



Staffing Capacity Analysis: Protect Your Team, Grow Your Center!

Stephanie Swanson, BS
Akiko Kubo, BSN, RN, CCRN
Scott Voss, MBA

IMSH 2021 | March 26, 2021

SIMULATION:
BRINGING LEARNING TO LIFE

#IMSH2021

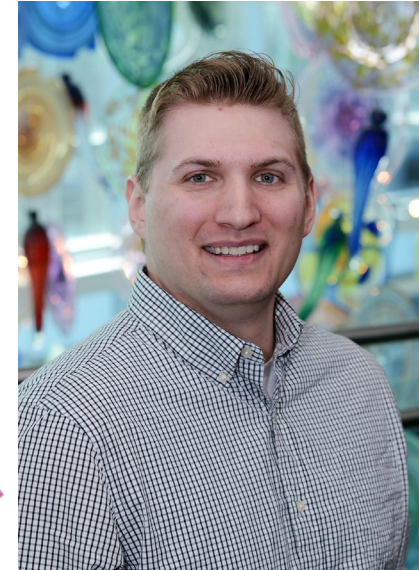
WELCOME



Stephanie Swanson
Director of Business Operations - ZIEL



Akiko Kubo
Director of Simulation Operations - ZIEL



Scott Voss
Management Analyst - ZIEL



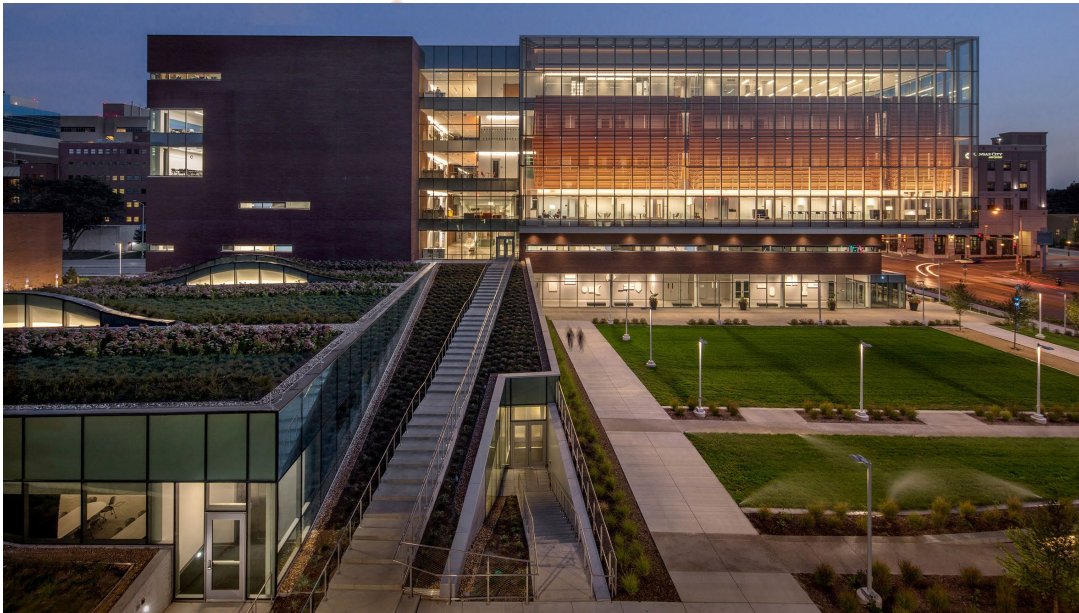
A partnership of The University of Kansas Health System
and the University of Kansas Medical Center

SIMULATION:
BRINGING LEARNING TO LIFE

#IMSH2021

Zamierowski Institute for Experiential Learning

A partnership between...



ZIEL by the Numbers

Utilization in FY2019



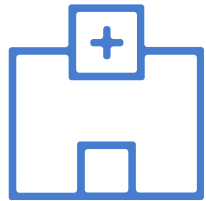
24,225

LEARNER HOURS



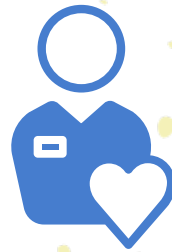
9,909

LEARNER ENCOUNTERS



11

SIMULATION ROOMS



26

FULL TIME STAFF



7

DEBRIEF ROOMS



41%

INTERPROFESSIONAL ACTIVITIES

Financial Disclosures

The presenters disclose that we have no financial relationships or conflicts of interests with any commercial interests producing, marketing, re-selling, or distributing healthcare and/or simulation-related goods or services.

What type of effort data do you currently collect?

Consider:

Learner Hours

of courses

of sessions

Room utilization – how many hours are your sim rooms used?

Manikin utilization – how many hours are your manikins used?

Staffing utilization – what does your staff spend their time on?

What do you use that data for?

Consider:

