Simulation Technician Job Descriptions:

Blueprints for harmonisation

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Hello, I'm Eli Gumble, Simulation Technician Lead at the London Simulation Network. I'm here to tell you about my project with a title which will make sense later: Blueprints for harmonisation. Before we go any further and because I couldn't find a good place to fit it in, this project in its current form only involves the London region.

The situation

- Simulation technician job descriptions are inconsistent across organisations, being decided by individual centres based on specific needs and budget
- There has been interest in the simulation community for a project to increase standardisation/harmonisation in simulation technician job descriptions for a while
- The LSN has hired me to lead on that
  - Eli Gumble BEng RSciTech
  - 6 years of experience as a simulation technician at GOSH

The situation as it stands is that simulation technician job descriptions don't show full consistency across organisations. A technician in one centre may exhibit very different skills to those at another centre and therefore moving between organisations could be more difficult. From organisations' point of view, replacing outgoing technicians may be difficult for the same reasons. Standardisation could make the job one which is more widely understood and a career which more people consider.

It's an in demand piece of work but it looks difficult. Good luck to whoever has to sort this one out.

(sigh) forgot it was me. Hello, I'm Eli Gumble, I am a registered science technician with 6 years of simulation technician experience at GOSH. Let's see how I tackled this.

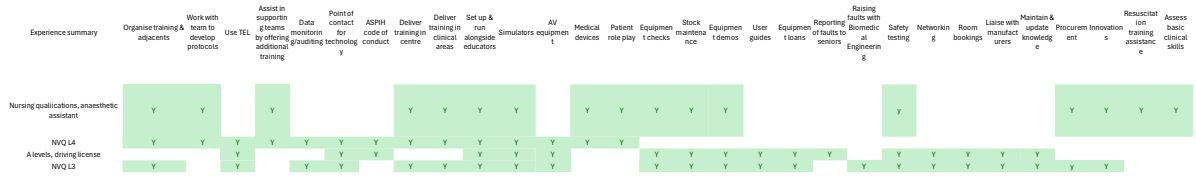
Initial approaches

- Task mining
- Interviews
- NHS job profiles
- Framework comparisons

To begin with, I experimented with a few methods of quantifying all the facets of technician jobs.

Task mining

- Search through individual job descriptions, identify tasks and add them to a checklist
- Thorough but messy:



- Yes/no binary checklist doesn't give much insight
- Informed later stages of the project

Starting with task mining: I read through some descriptions and when I identified a task, I picked it out and added it to a list, checking it off for each description analysed.

The obvious drawbacks are the risks of duplication, the potential need to reanalyse old descriptions and the possibility of the list getting very long. In addition, each responsibility is a yes/no so there's no room for varying levels of responsibility.

While this wouldn't be what I used going forward, it was helpful in terms of knowing that I needed a finite list to begin with and with finding responsibilities to add to this finite list of responsibilities.

Interviews

- Would have given free-form anecdotal answers, which would be difficult to analyse
- Interview questions were still written and asked to technicians on site visits for insights

I then considered taking notes from interviews with technicians. Briefly, though, because that amount of free-form answers is difficult to analyse.
I still did some informal interviews and noted down some interesting things about routes to the job and particular issues faced by technicians, plus it's always beneficial to make them feel seen and valued by the network, which on my site visits I feel like I've done.

NHS Job Profiles

- Most relevant profile is Medical Engineering Technician, last updated 2004
- Time consuming to work out – 16 factors with long, varying options for each factor
- Not fully obvious from job description which levels of factor each point corresponds to
- Employers less willing/able to share job profile matching documents
- Profile matching is often done by professional independent bodies – what chance do I have?

Factor 11. Responsibilities for research and development

Responsibilities for research and development

This factor measures the responsibilities of the job for informal and formal clinical or non-clinical research and development (R&D) activities underpinned by appropriate methodology and documentation, including formal testing or evaluation of drugs, or clinical or non-clinical equipment.

It takes into account the nature of the responsibility (initiation, implementation, oversight of research and development activities), whether it is an integral part of the work or research for personal development purposes, and the degree to which it is shared with others.

Level 1:	Undertakes surveys or audits, as necessary to own work; may occasionally participate in R&D, clinical trials or equipment testing.
Level 2:	(a) Regularly undertakes R&D activity as a requirement of the job, or b) regularly undertakes clinical trials, or (c) regularly undertakes equipment testing or adaptation.
Level 3:	Carries out research or development work as part of one or more formal research programmes or activities as a major job requirement.
Level 4:	Responsible for co-ordinating and implementing R&D programmes or activity as a requirement of the job.
Level 5:	Responsible, as an integral part of the job, for initiating (which may involve securing funding) and developing R&D programmes or activities, which support the objectives of the broader organisation.
Level 6:	Responsible, as an integral part of the job, for initiating and developing R&D programmes, which have an impact outside the organisation for example NHS-wide or outside the health service.

