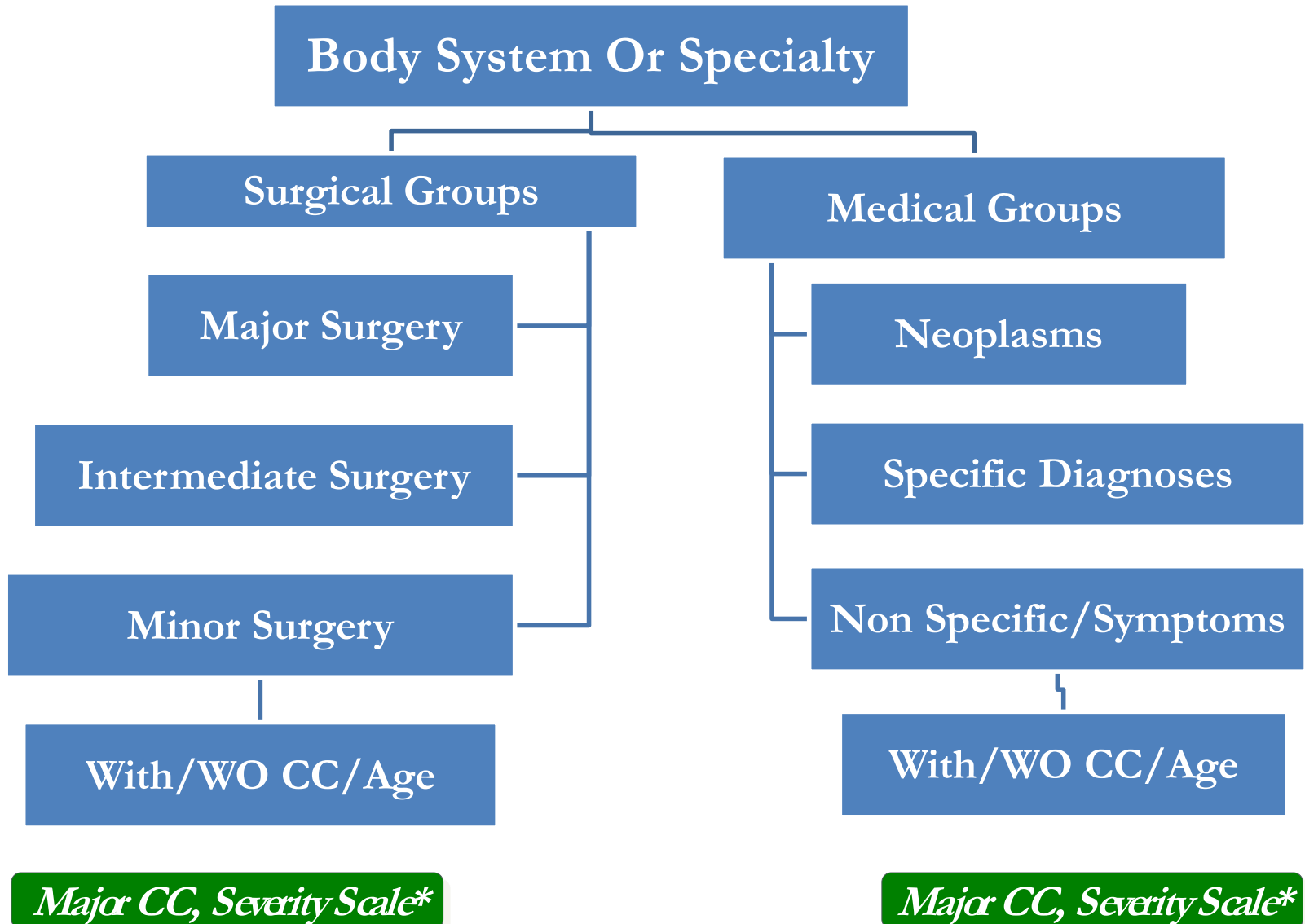
Standardise data
Fixed file format
One or multiple files
Single patient (interactive) or
Multiple patients (Batch)

Face validity
Consistency
Warnings or failures
Apply algorithm (s) – *Table driven*
Ungroupables