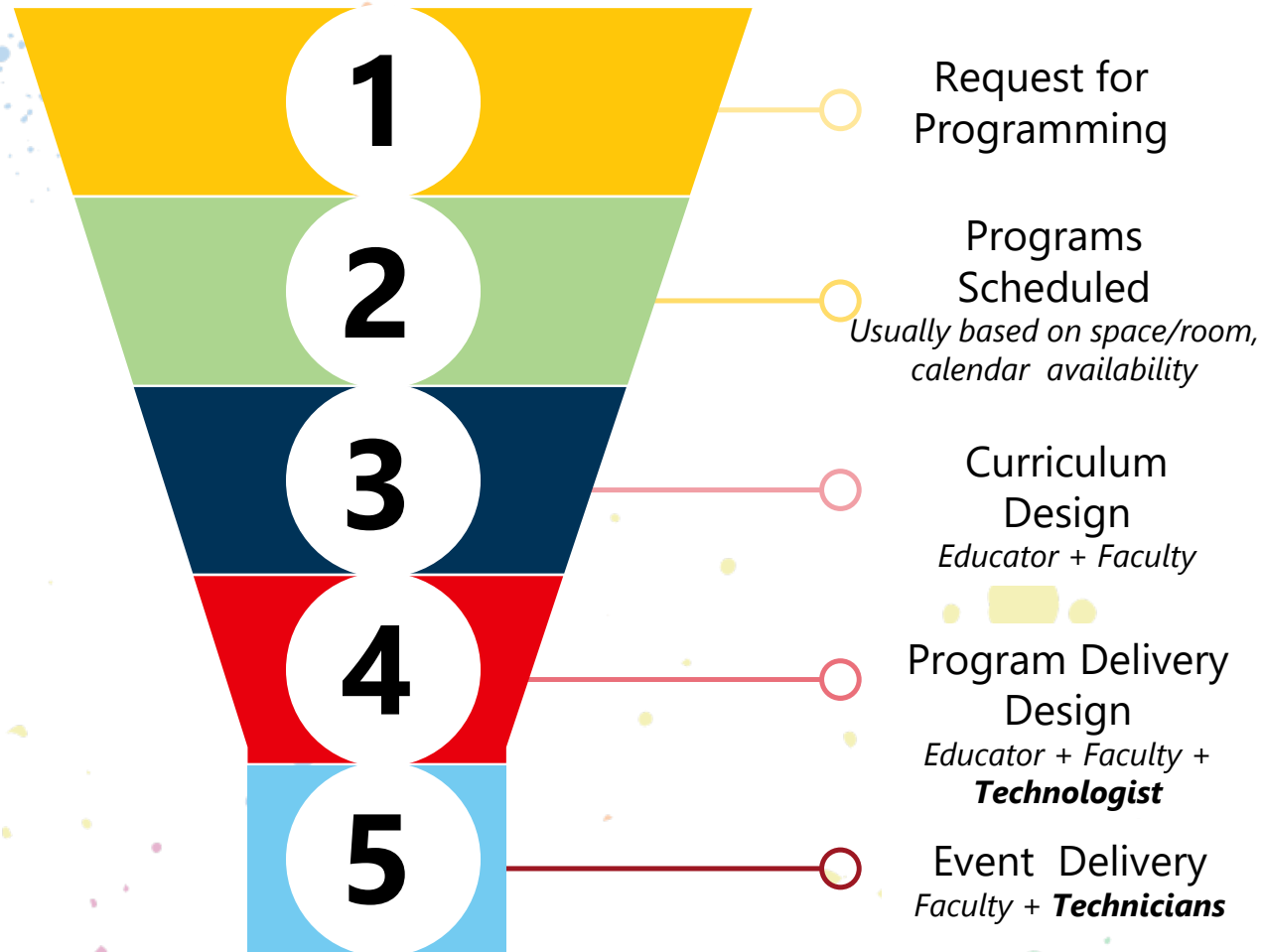
Mostly with other sim centers?

Reporting to executive leadership

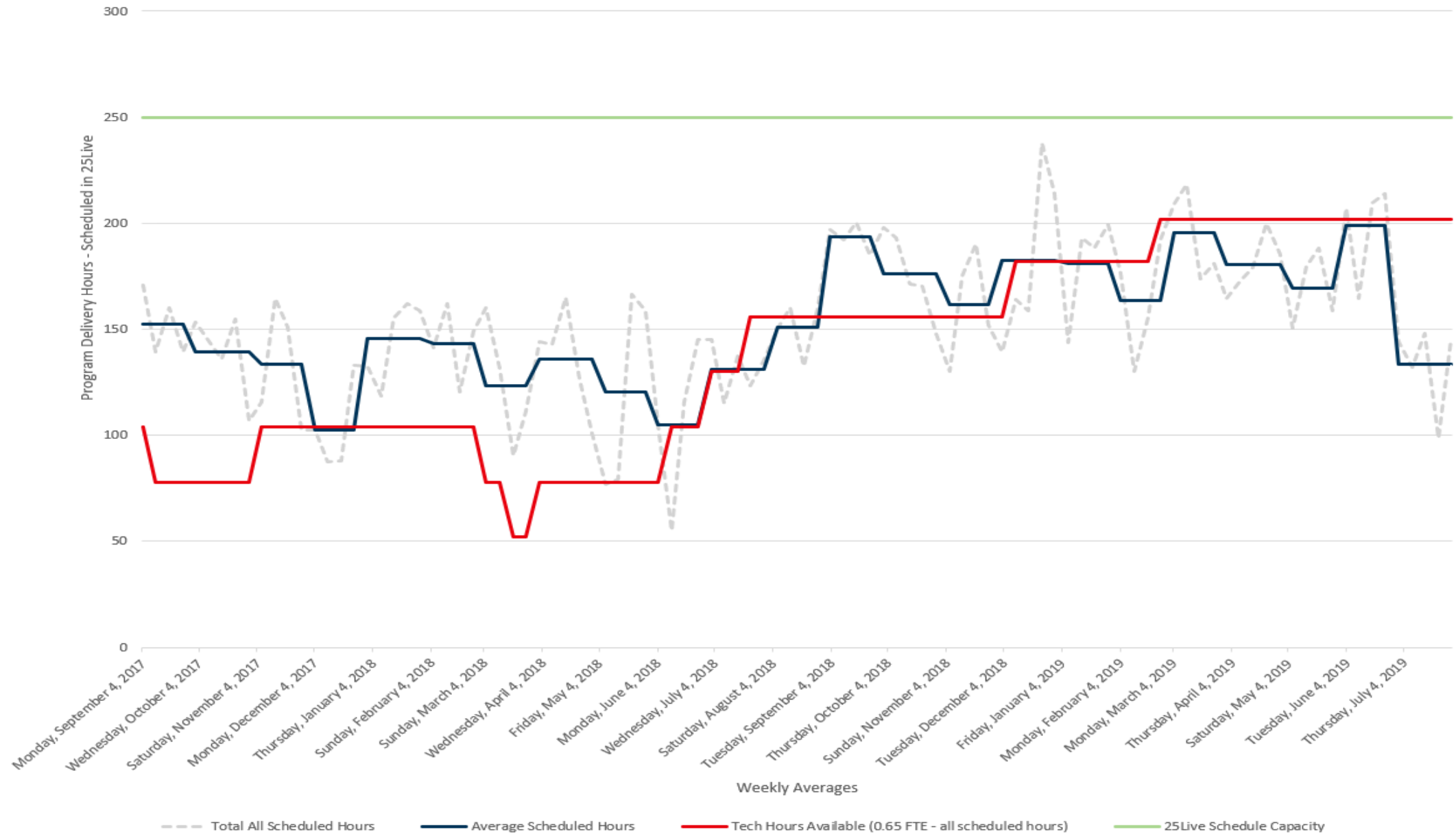
Guide decision-making, prioritization of projects, and staffing increases

The Tech Crisis of 2017

Where is the bottleneck?

