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Safer Staffing – The UK Safer Nursing Care Tool's (SNCT): Structure, Process, Outputs and Outcomes

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Presentation Objectives

1. Define workforce planning and development (WP&D) (5 min's) in a safer staffing context.
2. Briefly describe six United Kingdom WP&D methods before focusing on one popular method's (i.e., SNCT) development, strengths and weaknesses (10 min's).
3. Discuss SNCT's application and results in the UK (15 min's).
4. Explain the Jewish General Hospital's contribution to the SNCT project (5 min's).

Defining Nursing Workforce Planning and Development

The Safer Nursing Care Tool is underpinned by the 'five rights' definition:

Getting service-quality right: ensuring that the right staff with the right skills are in the right place at the right time.

However, United Kingdom National Health Service managers are facing significant financial constraints. Extra money is promised, staged over several years, which won't buy enough staff to fill the gap. So there's an implicit fifth right; i.e., the elephant in the room 'at the right price' - sustainable and affordable staffing.

Classifying Staffing Methods

Six health and social care staffing methods are used in the UK:

Macro, top-down, population-based :

1. NHS Benchmarking Database, which covers: (i) Primary and community care; (ii) Acute; (iii) Maternity; (iv) Psychiatry/Learning Disability; and (v) Social Care Services.

Micro, bottom-up, workload based methods (ranked from most to least frequently used):

2. Workload-quality; e.g., ADL, SNCT.
3. Professional judgment (consensus) methods; e.g., Telford.
4. Full-time equivalent (FTE) to bed/patient ratios; e.g., ADL.
5. Timed-task, e.g., Scottish Mental Health/Learning Disability Tool.
6. Regression, e.g., Rn4Cast; Teamwork, Kaplan, Aberdeen.

Triangulation …

What Drives Safer Staffing Initiatives? Full Time Equivalent (FTE) to Bed Ratios - an Important Force.

A	B	C	D	E	F	G	H
		95 Acute Trusts		24 High Death		25 Low Death	
1	Staff Group	Staff:Beds	%	Staff:Beds	%	Staff:Beds	%
2	All staff	7.74 FTEs		7.36 FTEs		8.12 FTEs	
3	Medical Practitioner	1.01 FTEs	13.1	0.90 FTEs	12.2	1.23 FTEs	15.1
4	Registered Nurse/Midwife	2.29 FTEs	29.5	2.15 FTEs	29.1	2.54 FTEs	31.2
5	Scntfc, Tchncl and Thrptc.	0.92 FTEs	11.9	0.84 FTEs	11.4	0.94 FTEs	11.6
6	Healthcare Assistant	2.22 FTEs	28.7	2.16 FTEs	29.4	2.19 FTEs	27.0
7	Admin' and Clerical	1.13 FTEs	14.6	1.15 FTEs	15.7	1.02 FTEs	12.6
8	Manager	0.17 FTEs	2.2	0.16 FTEs	2.2	0.20 FTEs	2.5

1. High deaths hospitals employ 0.76 fewer FTEs per occupied bed than low deaths hospitals; a difference that amounts to 442.3 additional FTEs in typical acute hospital.
2. Low deaths hospitals have proportionally more registered practitioners; i.e., 46.3% vs. 41.4%. Where did Mid Staffs sit?
3. 'We have too many bureaucrats' - a popular myth in the media!
4. Are staffing differences caused by austerity measures or recruitment and retention problems?

Safer Staffing Reviews: Other Drivers

1. The NHS's historical and irrational staffing requires justifying establishments to Trust Boards.
2. Increasing demand, rising workload and an ageing population.
3. Performance reviews; e.g., the Carter Report led to new metrics; i.e., actual and required care hours per patient day (CHpPD).
4. Care Quality Commission inspections, which spotlight low staffing levels.
5. No-more-than-eight tipping point.
6. Intense lobbying by pressure groups; i.e., rumours that Royal College of Nursing leaders may abandon their no-strike policy.
7. New policies; e.g., single room design wards.

Safer Staffing Reviews: Other Drivers, continued

7. Out-of-control agency costs.
8. New roles; e.g., housekeeper, assistant/associate practitioner.
9. Brexit inflamed recruitment and retention challenges.
10. Bursary is being scrapped; shift to student loans.
11. Falling job-satisfaction causes staff to vote with their feet.
12. NHS workforce is ageing; up to 25% in some disciplines are within ten years of retirement and occupational pensions beckon!
13. Abysmal succession planning. Significant shortfall is projected in the next decade.

The UK Nursing Database (SNCT's Big Sister) – Structure and Content

1. Up to seven datasets are systematically collected in UK wards/departments/teams.

	Inpatients					Community		
Service:	**Acute**	**MH**	**LD**	**ED**	**Theatre**	**General**	**MH**	**LD**
Wards/Deps/Teams	1,742	296	111	50	12	449	37	33
1. Quality Standards	448,000	100,800	55,500	19,000	NA	153,761	14,258	10305
2. Dep/Acuity Scores	998,166	153,624	33,633	113,900	116,424	114,109	2,804	6,799
3. Staff Activity	1,868,658	250,478	208,904	165,935	29,208	517,374	99,411	87,788
4. Staffing (3 types)	35.3FTEs	28.03FTEs	25.6FTEs	95.1FTEs	33.3FTEs	8.32FTEs	18FTEs	14.5FTEs
5. Time-out	23.6%	25%	23.9%	28%	22%	24%	25%	21%
6. Costs (3 types)	£123	£101	£146	£41	NA	NA	NA	NA
7. Ward Design	Bays	SR	SR	NA	NA	NA	NA	NA

2. Data are used to: (i) create SNCT staffing multipliers; and (ii) benchmark wards/departments/ teams against best-practice averages.
3. The main question; can UK SNCT outputs be extrapolated to Canadian nursing contexts?