Definitions and notes:

Research and development (All levels) this includes testing of, e.g. drugs and equipment and other forms of formal non-clinical research (such as human resources, communications, health education) as well as formal clinical research. This factor measures the requirement for active direct participation in research or trials and does not include indirect involvement as a result of a patient being involved in the research.

Occasionally (Level 1) one or two such projects or activities per year.

Undertaking audits (Level 1) includes building and facilities audits or surveys, functional audits, clinical audits. Specific, one-off complex audits using research methodology should be counted as R& D activity (Level 2a).

Undertakes R & D activity (Level 2a) includes complex audits using research methodology for example specific one-off audits designed to improve a particular area or service. It also includes the collation of research results.

I then found out about NHS job profiles, which is an NHS-wide framework for assessing the banding of any job within the NHS, with a system of points and point ranges for each band. I liked the idea of this: it's robust, it's widely used and the points make me feel like I'm watching Eurovision.

Most simulation technician jobs seemed to be based on the Medical Engineering Technician profile, last updated in 2004, so I thought there might be grounds to create a new simulation technician profile. Well, if it happens, it won't be me that does it.

This image is one of the 16 factors you have to assess each job description for. 6 multi-sentence responsibility levels with footnotes, new sets of paragraphs for each factor. This would have taken ages.

It's also not fully obvious where each description lies on these factors and employers weren't able or willing to share their matching documents with me. No wonder independent bodies charge so much for this service.

But the robust framework was an idea to build on.

ASPiH Standard 3

Roles & Responsibilities of a Simulation Technician, Lowther & Armstrong

- Last updated 2023, a document detailing observed responsibilities, categorised into core, additional and in situ groupings
- These responsibilities were made into a framework against which jobs could have their involvement with each factor evaluated
- Some more factors based on responsibilities observed in UK technician jobs were added
- Median values form a job "blueprint" for each band
  - "blueprint" was chosen because "profile" is already taken and "character sheet" is not as self-explanatory to others as it is to me

So I went looking for a similar technician responsibility framework and found a document by Lowther & Armstrong which I later learned was linked in ASPiH Standard 3. It's recent, it's based on simulation technicians and it divides responsibilities into core, additional and in situ groupings. I extracted the individual responsibilities and made them into a framework against which job descriptions could be compared based on involvement with each factor. I also added some factors based on responsibilities in UK jobs I had observed in my career and my task mining phase.

The idea would be that I take involvement scores for each responsibility and for each band, take a median value for each responsibility to make what I'm calling a blueprint because profile is already in use for NHS profiles and I wanted to call it a character sheet but not everyone is as familiar with role playing games as I am.

The framework factors

38 in total

Core (7)	Additional (14)	In Situ (5)	Not on original list (12)
AV support	Creation of equipment user guides	Interfacing with department schedulers to ensure room availability	AR/VR content creation
Equipment setup & breakdown	Development & maintenance of scenarios	Portable AV devices	Clinical Skill teaching/assessment
Manikin software operation during scenarios	Hardware management, maintenance & implementation	Recruitment of plants/participants	Contributing to centre's social media accounts
Manikin software programming	Inventory management	Strict accounting & separation of simulated supplies from live medical supplies	Equipment loans
Simulator maintenance	Lead/assist with training for faculty	Supporting hospital quality improvement initiatives	Innovation projects
Use of recordings for debriefing	Learning/centre management systems		Managing centre webpages
Video production	Ordering of soft supplies & assets		Orientation to simulated environment
	Preparing & applying moulage to humans		Pre-course admin & material preparation
	Preparing & applying moulage to simulators		Production of promotional materials for courses
	Report creation - evaluations, registrations, centre data		Role play in scenarios
	Research, purchase, implementation of new technologies		Simulation group inbox
	Scheduling simulation activities		Wet lab
	Software management, maintenance & implementation		
	Using & maintaining medical equipment		

These are the responsibilities from the document in their original groupings. If you think about what the technicians you know do, you'll have an idea of how accurate these are.

The form

Please rate your involvement with each task (see answer key)

Task	None	Basic	Intermediate	Advanced
Creation of equipment user guides				
Development & maintenance of scenarios				
Hardware management, maintenance & implementation				
Inventory management				
Lead/assist with training for faculty				

This is what the form looks like. There are 2 ways in which I collected data: self-reports, where technicians filled out the form based on their own experiences, and job description evaluations, where I read through descriptions and judged the involvement level from that. Essentially, it's one multiple choice question 38 times and it takes 5-10 minutes.

Answer key

Involvement	When this task is done...	Score
None	Someone else does it/it never needs to be done	0
Basic	I am not wholly responsible but still involved	1
Intermediate	I am responsible for doing this independently but not often or often but not independently	2
Advanced	I am responsible for doing this independently and regularly	3

The answer key is here: tasks are rated on a system of the most relevant ending of the sentence “when this task is done...”