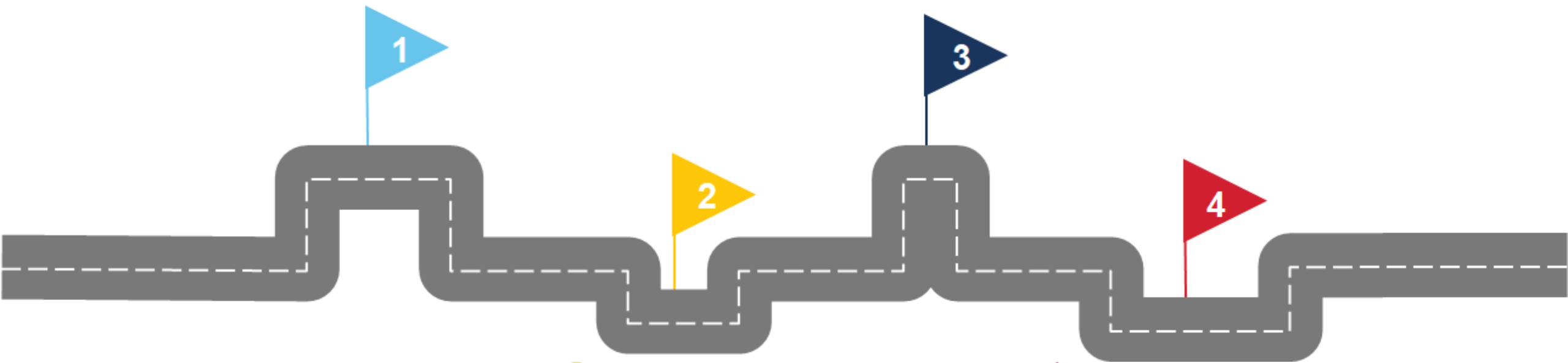


Technician Capacity (Estimated in Fall 2018)





Roadmap to Optimize Tech Capacity



COLLECT DATA
Time Tracking
Course Datasheets
MS Access / Toggl

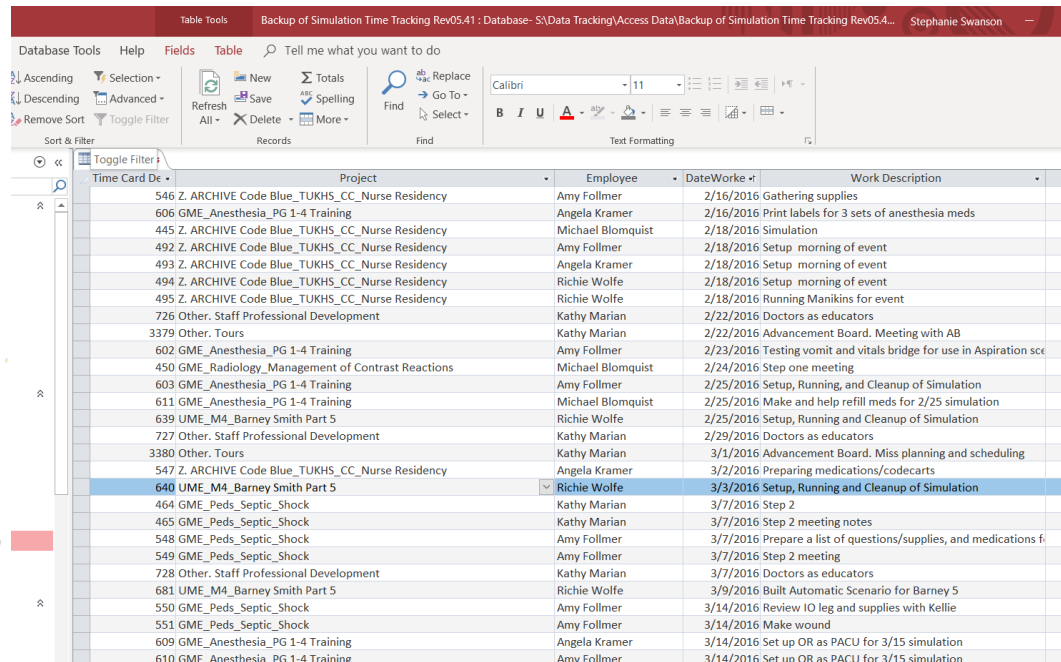
DETERMINE CAPACITY
FTE % in Direct vs. Indirect Time
of Staff / Role

ASSIGN LEVEL of EFFORT
= Gradients of Design & Delivery Effort by Event

ANALYZE DATA & ADVOCATE
Compare actual to scheduled; forecast scheduling to capacity; advocate for staffing