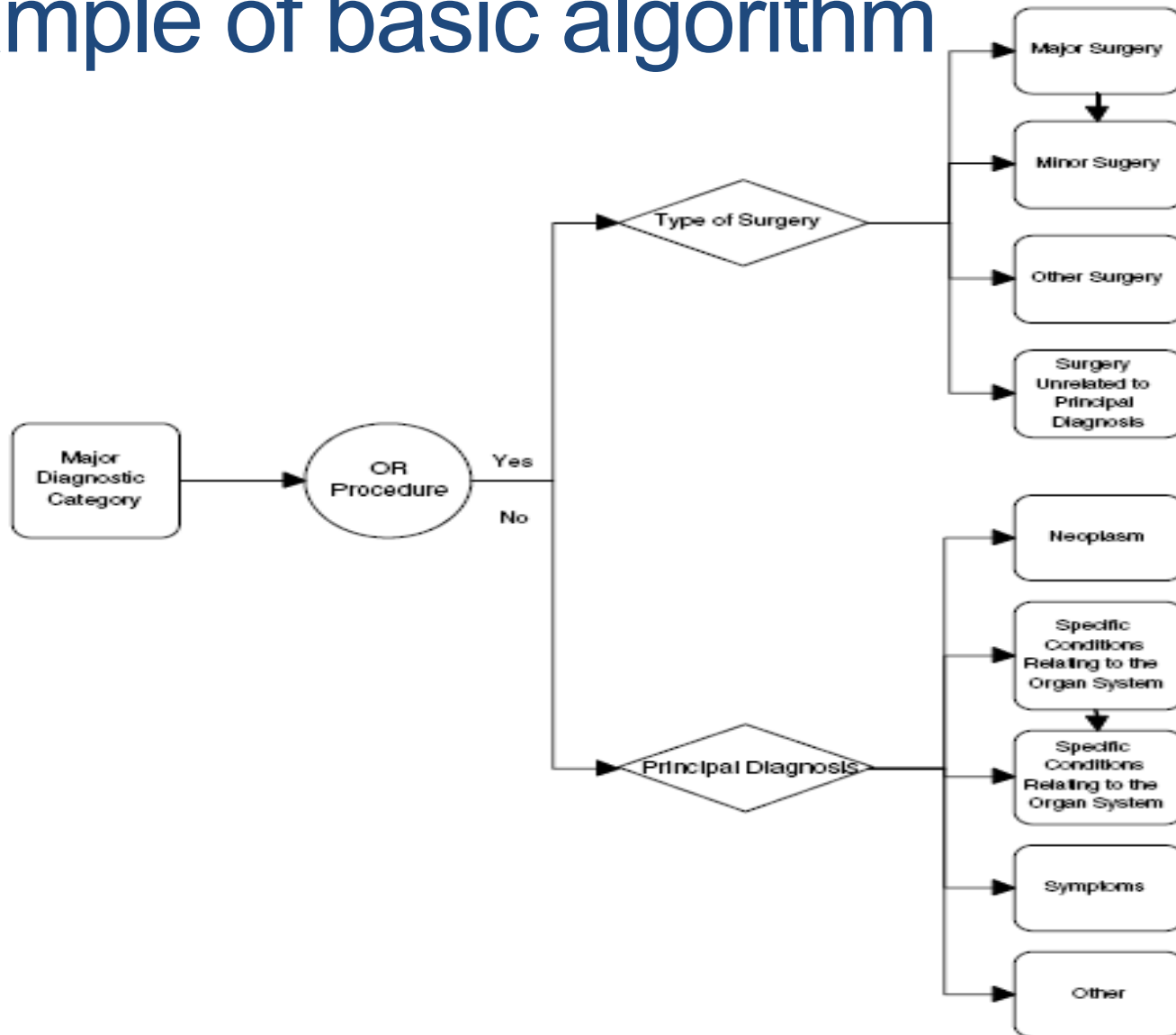
Predictive models
Concurrent models
Observed v Expected
Aggregate statistics
Grouping variables

Input file & grouping variables
Expected values
File format(s)