Raw data

Task	Average	Median	JD13	JD19	JD20	JD (?)17	JD	In person	JD2	JD3
Creation of equipment user guides	1.75	2	0	2	1	3	2	2	2	2
Development & maintenance of scenarios	1.63	2	2	2	0	2	1	2	2	2
Hardware management, maintenance & implementation	2.75	3	2	3	3	2	3	3	3	3
Inventory management	3.00	3	3	3	3	3	3	3	3	3
Lead/assist with training for faculty	2.38	3	1	3	3	3	2	1	3	3
Learning/centre management systems	0.50	0	0	0	0	3	0	1	0	0
Ordering of soft supplies & assets	2.38	2.5	3	3	3	2	2	1	2	3
Preparing & applying moulage to humans	0.50	0	0	0	0	0	0	2	1	1
Preparing & applying moulage to simulators	2.13	2	2	2	2	2	2	2	2	3
Report creation - evaluations, registrations, centre data	1.75	2	1	3	0	3	1	0	3	3
Research, purchase, implementation of new technologies	2.38	2.5	3	3	3	3	1	2	2	2
Scheduling simulation activities	1.00	0	0	0	3	3	0	2	0	0
Software management, maintenance & implementation	2.63	3	2	3	3	2	2	3	3	3
Using & maintaining medical equipment	1.88	2	2	3	2	3	0	3	2	0
AV support	3.00	3	3	3	3	3	3	3	3	3
Equipment setup & breakdown	2.88	3	3	3	3	3	2	3	3	3
Manikin software operation during scenarios	2.88	3	3	3	3	2	3	3	3	3
Manikin software programming	1.00	0	0	0	0	0	0	3	2	3
Simulator maintenance	2.50	3	3	3	3	2	3	3	3	0
Use of recordings for debriefing	0.50	0	0	1	0	0	1	2	0	0
Video production	0.75	0	0	0	3	0	1	2	0	0
Interfacing with department schedulers to ensure room availability	0.75	0	0	0	3	0	0	2	1	0
Portable AV devices	0.25	0	0	0	0	0	0	2	0	0
Recruitment of plants/participants	0.25	0	0	0	0	0	0	0	2	0
Strict accounting & separation of simulated supplies from live medical supplies	1.38	1.5	0	2	2	3	1	1	2	0
Supporting hospital quality improvement initiatives	1.13	0.5	2	0	0	3	1	3	0	0
AR/VR content creation	0.13	0	0	0	0	0	0	1	0	0
Clinical Skill teaching/assessment	0.63	0	3	0	0	0	0	2	0	0
Contributing to centre's social media accounts	1.00	0.5	0	0	3	0	0	1	2	2
Equipment loans	1.75	2	0	3	3	3	3	1	1	0
Innovation projects	1.38	1.5	2	2	1	0	1	2	3	0
Managing centre webpages	1.38	1	0	3	3	0	0	2	0	3
Orientation to simulated environment	2.00	2	3	1	1	2	3	3	2	1
Pre-course admin & material preparation	2.25	2	2	2	3	3	1	2	3	2
Production of promotional materials for courses	1.50	1	0	0	3	3	1	1	1	3
Role play in scenarios	1.13	1	2	0	0	0	0	3	2	2
Simulation group inbox	0.75	0	0	0	3	0	0	3	0	0
Wet lab	0.00	0	0	0	0	0	0	0	0	0

Once the scores are in, they look like this. I urge you all to learn conditional formatting in Excel, it's great. The colours also allow us to quickly spot outliers – jobs which maybe shouldn't be classified as technicians. In this group, no outliers but we'll get to one later. The median values of each column are taken and presented for jobs of each banding.