Validity and Reliability

Potential users always ask for SNCT validity and reliability metrics.

Hands-on Care1. 1.	Dep.1	Dep.2	Dep.3	Dep.4
Minutes per hour	3.1	4.9	9.5	17.1

1. If workload measuring instruments are valid and data collectors are reliable, then statistics should show that sicker patients receive more nursing attention.
2. Minutes per hour measures support this assertion; i.e., in 1700 wards, high dependency/acuity (Dep.4) patients receive 5.5 times more hands-on care than low dep/acute (Dep. 1) patients.
3. If ward staff fail to record patient dependency/acuity precisely and if observers don't record staff activity accurately, then incrementally rising direct care minutes per hour will not materialise.
4. Minutes per hour data are known as 'system lie-detectors'.
5. Data from wards that fail the lie detector test aren't allowed into the UK Nursing Database.

Safer Care Multipliers – an Example

A surgical ward has 22.4 occupied beds (21 day average), assessed as:

Level	Patients		Multiplier*		FTEs
0	13.3	x	0.97	=	12.9
1a	3.2	x	1.36	=	4.4
1b	4.7	x	1.69	=	7.9
1c	0.9	x	4.64	=	4.2
2	0.3	x	1.93	=	0.6
3	0	x	5.86	=	0
Total	22.4			=	30

1. * Includes a surgical specific time-out uplift and RfA time deduction.
2. RNs make up 71% of a typical UK NHS surgical ward establishment.
3. Software makes life easier!

What Else do SNCT Users get from the UK Nursing Database? Some Benchmarks.

If we rank wards (using all seven datasets) in a service quality league table, and compare top and bottom quartiles, then there are a few surprises:

Key Variables	Top (n=243)	Bottom (n=217)
Overall quality score	93%	63%
Occupied beds	16.8	22.3
Workload index ('specialing')	2.78 (1.2)	2.56 (1)
Time-out %	23.7%	23.4%
Funded minus actual FTEs POB	2.58-2.12 = 0.46	1.51-1.23 = -0.28
Actual minus recommended FTEs POB	2.12-1.97 = -0.15	1.23-1.64 = +0.41
Temporary staffing FTEs POB	0.25	0.11
RN proportion	68%	66%
RN direct and indirect care time	74%	69%
Desk time	15%	18%
Ready-for-action (unproductive) time	11%	13%

Conclusions

1. The UK Acute Nursing Database contains 4.7 million interlinked data items so we've barely scratched the full database's surface.
2. Canada and UK health service cultures are different, so should we extrapolate UK SNCT metrics to Canada without checking validity and reliability? Data from the Sunnybrook and JGH projects will answer this question.
3. If SNCT is endorsed in Canada, then what governance arrangements are needed? Should we rely on JGH and Sunnybrook's altruism?
4. If SNCT is rolled out in Canada, then what SNCT related metrics will develop the country's nursing services? Should these be identified ASAP so that data collection is systematised at the outset? Is a national forum required?
5. As we saw earlier, 2,780 wards/departments/teams participate in the UK Nursing Database (which generate the SNCT multipliers). If the JGH project confirms that UK multipliers are invalid, then how many Canadian wards can we recruit? At a minimum, we need ten wards per clinical speciality.

Bibliography

Hurst, K. (2005), Relationships between patient dependency, nursing workload and quality, *International Journal of Nursing Studies*, 42, 1, pp.75-84. Explains how the ADL-workload-quality system (SNCT's big sister) was developed and tested.

Hurst, K. (2008), UK ward design, patient dependency, nursing workload, staffing and quality– an observational study, *International Journal of Nursing Studies*, 45, pp.370-381. Explains how the ADL-workload-quality system was developed and tested.

Hurst, K. (2009), Gaming (up-coding) in nursing – patient dependency examples, *Nursing Management*, 15, 9, pp.20-24. Explains how the ADL-workload-quality data collection system's reliability was checked.

Hurst, K.., Casey, A., Fenton, K., Scholefield, H., Smith, S. and Smith, A. (2008), Applied Leadership: Calculating staffing requirements, *Nursing Management*, 15, 4, pp.26-34. Explains how the SNCT staffing multipliers were developed and how validity and reliability were assessed.

Roberts, D. and Hurst, K. (2013), Evaluating palliative care ward staffing using bed occupancy, patient dependency, staff activity, service quality and cost data, *Palliative Medicine*, 27, 2, pp.123-130. Explains how the ADL-workload-quality system was modified for end-of-life care wards.

Smith, S. Casey, A. Hurst, K, Fenton, K. and Scholefield, H. (2009), Developing, testing and applying instruments for measuring rising dependency-acuity's impact on ward staffing and quality, *International Journal of Healthcare Quality Assurance*, 22, 1, pp.30-39. Explains how the SNCT staffing multipliers were developed and how validity and reliability were assessed.

Over to you …

Questions and comments welcome …