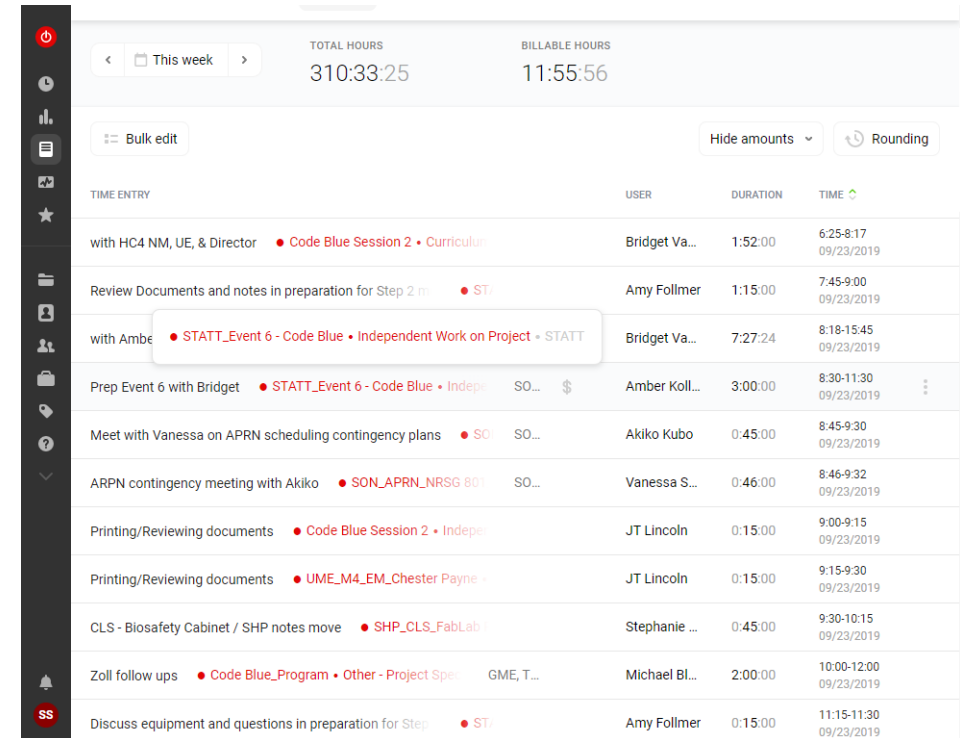
Where does the data come from?

Tracking staff hours – there are a ton of apps that help!



The screenshot shows a Microsoft Access database window titled "Backup of Simulation Time Tracking Rev05.41 : Database- S:\Data Tracking\Access Data\Backup of Simulation Time Tracking Rev05.4...". The table is named "Time Card De" and contains the following data:

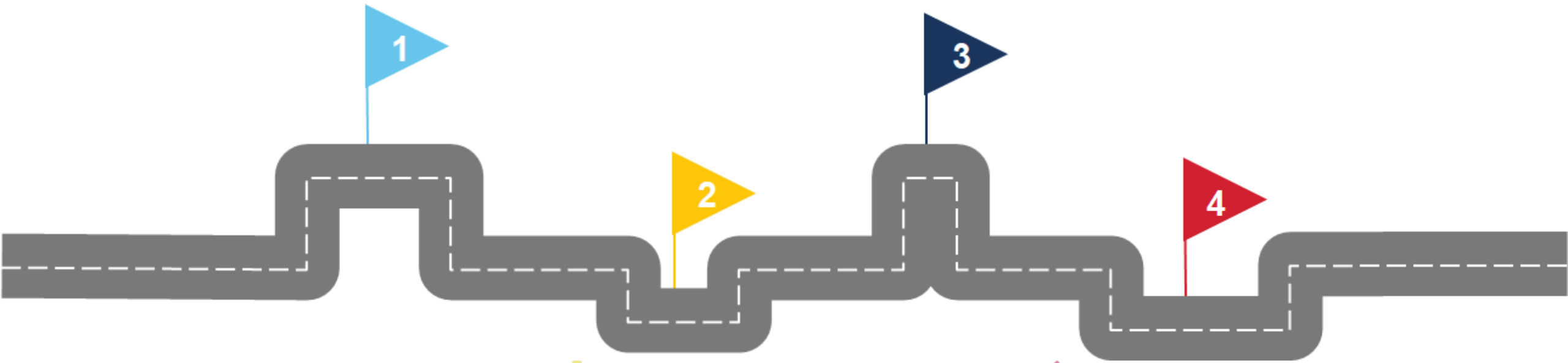
Project	Employee	DateWorked	Work Description
546 Z. ARCHIVE Code Blue_TUKHS_CC_Nurse Residency	Amy Follmer	2/16/2016	Gathering supplies
606 GME_Anesthesia_PG 1-4 Training	Angela Kramer	2/16/2016	Print labels for 3 sets of anesthesia meds
445 Z. ARCHIVE Code Blue_TUKHS_CC_Nurse Residency	Michael Blomquist	2/18/2016	Simulation
492 Z. ARCHIVE Code Blue_TUKHS_CC_Nurse Residency	Amy Follmer	2/18/2016	Setup morning of event
493 Z. ARCHIVE Code Blue_TUKHS_CC_Nurse Residency	Angela Kramer	2/18/2016	Setup morning of event
494 Z. ARCHIVE Code Blue_TUKHS_CC_Nurse Residency	Richie Wolfe	2/18/2016	Setup morning of event
495 Z. ARCHIVE Code Blue_TUKHS_CC_Nurse Residency	Richie Wolfe	2/18/2016	Running Manikins for event
726 Other_Staff Professional Development	Kathy Marian	2/22/2016	Doctors as educators
3379 Other_Tours	Kathy Marian	2/22/2016	Advancement Board. Meeting with AB
602 GME_Anesthesia_PG 1-4 Training	Amy Follmer	2/23/2016	Testing vomit and vitals bridge for use in Aspiration sce
450 GME_Radiology_Management of Contrast Reactions	Michael Blomquist	2/24/2016	Step one meeting
603 GME_Anesthesia_PG 1-4 Training	Amy Follmer	2/25/2016	Setup, Running, and Cleanup of Simulation
611 GME_Anesthesia_PG 1-4 Training	Michael Blomquist	2/25/2016	Make and help refill meds for 2/25 simulation
639 UME_M4_Barney Smith Part 5	Richie Wolfe	2/25/2016	Setup, Running and Cleanup of Simulation
727 Other_Staff Professional Development	Kathy Marian	2/29/2016	Doctors as educators
3380 Other_Tours	Kathy Marian	3/1/2016	Advancement Board. Miss planning and scheduling
547 Z. ARCHIVE Code Blue_TUKHS_CC_Nurse Residency	Angela Kramer	3/2/2016	Preparing medications/codocarts
640 UME_M4_Barney Smith Part 5	Richie Wolfe	3/3/2016	Setup, Running and Cleanup of Simulation
464 GME_Peds_Septic_Shock	Kathy Marian	3/7/2016	Step 2
465 GME_Peds_Septic_Shock	Kathy Marian	3/7/2016	Step 2 meeting notes
548 GME_Peds_Septic_Shock	Amy Follmer	3/7/2016	Prepare a list of questions/supplies, and medications f
549 GME_Peds_Septic_Shock	Amy Follmer	3/7/2016	Step 2 meeting
728 Other_Staff Professional Development	Kathy Marian	3/7/2016	Doctors as educators
681 UME_M4_Barney Smith Part 5	Richie Wolfe	3/9/2016	Built Automatic Scenario for Barney 5
550 GME_Peds_Septic_Shock	Amy Follmer	3/14/2016	Review IO leg and supplies with Kellie
551 GME_Peds_Septic_Shock	Amy Follmer	3/14/2016	Make wound
609 GME_Anesthesia_PG 1-4 Training	Angela Kramer	3/14/2016	Set up OR as PACU for 3/15 simulation
610 GME_Anesthesia_PG 1-4 Training	Amy Follmer	3/14/2016	Set up OR as PACU for 3/15 simulation