Job blueprints: initial findings – update 22/5

		n=2	n=4	n=14	n=8	n=5	33 total
Reassessed group	Task	Band 3 med	Band 4 med	Band 5 med	Band 6 med	Band 7 med	Med Mean
Core	Equipment setup & breakdown	3	3	3	3	3	3
Core	AV support	2.5	3	3	3	3	2.9
Core	Manikin software operation during scenarios	2.5	3	3	3	3	2.9
Core	Inventory management	2	3	3	3	3	2.8
Core	Simulator maintenance	1.5	3	3	3	3	2.7
Core	Hardware management, maintenance & implementation	1.5	2.5	3	3	3	2.6
Core	Software management, maintenance & implementation	1.5	2.5	3	3	3	2.6
Core	Lead/assist with training for faculty	0.5	2.5	3	3	3	2.4
Core	Research, purchase, implementation of new technologies	1	1.5	3	2.5	3	2.2
Core	Orientation to simulated environment	1.5	1.5	2.5	2	3	2.1
Core	Preparing & applying moulage to simulators	2.5	2	2	2	2	2.1
Core	Using & maintaining medical equipment	1.5	2	2	2	3	2.1
Core	Equipment loans	0	3	3	2	2	2
Core	Ordering of soft supplies & assets	0.5	1	3	2.5	3	2
Additional	Pre-course admin & material preparation	0.5	2	3	2	2	1.9
Additional	Creation of equipment user guides	0	2	2.5	2	2	1.7
Additional	Innovation projects	0.5	1	1.5	1.5	3	1.5
Additional	Strict accounting & separation of simulated supplies from live medical supplies	1.5	1	3	1.5	0	1.4
Additional	Report creation - evaluations, registrations, centre data	0	1	2	2	2	1.4
Additional	Development & maintenance of scenarios	0.5	1	0	2	3	1.3
Additional	Production of promotional materials for courses	1.5	1	0	1	3	1.3
Uncommon	AR/VR content creation	1	0.5	0	0	2	0.7
Uncommon	Portable AV devices	0.5	0	0	0	3	0.7
Uncommon	Scheduling simulation activities	0.5	0	1.5	0	1	0.6
Uncommon	Contributing to centre's social media accounts	1.5	1	0	0.5	0	0.6
Uncommon	Manikin software programming	0.5	0.5	0	0	2	0.6
Uncommon	Preparing & applying moulage to humans	1	0	0	0	2	0.6
Uncommon	Role play in scenarios	0.5	0.5	0	1	1	0.6
Uncommon	Managing centre webpages	0	1.5	0	1	0	0.5
Uncommon	Video production	1.5	0.5	0	0	0	0.4
Uncommon	Simulation group inbox	0	1	0.5	0	0	0.3
Uncommon	Interfacing with department schedulers to ensure room availability	0	0	0	0	1	0.2
Uncommon	Learning/centre management systems	0	0	0	0	1	0.2
Uncommon	Use of recordings for debriefing	0	1	0	0	0	0.2
Uncommon	Supporting hospital quality improvement initiatives	0	0	0	0.5	0	0.1
Uncommon	Clinical Skill teaching/assessment	0	0	0	0	0	0
Uncommon	Recruitment of plants/participants	0	0	0	0	0	0
Uncommon	Wet lab	0	0	0	0	0	0

And they look like this. And since these are blueprints, let's make them blue.

Job blueprints: initial findings – update 22/5

		n=2	n=4	n=14	n=8	n=5	33 total
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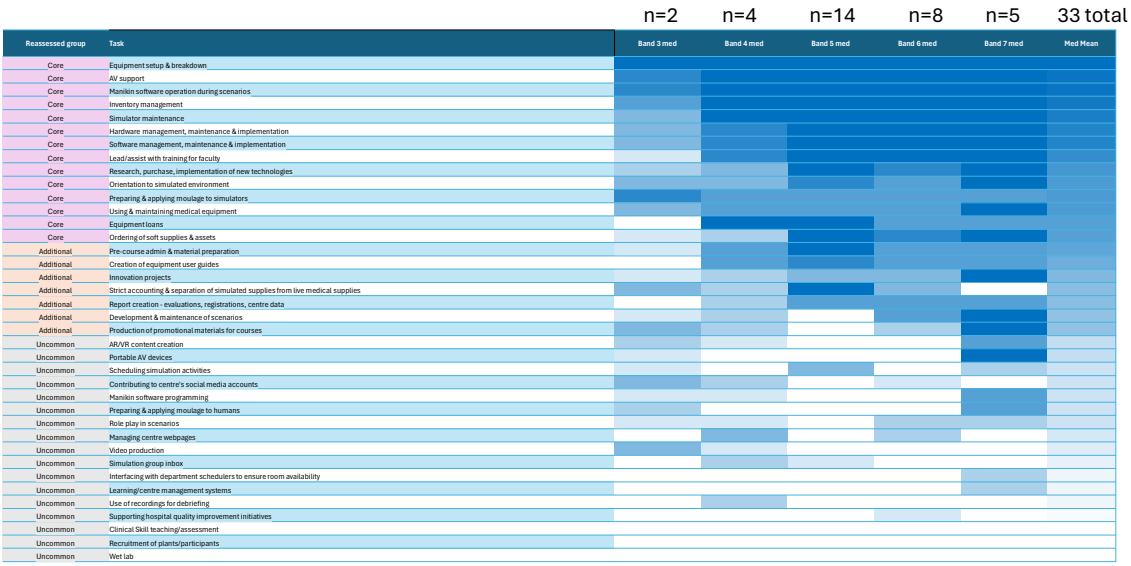
Core	Equipment setup & breakdown	3	3	3	3	3	3
Core	AV support	2.5	3	3	3	3	2.9
Core	Manikin software operation during scenarios	2.5	3	3	3	3	2.9
Core	Inventory management	2	3	3	3	3	2.8
Core	Simulator maintenance	1.5	3	3	3	3	2.7
Core	Hardware management, maintenance & implementation	1.5	2.5	3	3	3	2.6
Core	Software management, maintenance & implementation	1.5	2.5	3	3	3	2.6
Core	Lead/assist with training for faculty	0.5	2.5	3	3	3	2.4
Core	Research, purchase, implementation of new technologies	1	1.5	3	2.5	3	2.2
Core	Orientation to simulated environment	1.5	1.5	2.5	2	3	2.1
Core	Preparing & applying moulage to simulators	2.5	2	2	2	2	2.1
Core	Using & maintaining medical equipment	1.5	2	2	2	3	2.1
Core	Equipment loans	0	3	3	2	2	2
Core	Ordering of soft supplies & assets	0.5	1	3	2.5	3	2
Additional	Pre-course admin & material preparation	0.5	2	3	2	2	1.9
Additional	Creation of equipment user guides	0	2	2.5	2	2	1.7
Additional	Innovation projects	0.5	1	1.5	1.5	3	1.5
Additional	Strict accounting & separation of simulated supplies from live medical supplies	1.5	1	3	1.5	0	1.4
Additional	Report creation - evaluations, registrations, centre data	0	1	2	2	2	1.4
Additional	Development & maintenance of scenarios	0.5	1	0	2	3	1.3
Additional	Production of promotional materials for courses	1.5	1	0	1	3	1.3
Uncommon	AR/VR content creation	1	0.5	0	0	2	0.7
Uncommon	Portable AV devices	0.5	0	0	0	3	0.7
Uncommon	Scheduling simulation activities	0.5	0	1.5	0	1	0.6
Uncommon	Contributing to centre's social media accounts	1.5	1	0	0.5	0	0.6
Uncommon	Manikin software programming	0.5	0.5	0	0	2	0.6
Uncommon	Preparing & applying moulage to humans	1	0	0	0	2	0.6
Uncommon	Role play in scenarios	0.5	0.5	0	1	1	0.6
Uncommon	Managing centre webpages	0	1.5	0	1	0	0.5
Uncommon	Video production	1.5	0.5	0	0	0	0.4
Uncommon	Simulation group inbox	0	1	0.5	0	0	0.3
Uncommon	Interfacing with department schedulers to ensure room availability	0	0	0	0	1	0.2
Uncommon	Learning/centre management systems	0	0	0	0	1	0.2
Uncommon	Use of recordings for debriefing	0	1	0	0	0	0.2
Uncommon	Supporting hospital quality improvement initiatives	0	0	0	0.5	0	0.1
Uncommon	Clinical Skill teaching/assessment	0	0	0	0	0	0
Uncommon	Recruitment of plants/participants	0	0	0	0	0	0
Uncommon	Wet lab	0	0	0	0	0	0