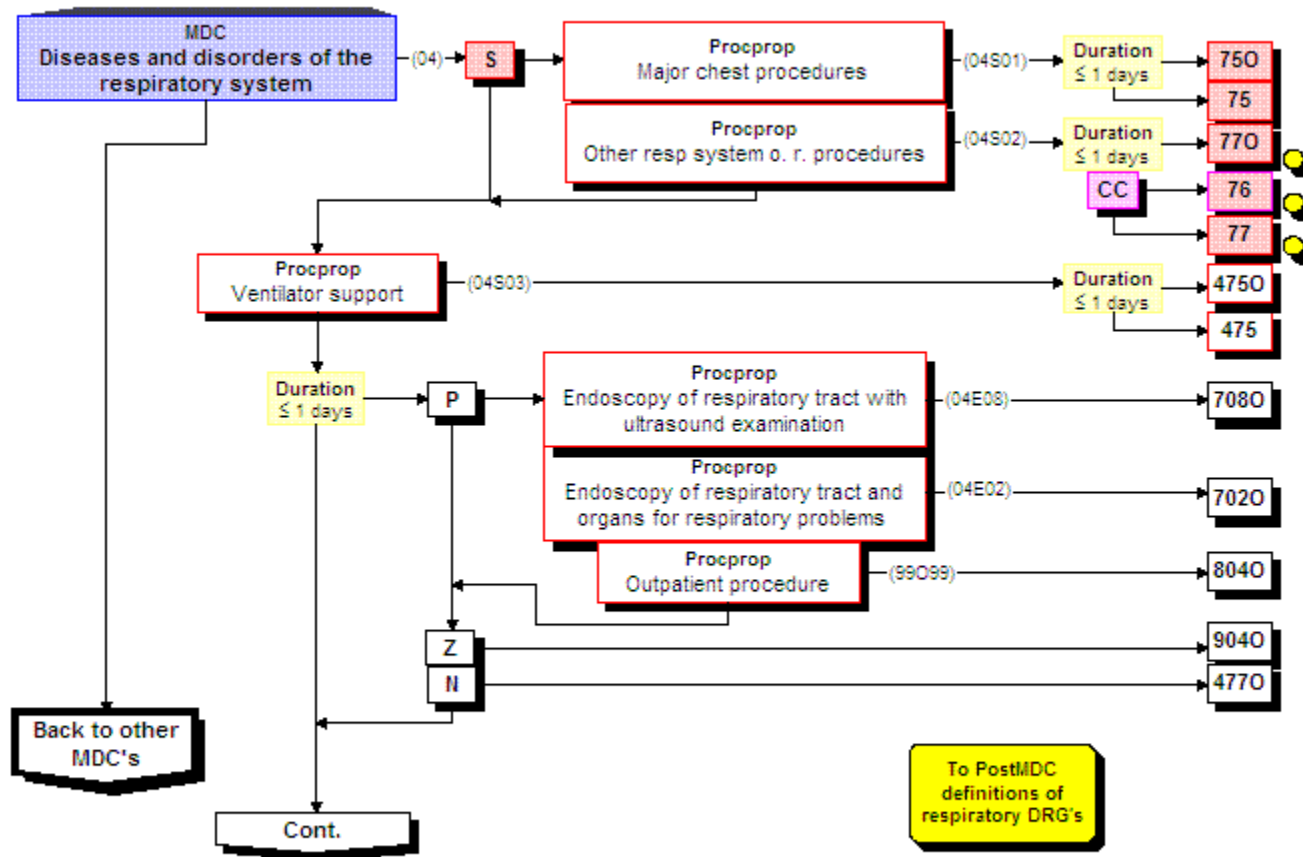
Design Structure of the DRG



Example of basic algorithm



Example – from Nord DRG – Respiratory grouping Logic



Australian Refined DRG (AR-DRG) EXAMPLE

- AN-DRG v1.0 to v3.2
 - 1992 updated annually – until ICD-10 and AR-DRGv4 - 1997
 - 23 MDCs, 665 DRGs – Surgical hierarchy, principal diagnosis
- ICD-10-AM (Dx, ACHI, ACS) – "THE AR-DRG SYSTEM"
- AR-DRGV4 – 1998 biannually – Increase in groups with CC splits – v6 2008 –
- Commonwealth of Australia, Department of Health and Ageing
 - Clinical Casemix Committee – CCCGs classification refinement
 - Now contracted by IHPA to consortium led by NCCH University of Sydney
 - <http://www.health.gov.au/internet/main/publishing.nsf/content/health-casemix-ardrg1.htm>

TYPICAL DRG STRUCTURE & STATISTICS

MDC	DESCRIPTION
00	Pre Major Procedures with a principal diagnosis associated with any MDC
MDC 01	Diseases and Disorders of the Nervous System
MDC 02	Diseases and Disorders of the Eye
MDC 03	Diseases and Disorders of the Ear, Nose, Mouth and Throat
MDC 04	Diseases and Disorders of the Respiratory System
MDC 05	Diseases and Disorders of the Circulatory System
MDC 06	Diseases and Disorders of the Digestive System
MDC 07	Diseases and Disorders of the Hepatobiliary System and Pancreas
MDC 08	Diseases and Disorders of the Musculoskeletal System and Connective Tissue
MDC 09	Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast
MDC 10	Endocrine, Nutritional and Metabolic Diseases and Disorders
MDC 11	Diseases and Disorders of the Kidney and Urinary Tract
MDC 12	Diseases and Disorders of the Male Reproductive System
MDC 13	Diseases and Disorders of the Female Reproductive System
MDC 14	Pregnancy, Childbirth and the Puerperium
MDC 15	Newborns and Other Neonates
MDC 16	Diseases and Disorders of Blood, Blood Forming Organs, Immunological Disorders
MDC 17	Neoplastic Disorders (Haematological and Solid Neoplasms)
MDC 18	Infectious and Parasitic Diseases, Systemic or Unspecified Sites
MDC 19	Mental Diseases and Disorders
MDC 20	Alcohol/Drug Use and Alcohol/Drug Induced Organic Mental Disorders
MDC 21	Injuries, Poisonings and Toxic Effects of Drugs
MDC 22	Burns
MDC 23	Factors Influencing Health Status and Other Contacts with Health Services
08	Unrelated OR Procedures
09	Error DRGs
TOTALS	