The screenshot shows a time tracking application interface. At the top, it displays "TOTAL HOURS" as 310:33:25 and "BILLABLE HOURS" as 11:55:56. Below this, there are buttons for "Bulk edit", "Hide amounts", and "Rounding". The main table is titled "TIME ENTRY" and has columns for "USER", "DURATION", and "TIME". The table contains the following data:

TIME ENTRY	USER	DURATION	TIME
with HC4 NM, UE, & Director • Code Blue Session 2 • Curriculum	Bridget Va...	1:52:00	6:25-8:17 09/23/2019
Review Documents and notes in preparation for Step 2 m... • ST/	Amy Follmer	1:15:00	7:45-9:00 09/23/2019
with Amber • STATT_Event 6 - Code Blue • Independent Work on Project • STATT	Bridget Va...	7:27:24	8:18-15:45 09/23/2019
Prep Event 6 with Bridget • STATT_Event 6 - Code Blue • Indepe... SO... \$	Amber Koll...	3:00:00	8:30-11:30 09/23/2019
Meet with Vanessa on APRN scheduling contingency plans • SO... SO...	Akiko Kubo	0:45:00	8:45-9:30 09/23/2019
APRN contingency meeting with Akiko • SON_APRN_NRSNG 801... SO...	Vanessa S...	0:46:00	8:46-9:32 09/23/2019
Printing/Reviewing documents • Code Blue Session 2 • Indepe...	JT Lincoln	0:15:00	9:00-9:15 09/23/2019
Printing/Reviewing documents • UME_M4_EM_Chester Payne •	JT Lincoln	0:15:00	9:15-9:30 09/23/2019
CLS - Biosafety Cabinet / SHP notes move • SHP_CLS_FabLab	Stephanie ...	0:45:00	9:30-10:15 09/23/2019
Zoll follow ups • Code Blue_Program • Other - Project Spec... GME, T...	Michael Bl...	2:00:00	10:00-12:00 09/23/2019
Discuss equipment and questions in preparation for Step... • ST/	Amy Follmer	0:15:00	11:15-11:30 09/23/2019

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COLLECT DATA
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Course Datasheets
MS Access / Toggl

**DETERMINE
CAPACITY**
FTE % in Direct vs.
Indirect Time
of Staff / Role

**ASSIGN LEVEL of
EFFORT**
= Gradients of
Design & Delivery
Effort by Event

**ANALYZE DATA
& ADVOCATE**
Compare actual to
scheduled; forecast
scheduling to capacity;
advocate for staffing

FTE Calculations

See the Capacity Analysis Presentation from Monday for details on how to do this for your center!

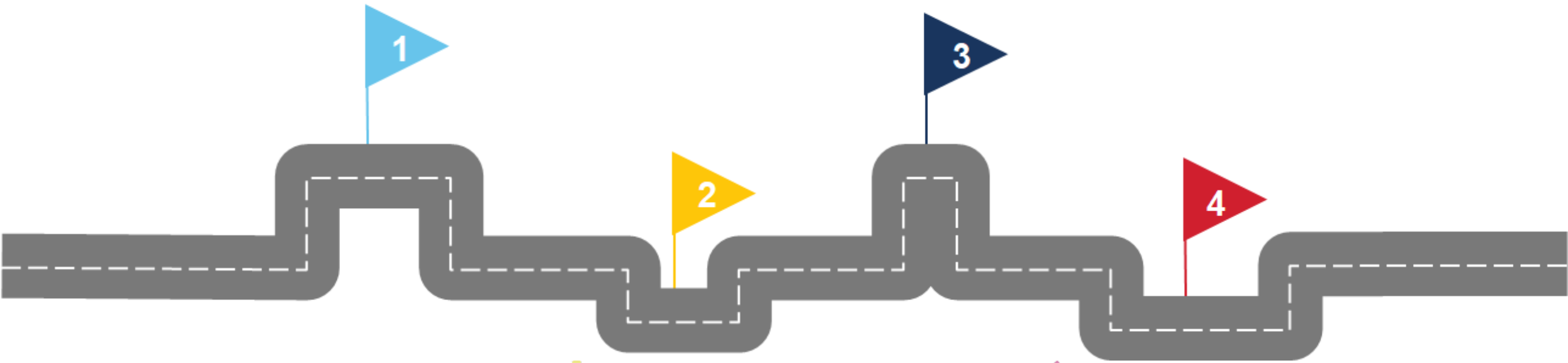
"Capacity Analysis: Using a Simple Metric to Tell Your Story"

Simulation Operations Specialist (Sim Tech)

Staffing Allocations:

- **0.1 FTE PTO Accrual** (4 hours/week)
- **0.1 FTE Operational Meetings & Trainings** (4 hours/week)
 - Sim Review, daily tech huddles, 1:1 check-in meetings, staff meetings & training
- **0.1 FTE AV/Other work** (4 hours/week)
 - maintenance, repairs, inventory management, videography, testing/experimenting, moulage/model making
- **0.7 FTE Project Specific work** (28 hours/week)
 - planning meetings, prep work for events, sim delivery time, setup, breakdown)

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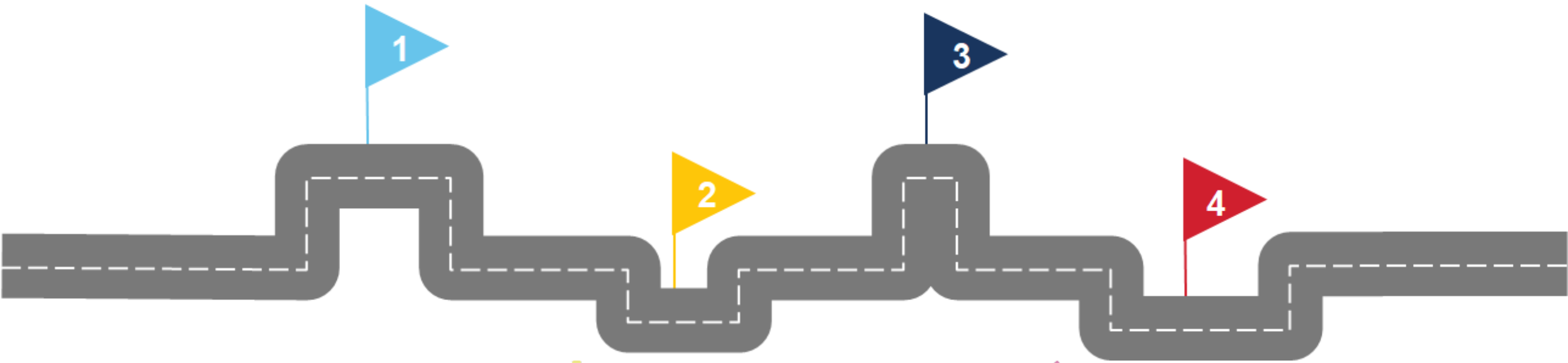
Technologist Level of Effort (LOE) Ranking System					
Ranking	Description	Type of Work	Avg Project Hours (Total)	Examples of Prior Programs (2017-2018)	Examples of Future Programs (2019-2020)
0	No LOE	> Run program as previously designed. > No additional effort.	0	> CB GME Anesthesia - placed them in existing CB Pre/Post event > SRNA and GME Anesthesia machine checkouts require hardly any tech support > GME Anesthesia basic induction/room setup > GME EM AAA, GME EM LVAD, etc. - only runs every 3 year cycle > UME Barney 6 (even this program had ~2 hours	<i>Same examples, plus basic events where planning occurred in 2018 and does not require a refresh. Such as:</i> > GME Anesthesia Anaphylaxis > GME EM Beta Blocker > GME EM Ultrasound Workshop > GME EM Intern STEMI/Anaphylaxis > GME EM TCA Toxicity > GME IM Brady and Tachy workshops

ZIEL Technologist Level of Effort (LOE) Ranking System

Ranking	Description	Type of Work	Avg Project Hours (Total)	Examples of Prior
0	No LOE	> Run program as previously designed. > No additional effort.	0	> CB GME Anesthesia existing CB Pre/Post
1	Minimal LOE	> Minor curriculum/delivery changes only > Refresh meeting only, no walkthrough/pilot > Minor document updates in new form > Some supply management	Range 1-10 hrs Avg: 5 hrs	> GME EM curriculum minor updates with > GME Peds curriculum minor updates with > Minor updates or r

		>>> large amount of scenario updates to be re-programmed >>> added moulage/model making, etc.		Refresh > CVC Warmup/Wrapup move from Sudler to HEB	> GME Anesthesia VAE > Some UME SON STATT Event 5 and 8 overhaul > Maintenance of TUKHS OR Team Training OBGYN
5	New Project	> Development of original curriculum and design; plus corresponding delivery planning, testing, and preparations. Significant project management and interprofessional coordination required. Usually requires multiple Technologists that span multiple weeks to months	Over 80 hours, multiple Technologists Avg: 100+ hrs	> TUKHS OR Team Training Urology > TUKHS OR Team Training OBGYN Prep > Code Blue Session 1.5 > Code Blue Session 2 > SON N3 BATI - Significant Refresh/Redesign 8 weeks program	> Code Blue NICU > Code Blue Session 2 - All new curriculum each year > TUKHS OR Team Training Non-Surgical Code Blue > TUKHS OR Team Training - New Service Line > KUMC FIPC Level 3 - All new curriculum

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Data Science & the Art of Persuasion

Organizations struggle to communicate the insights in all the information they've amassed. Here's why, and how to fix it.