These are the preliminary blueprints, based on what is currently a small sample size. Columns are bands from band 3 up to 7 and the last column is the mean of those columns. It's hard to make sense of with so many small numbers so here it is with just colours.

Job blueprints: initial findings – update 22/5



		n=2	n=4	n=14	n=8	n=5	33 total
Reassessed group	Task	Band 3 med	Band 4 med	Band 5 med	Band 6 med	Band 7 med	Med Mean
Core	Equipment setup & breakdown						
Core	AV support						
Core	Manikin software operation during scenarios						
Core	Inventory management						
Core	Simulator maintenance						
Core	Hardware management, maintenance & implementation						
Core	Software management, maintenance & implementation						
Core	Lead/assist with training for faculty						
Core	Research, purchase, implementation of new technologies						
Core	Orientation to simulated environment						
Core	Preparing & applying moulage to simulators						
Core	Using & maintaining medical equipment						
Core	Equipment loans						
Core	Ordering of soft supplies & assets						
Additional	Pre-course admin & material preparation						
Additional	Creation of equipment user guides						
Additional	Innovation projects						
Additional	Strict accounting & separation of simulated supplies from live medical supplies						
Additional	Report creation - evaluations, registrations, centre data						
Additional	Development & maintenance of scenarios						
Additional	Production of promotional materials for courses						
Uncommon	AR/VR content creation						
Uncommon	Portable AV devices						
Uncommon	Scheduling simulation activities						
Uncommon	Contributing to centre's social media accounts						
Uncommon	Manikin software programming						
Uncommon	Preparing & applying moulage to humans						
Uncommon	Role play in scenarios						
Uncommon	Managing centre webpages						
Uncommon	Video production						
Uncommon	Simulation group inbox						
Uncommon	Interfacing with department schedulers to ensure room availability						
Uncommon	Learning/centre management systems						
Uncommon	Use of recordings for debriefing						
Uncommon	Supporting hospital quality improvement initiatives						
Uncommon	Clinical Skill teaching/assessment						
Uncommon	Recruitment of plants/participants						
Uncommon	Wet lab						

The more it's blue, the more they do

The key is that the more it's blue, the more they do. We have the expected trend that as band increases, the blue gets deeper for a number of responsibilities but that's not the case all across the board.

Interpretation

- Based on mean value of median values for each band, a new grouping of tasks can be made:

New grouping	Median mean value	When this task is done…	Score
Uncommon	0-0.9	Someone else does it/it never needs to be done	0
Additional	1.0-1.9	I am not wholly responsible but still involved	1
Core	2.0-3.0	I am responsible for doing this independently but not often or often but not independently	2
		I am responsible for doing this independently and regularly	3

- A spreadsheet exists where means are recalculated and groupings are reassessed whenever new JDs are added

Now for interpreting this data. Based on how the average values fit into the score brackets, we can reassign factors into new groupings, which are fluid and will be recalculated whenever new data gets added.