MDC CODE	All Partitions	S - SURGICAL PARTITION	O - OTHER INTERVENTIONS	M - MEDICAL PARTITION	Complexity splits	Z - Without complexity splits	A - Extreme or Major Complexity	B - Intermediate or minor Complexity	C - Minor Complexity	D - Very Minor Complexity	
A	18	16	2		18	5	6	6	1		
B	69	17	4	48	69	6	27	27	8	1	
C	25	16		9	25	8	8	8	1		
D	34	17	1	16	34	9	12	12	1		
E	46	6	6	34	46	1	21	21	3		
F	87	46	8	33	87	2	38	38	9		
G	45	24	7	14	45	1	19	19	6		
H	33	15	6	12	33		13	13	7		
I	97	56	1	40	97	12	39	39	7		
J	37	19		18	37	2	16	16	3		
K	33	20	2	11	33	3	14	14	2		
L	40	20	3	17	40	6	14	14	6		
M	20	10	1	9	20	4	8	8			
N	24	18		6	24	3	10	10	1		
O	19	10		9	19	1	8	8	2		
P	37	12		25	37	5	12	12	4	4	
Q	11	4		7	11		5	5	1		
R	18	10		8	18	1	7	7	3		
S	19	3	1	15	19	1	7	7	4		
U	19		1	18	19	1	9	9			
V	10			10	10	4	3	3			
W	36	20	2	14	36	1	16	16	3		
Y	10	6		4	10	3	3	3	1		
Z	14	2	1	11	14	3	5	5	1		
8	3	3			3		1	1	1		
9	3			3	3	3					
TOTALS		807	370	46	391	807	85	321	321	75	5