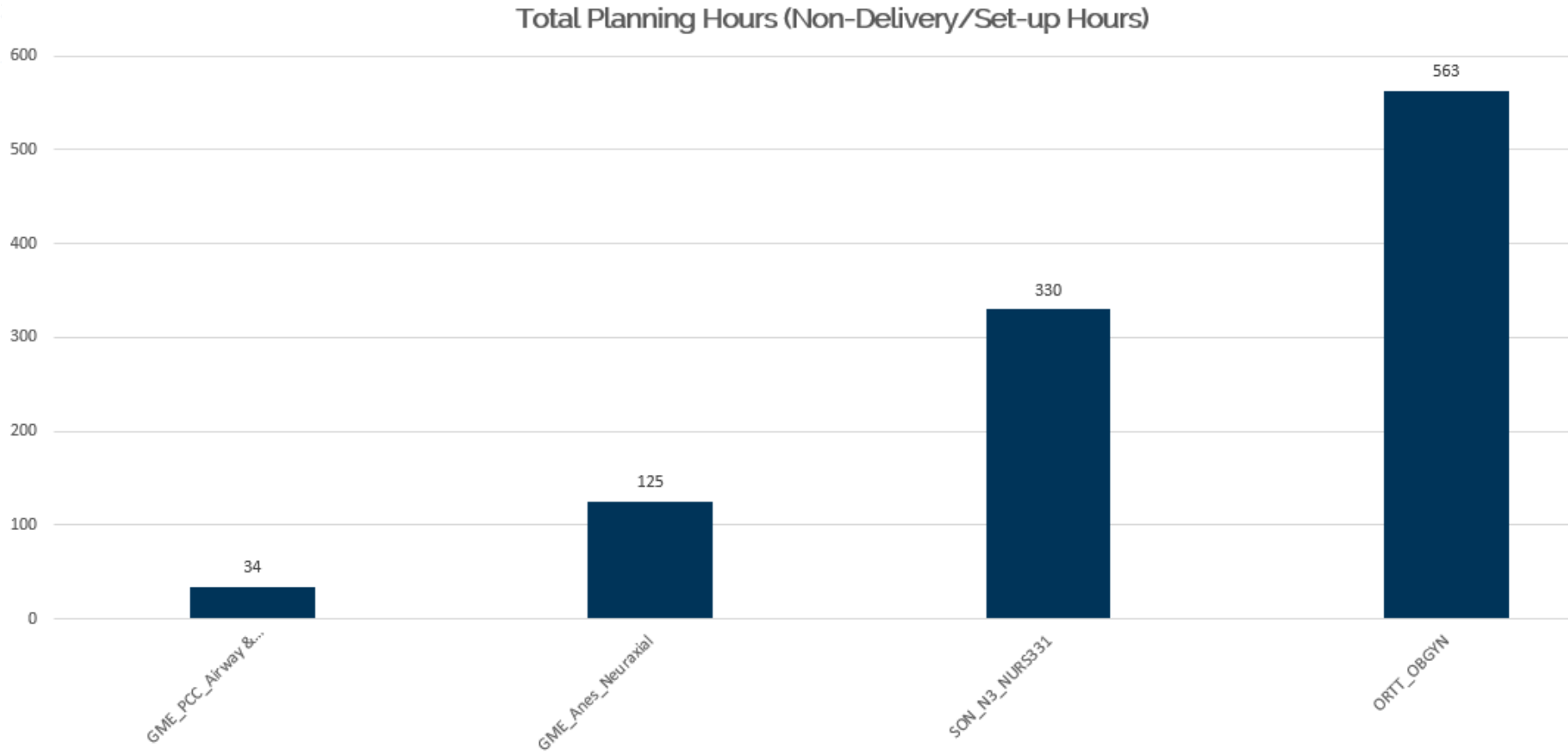
HBR, Scott Berinato, Jan - Feb 2019

Core Talents for Communicating Data

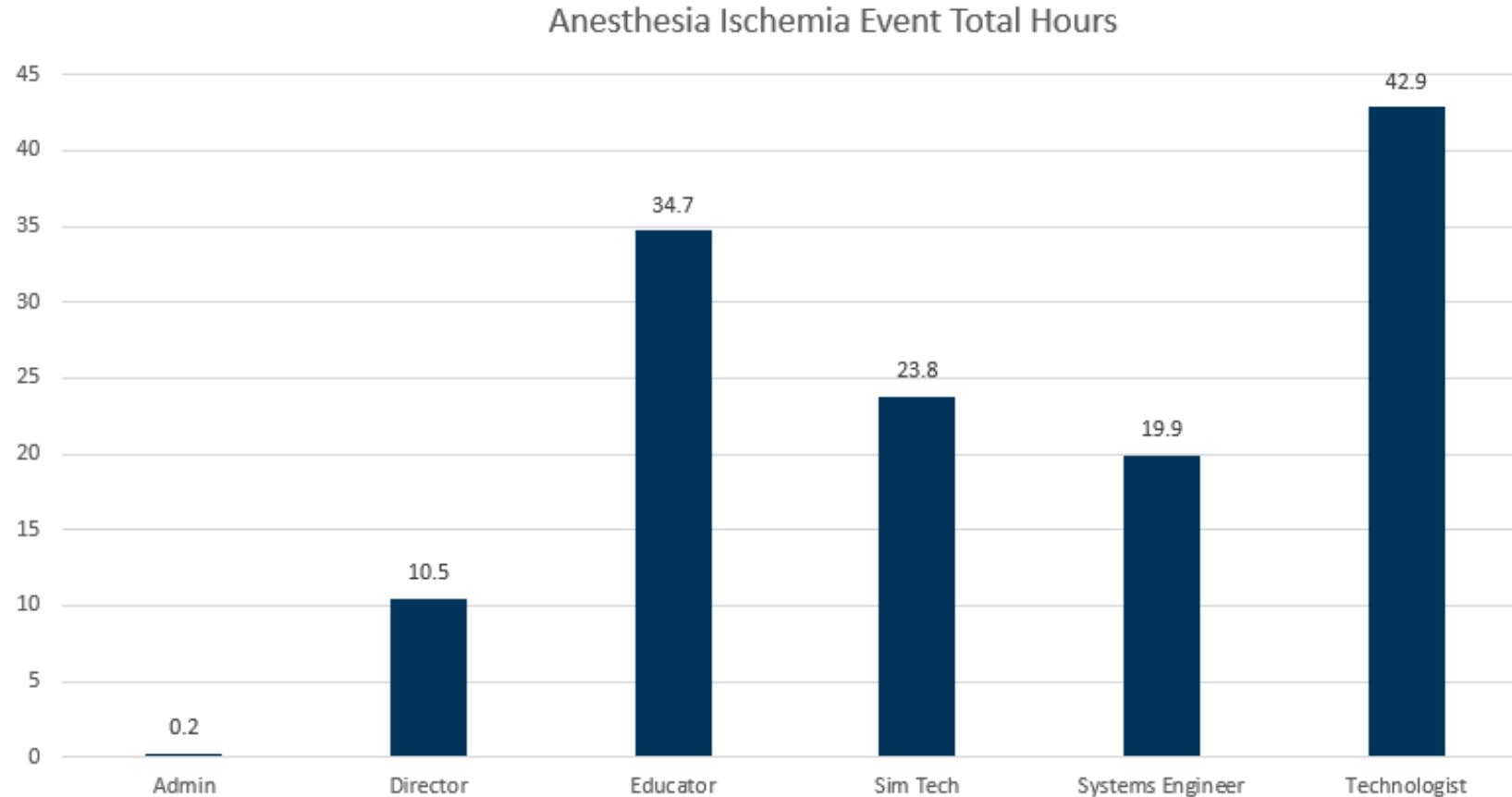
Here are the ways that various talents are involved as a data science project proceeds from gathering data to developing insight to presenting to stakeholders.