The framework factors: New overall groupings

Core (14)	Additional (7)	Uncommon (17)
AV support	Creation of equipment user guides	AR/VR content creation
Equipment loans	Development & maintenance of scenarios	Clinical Skill teaching/assessment
Equipment setup & breakdown	Innovation projects	Contributing to centre's social media accounts
Hardware management, maintenance & implementation	Pre-course admin & material preparation	Interfacing with department schedulers to ensure room availability
Inventory management	Production of promotional materials for courses	Learning/centre management systems
Lead/assist with training for faculty	Report creation - evaluations, registrations, centre data	Managing centre webpages
Manikin software operation during scenarios	Strict accounting & separation of simulated supplies from live medical supplies	Manikin software programming
Ordering of soft supplies & assets		Portable AV devices
Orientation to simulated environment		Preparing & applying moulage to humans
Preparing & applying moulage to simulators		Recruitment of plants/participants
Research, purchase, implementation of new technologies		Role play in scenarios
Simulator maintenance		Scheduling simulation activities
Software management, maintenance & implementation		Simulation group inbox
Using & maintaining medical equipment		Supporting hospital quality improvement initiatives
		Use of recordings for debriefing
		Video production
		Wet lab

So as it stands, a technician of an unknown band could be expected to have this kind of skillset, with core being their strongest activities, additional being done slightly less and uncommon rarely or potentially never. We can also look at this as a way of structuring training courses, with focus on the core, slightly less time dedicated to additional and maybe supplementary outside courses on the uncommon.

Band 5 blueprint based on current findings

Core (18)		Additional (2)	Uncommon (18)	
AV support	Software management, maintenance & implementation	Innovation projects	AR/VR content creation	Preparing & applying moulage to humans
Equipment loans	Strict accounting & separation of simulated supplies from live medical supplies	Scheduling simulation activities	Clinical Skill teaching/assessment	Production of promotional materials for courses
Equipment setup & breakdown	Creation of equipment user guides		Contributing to centre's social media accounts	Recruitment of plants/participants
Hardware management, maintenance & implementation	Orientation to simulated environment		Development & maintenance of scenarios	Role play in scenarios
Inventory management	Preparing & applying moulage to simulators		Interfacing with department schedulers to ensure room availability	Simulation group inbox
Lead/assist with training for faculty	Report creation - evaluations, registrations, centre data		Learning/centre management systems	Supporting hospital quality improvement initiatives
Manikin software operation during scenarios	Using & maintaining medical equipment		Managing centre webpages	Use of recordings for debriefing
Ordering of soft supplies & assets			Manikin software programming	Video production
Pre-course admin & material preparation			Portable AV devices	Wet lab
Research, purchase, implementation of new technologies				
Simulator maintenance				

To look at an individual band blueprint, let's take band 5, which has most data. The core for band 5s is large, with uncommon being equally large to balance it out. Someone structuring a job description for a band 5 could use this to plan what to put in it and make clear the level of responsibility involved in each task.

Self-report vs Job description evaluation: band 5

Task	Self-report (n=3_	JD evaluation (m=11)
Report creation - evaluations, registrations, centre data	1	2
Hardware management, maintenance & implementation	3	3
Research, purchase, implementation of new technologies	3	3
Software management, maintenance & implementation	3	3
Strict accounting & separation of simulated supplies from live medical supplies	3	3
Pre-course admin & material preparation	3	3
Inventory management	3	3
Lead/assist with training for faculty	3	3
Ordering of soft supplies & assets	3	3
AV support	3	3
Equipment setup & breakdown	3	3
Manikin software operation during scenarios	3	3
Simulator maintenance	3	3
Equipment loans	3	3
Learning/centre management systems	0	0
Preparing & applying moulage to humans	0	0
Recruitment of plants/participants	0	0
Supporting hospital quality improvement initiatives	0	0
AR/VR content creation	0	0
Creation of equipment user guides	3	2
Using & maintaining medical equipment	3	2
Managing centre webpages	1	0
Orientation to simulated environment	3	2
Use of recordings for debriefing	1	0
Preparing & applying moulage to simulators	3	1
Innovation projects	3	1
Scheduling simulation activities	3	1
Simulation group inbox	3	0
Development & maintenance of scenarios	3	0
Manikin software programming	3	0
Video production	3	0
Portable AV devices	3	0
Contributing to centre's social media accounts	3	0
Production of promotional materials for courses	3	0
Role play in scenarios	3	0
Interfacing with department schedulers to ensure room availability	3	0
Clinical Skill teaching/assessment	3	0
Wet lab	3	0

Something else we can look at is how technicians report their own responsibilities vs what job descriptions say. Here are those 2 medians separated for band 5s, self-reported scores on the left and values from descriptions on the right. Some similarities but equally, some differences.