Number of adjacent DRGs

406

Number of lower complexity DRGs

401

A National Hospital Cost Data Collection

some sampled DRGs

DRG	DRG Description	Cost	Standard	Number	Number	ALOS	Average Cost per DRG (\$)			Average Component Cost per DRG (\$)						
		Weight	Error	of Seps	of Days	(Days)	Total	Direct	Ohead	Ward Medical		Ward Nursing		Non Clinical Salaries	Pathology	
										Direct	Ohead	Direct	Ohead		Direct	Ohead
W01Z	Ventiln/Cranio Mult Sig Trauma	22.30	0.08	1,157	35,485	30.68	82,988	68,277	14,711	3,984	784	7,277	1,333	1,572	3,194	468
I69B	Bne Dis&Sp Arth A>74/+Csc	0.90	0.02	5,675	25,445	4.48	3,336	2,421	915	393	59	883	197	203	96	23
C63A	Other Disorders Of The Eye +Cc	1.07	0.04	839	3,027	3.61	3,974	2,949	1,025	519	66	957	200	256	99	20
I68A	Non-Surg Spinal Disorders +Cc	2.22	0.05	7,466	65,483	8.77	8,280	6,075	2,206	957	126	2,416	479	506	182	41
C01Z	Proc For Penetrating Eye Injury	1.90	0.05	609	2,196	3.61	7,084	5,493	1,592	1,181	208	999	247	269	101	12
F21B	Oth Circ Sys O.R. Pr -Ccc	1.93	0.02	1,037	5,456	5.26	7,186	5,541	1,645	802	136	1,405	288	383	150	36
E70A	Whoopng Cgh &Acte Brnchio+Cc	1.66	0.03	1,722	7,963	4.62	6,186	4,550	1,636	895	109	1,975	315	422	151	34
B60B	Estab Para/Quad+/-Or Pr-Ccc	2.14	0.04	4,319	28,993	6.71	7,963	5,979	1,985	892	144	2,258	512	485	155	29
U60Z	Mental Health Treat+Samedy-Ect	0.22	0.00	11,571	11,652	1.01	829	623	206	80	8	66	32	23	21	5
J12C	L Lmb Pr+UlcR/Cels-Ccc-Graft	2.54	0.04	668	6,189	9.27	9,451	7,026	2,425	1,184	176	2,498	524	599	216	38
P66D	Neo,Admwt2000-2499G-Sg Op-Prb	1.01	0.04	2,510	13,625	5.43	3,746	2,731	1,015	658	67	1,093	242	176	47	13
X04A	Other Pr Inj Lwr Lmb A>59/+Cc	2.66	0.03	497	3,636	7.32	9,890	7,675	2,215	1,084	161	1,958	409	452	218	36
M04A	Testes Procedures + Cc	1.54	0.02	405	1,381	3.41	5,720	4,450	1,270	745	122	931	232	218	191	26
G10Z	Hernia Procedures A<1	0.86	0.00	1,224	1,660	1.36	3,201	2,489	712	326	36	454	94	123	18	4
G67B	Oesphs,Gastr&Mis Dg D A>9-Csc	0.42	0.00	64,401	122,232	1.9	1,551	1,146	406	163	20	277	64	72	68	15
I19Z	Other Elbow, Forearm Procs	1.72	0.01	10,576	27,694	2.62	6,386	5,065	1,321	553	87	705	166	193	41	8
N60B	Malignancy Fem Reprod Sys-Csc	1.02	0.02	1,111	2,964	2.67	3,792	2,866	925	381	51	870	159	277	81	20
F40Z	Circ Sys Dx+Ventilator Support	5.70	0.04	749	6,440	8.6	21,204	17,123	4,081	1,252	191	1,334	251	456	1,069	181
I75A	Inj Sh,Arm,Elb,Kn,Leg A>64+Cc	2.15	0.05	3,302	33,352	10.1	8,007	5,783	2,224	834	139	2,433	542	493	201	43
A09A	Renal Transplant+Pancreas/+Ccc	13.04	0.23	224	3,471	15.52	48,540	40,935	7,604	3,736	696	6,760	1,024	1,496	2,961	398
J13C	Humer,Tib,Fib,Ank Pr A<60-Csc	2.00	0.01	12,090	43,547	3.6	7,448	5,863	1,585	713	116	997	244	253	42	8
B67B	Degnrty Nerv Sys Dis A>59-Csc	1.16	0.02	2,907	16,200	5.57	4,323	3,194	1,129	566	76	1,203	264	288	95	21
P06B	Neo,Admwt>2499G+Sig Or Pr-Mmp	5.18	0.02	425	4,388	10.33	19,264	15,603	3,661	974	70	914	135	402	843	223
G70B	Other Digestive System Diag-Cc	0.39	0.01	13,873	22,142	1.6	1,460	1,100	359	199	21	238	58	75	38	8
E70B	Whoopng Cgh &Acte Brnchio-Cc	0.79	0.01	11,193	25,954	2.32	2,947	2,170	777	438	42	935	156	207	77	21
F41B	Crc Dsrd+Ami+Inva Inve Pr-Csc	1.56	0.01	3,786	14,809	3.91	5,800	4,652	1,148	516	87	519	91	291	162	20
C15B	Glaucoma/Cx Cataract Procs,Sd	0.66	0.02	1,957	1,957	1	2,469	1,882	587	395	33	98	42	48	3	1
B74Z	Nontraumatic Stupor & Coma	0.85	0.02	1,183	3,620	3.06	3,157	2,451	706	322	45	690	138	136	138	26
H01B	Pancreas, Liver &Shunt Pr-Ccc	3.99	0.03	1,129	9,704	8.59	14,844	11,870	2,974	1,466	187	2,414	467	629	556	90
P61Z	Neonate, Admission Wt <750G	40.40	0.65	305	23,781	78	150,380	116,921	33,459	4,748	311	1,779	147	1,049	3,904	686
Z62Z	Follow Up -Endoscopy	0.32	0.01	11,647	15,211	1.31	1,201	931	270	177	52	174	51	53	43	7
G05B	Mnr Small & Large Bowel Pr -Cc	1.72	0.01	892	4,104	4.6	6,405	4,938	1,467	887	103	1,148	278	318	162	34
H01A	Pancreas, Liver & Shunt Pr+Ccc	8.45	0.08	861	16,575	19.25	31,458	25,228	6,231	3,301	561	5,497	1,177	1,166	1,360	231
F09B	Oth Cardiothor Pr-Pmp -Ccc	3.89	0.03	413	2,161	5.23	14,477	11,847	2,630	1,187	155	1,584	213	797	418	71
X06A	Other Pr Other Injuries + Csc	3.48	0.03	1,756	16,177	9.21	12,961	10,135	2,826	1,556	253	2,439	549	567	378	69

QUESTIONS