Self-report vs Job description evaluation: band 5

Task	Representation of responsibilities within JD	Self-report	JD evaluation
Report creation - evaluations, registrations, centre data	Marginally overrepresented: 1	1	2
Hardware management, maintenance & implementation	In line: 18	3	3
Research, purchase, implementation of new technologies		3	3
Software management, maintenance & implementation		3	3
Strict accounting & separation of simulated supplies from live medical supplies		3	3
Pre-course admin & material preparation		3	3
Inventory management		3	3
Lead/assist with training for faculty		3	3
Ordering of soft supplies & assets		3	3
AV support		3	3
Equipment setup & breakdown		3	3
Manikin software operation during scenarios		3	3
Simulator maintenance		3	3
Equipment loans		3	3
Learning/centre management systems		0	0
Preparing & applying moulage to humans		0	0
Recruitment of plants/participants		0	0
Supporting hospital quality improvement initiatives		0	0
AR/VR content creation		0	0
Creation of equipment user guides	Marginally underrepresented: 5	3	2
Using & maintaining medical equipment		3	2
Managing centre webpages		1	0
Orientation to simulated environment		3	2
Use of recordings for debriefing		1	0
Preparing & applying moulage to simulators	Underrepresented: 14	3	1
Innovation projects		3	1
Scheduling simulation activities		3	1
Simulation group inbox		3	0
Development & maintenance of scenarios		3	0
Manikin software programming		3	0
Video production		3	0
Portable AV devices		3	0
Contributing to centre's social media accounts		3	0
Production of promotional materials for courses		3	0
Role play in scenarios		3	0
Interfacing with department schedulers to ensure room availability		3	0
Clinical Skill teaching/assessment		3	0
Wet lab		3	0

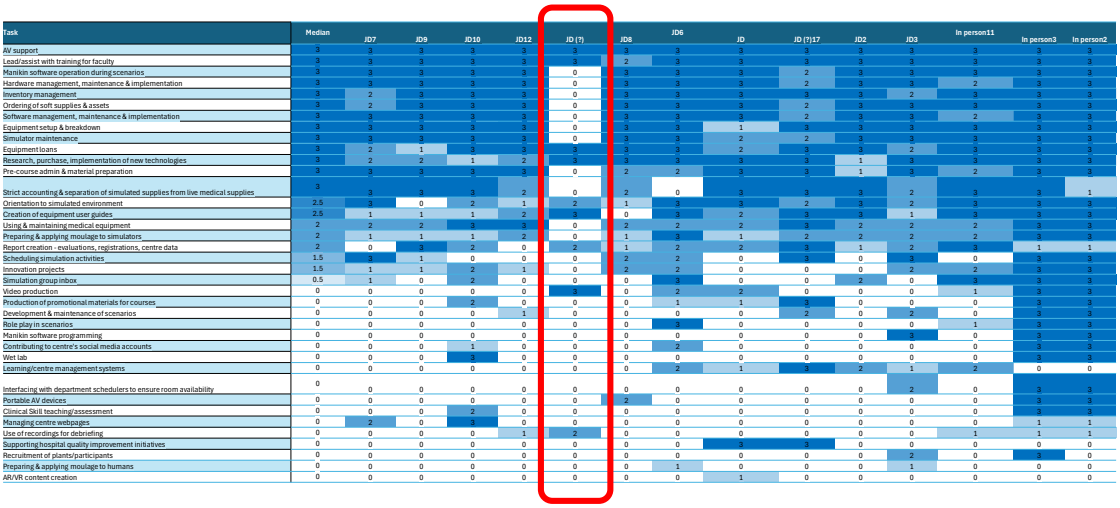
One task is represented a little more in descriptions than is experienced in practice, 18 are level, while we have a substantial group of tasks done much more than job descriptions would suggest. Here they are in more detail.

Underrepresented responsibilities according to self-reports: Band 5

Preparing & applying moulage to simulators	Portable AV devices
Innovation projects	Contributing to centre's social media accounts
Scheduling simulation activities	Production of promotional materials for courses
Simulation group inbox	Role play in scenarios
Development & maintenance of scenarios	Interfacing with department schedulers to ensure room availability
Manikin software programming	Clinical Skill teaching/assessment
Video production	Wet lab

These are definitely some talking points – what should be done about this? Who can address this? Should we read too much into this since this is very early data? This is one for the working group.

Outliers – is this JD for a technician?



Task	Median	JD7	JD9	JD10	JD12	JD (?)	JD8	JD6	JD	JD (?)17	JD2	JD3	In person11	In person3	In person2
AV support	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Lead/assist with training for faculty	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3
Manikin software operation during scenarios	3	3	3	3	3	0	3	3	3	2	3	3	3	3	3
Hardware management, maintenance & implementation	3	3	3	3	3	0	3	3	3	2	3	3	2	3	3
Inventory management	3	2	3	3	3	0	3	3	3	3	3	2	3	3	3
Ordering of soft supplies & assets	3	2	3	3	3	0	3	3	3	2	3	3	3	3	3
Software management, maintenance & implementation	3	3	3	3	3	0	3	3	3	2	3	3	2	3	3
Equipment setup & breakdown	3	3	3	3	3	0	3	3	1	3	3	3	3	3	3
Simulator maintenance	3	3	3	3	3	0	3	3	2	2	3	3	3	3	3
Equipment loans	3	2	1	3	3	3	3	3	2	3	3	2	3	3	3
Research, purchase, implementation of new technologies	3	2	2	1	2	3	3	3	3	3	1	3	3	3	3
Pre-course admin & material preparation	3	3	3	3	3	0	2	2	3	3	1	3	2	3	3
Strict accounting & separation of simulated supplies from live medical supplies	3	3	3	3	2	0	2	0	3	3	3	2	3	3	1
Orientation to simulated environment	2.5	3	0	2	1	2	1	3	3	2	3	2	3	3	3
Creation of equipment user guides	2.5	1	1	1	2	3	0	3	2	3	3	1	3	3	3
Using & maintaining medical equipment	2	2	2	3	3	0	2	2	2	3	2	2	2	3	3
Preparing & applying moulage to simulators	2	1	1	1	2	0	1	3	1	2	2	2	2	3	3
Report creation - evaluations, registrations, centre data	2	0	3	2	0	2	1	2	2	3	1	2	3	1	1
Scheduling simulation activities	1.5	3	1	0	0	0	2	2	0	3	0	3	0	3	3
Innovation projects	1.5	1	1	2	1	0	2	2	0	0	0	2	2	3	3
Simulation group inbox	0.5	1	0	2	0	0	0	3	0	0	2	0	3	3	3
Video production	0	0	0	0	0	3	0	2	2	0	0	0	1	3	3
Production of promotional materials for courses	0	0	0	2	0	0	0	1	1	3	0	0	0	3	3
Development & maintenance of scenarios	0	0	0	0	1	0	0	0	0	2	0	2	0	3	3
Role play in scenarios	0	0	0	0	0	0	0	3	0	0	0	0	1	3	3
Manikin software programming	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3
Contributing to centre's social media accounts	0	0	0	1	0	0	0	2	0	0	0	0	0	3	3
Wet lab	0	0	0	3	0	0	0	0	0	0	0	0	0	3	3
Learning/centre management systems	0	0	0	0	0	0	0	2	1	3	2	1	2	0	0
Interfacing with department schedulers to ensure room availability	0	0	0	0	0	0	0	0	0	0	0	2	0	3	3
Portable AV devices	0	0	0	0	0	0	2	0	0	0	0	0	0	3	3
Clinical Skill teaching/assessment	0	0	0	2	0	0	0	0	0	0	0	0	0	3	3
Managing centre webpages	0	2	0	3	0	0	0	0	0	0	0	0	0	1	1
Use of recordings for debriefing	0	0	0	0	1	2	0	0	0	0	0	0	1	1	1
Supporting hospital quality improvement initiatives	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0
Recruitment of plants/participants	0	0	0	0	0	0	0	0	0	0	0	2	0	3	0
Preparing & applying moulage to humans	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0
AR/VR content creation	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0

And a final consideration is outliers and proper classification. Here's the raw data for Band 5. We see one column with not much blue in what is otherwise the core responsibilities for this band. This could indicate that this job description isn't for a technician, however it was sent to me as part of my call for technician job descriptions, so it could be that this person's JD doesn't reflect the work they do. When I looked at the e-mail it was sent with, the sender said it was the closest thing their trust had to a technician and may strengthen the case for standardised descriptions. Which I believe brings us full circle.

Simulation Technician Job Descriptions:

Blueprints for harmonisation

Eli Gumble
Simulation Technician Lead
London Simulation Network

Summary

- Framework developed from an ASPiH standard to compare simulation technician JDs
- Results of comparisons will lead to a set of blueprints to aid with job description generation and technician training opportunities
- We may be able to identify and quantify areas of technician jobs underrepresented in job descriptions
- These blueprints can also be used for identifying whether existing or proposed jobs should or should not be labelled as a simulation technician

How you can help

- You can help boost the sample sizes!
  - Scan the QR code or remember bit.ly/lsnsimtechsurvey and share with any technicians you know
  - Send any technician job descriptions to lsn@uclpartners.com
- If you are preparing a new technician job description, I can send you the latest blueprints – I would like to know what use you can make of them
- Method critiques welcomed!
  - eli.gumble@uclpartners.com

You can increase the sample sizes by sharing the survey or sending me any technician job descriptions you have for me to analyse.
If you're preparing job descriptions, I can share the most up to date blueprints with you and you can let me know how they helped you or if they can be changed to help you more.
I am also accepting critiques of my method to my e-mail address here.