TALENT	TASKS	SKILLS	LEADS	SUPPORTS
Project management	<ul style="list-style-type: none"> Manage creation of team, timeline, and schedules Marshal resources Troubleshoot 	<ul style="list-style-type: none"> Organization Methodology (such as scrum) People management 	<ul style="list-style-type: none"> During creation of a data science operation During creation and execution of a project 	<ul style="list-style-type: none"> Ongoing data science operations
Data wrangling	<ul style="list-style-type: none"> Find, clean, and structure data Develop and implement data and visualization systems, algorithms, and models Develop templates and systems for repeatable processes 	<ul style="list-style-type: none"> Coding Statistics Systems architecture 	<ul style="list-style-type: none"> Early in a data team's existence Early in a project's development 	<ul style="list-style-type: none"> During routine data analysis, hypothesis testing, and visual exploration of data
Data analysis	<ul style="list-style-type: none"> Develop and test hypotheses on data and data models Find patterns and useful trends to inform business decisions 	<ul style="list-style-type: none"> Statistics Scientific method Critical thinking Technical and nontechnical communication 	<ul style="list-style-type: none"> During routine data analysis, project design, hypothesis testing, and visual exploration of data 	<ul style="list-style-type: none"> Early in a data team's existence Early in project development During visual communication development and presentations to lay audiences
Subject expertise	<ul style="list-style-type: none"> Define business goals Develop and test hypotheses Develop nontechnical communication 	<ul style="list-style-type: none"> Functional knowledge Critical thinking Strategy development Nontechnical communication 	<ul style="list-style-type: none"> During project design, hypothesis testing, and visual exploration of data During communication to nontechnical audiences 	<ul style="list-style-type: none"> Early in a data team's existence During visualization and design process
Design	<ul style="list-style-type: none"> Develop visual communication and presentations Create templates and styles for repeatable visualization 	<ul style="list-style-type: none"> Information design Presentation design Design thinking Persuasive communication 	<ul style="list-style-type: none"> During data visualization and the creation of presentations and visual systems (templating) 	<ul style="list-style-type: none"> During visual iteration and prototyping
Storytelling	<ul style="list-style-type: none"> Develop stories from data and visuals Help construct presentations in story format Present to nontechnical audiences 	<ul style="list-style-type: none"> Information design Writing and editing Presenting Persuasive communication 	<ul style="list-style-type: none"> During creation of data visualization and presentations During presentation to nontechnical audiences 	<ul style="list-style-type: none"> During visual iteration and prototyping

Data Analysis By Course Example



Example: Ischemia (with equipment integration)





COVID Impacts on Staffing & Utilization

What is your version of our 2017-2018 tech crisis?

What would be possible if you had data to support you in resolving this issue?

Is there a specific time of year, specific roles, or specific tasks you'd like to understand better?

Think about: Support staff, educators, course delivery, travel requirements, after-hours requests....



Let's talk about time tracking!

What is (*and isn't*) the goal of time tracking

Pick out the truths from the lies...

1. No one likes it.
2. It's *really* hard.
3. It's incredibly useful.
4. It's always accurate.
5. It's easy to implement.
6. Your leaders will appreciate it.
7. It opens doors to things you didn't know were possible.

True

1. No one likes it.
2. It's *really* hard.
3. It's incredibly useful.
4. It's easy to implement.
5. Your leaders will appreciate it.
6. It opens doors to things you didn't know were possible.

False

1. It's always accurate.
2. It's easy to implement.

No One Likes It / It's Really Hard

- Framing matters – we track time to protect our staff, not police them. We are not the time cop.
- People First - focus on retention and well-being, not productivity
- PTO – build this in first. This is non-negotiable.
- Find the protected time for creative / organizational work next.
- In a world of budget cuts, having data empowers us to protect our people.
- Agreement: Data is never used in performance conversations; it is only used in work allocation conversations.



We use data to protect our staff.



OK – so how?

SSIH Hospital-Based Simulation Section: Metrics Workgroup Categories

- **Sim Course Specific**
 - Execution (#CourseAligned)
 - Course Development (#CourseAligned)
- **Core Business**
 - External Collaboration
 - Admin
 - Maintenance
 - Professional Development
 - Strategic Projects & System Support (Non-Simulation Specific)

Hospital-Based Sim Program Metrics Workgroup: Data Collection

Robert Schremmer (Children's Mercy Kansas City), Stephanie Swanson & Scott Voss (ZIEL Simulation), Michael C. Shepherd (Maine Medical), Grace Gephardt & Eric Braden (Arkansas Children's), Karen Mathias & Emily Rogers (Children's MN), Cate Nichols, Kate Lindley (Northwestern Medicine)

QUESTION: How can we define a simulation center's capacity and resource allocations using data for the following purposes?

- Understand and explain capacity limitations to executive leadership
- Advocate for right-sizing of resources
- Understand the complexity of each course to accurately estimate future effort
- Assist in project prioritization and decision making
- Define strategic projects to unlock capacity and efficiency

THE GOAL: Collect real-time data from a variety of simulation programs to help quantify an understanding of various simulation programs resource allocations.

While job titles and types of activities vary, we hypothesize that there are similarities between centers that will help create a more universal understanding of the labor, time resources and staff required to deliver simulation education experiences.

BACKGROUND:

Simulation programs are often pushed by executive leadership teams to increase course loads with minimal staff and define the return on investment (ROI) for the parent institution. This can be extremely challenging, especially in non-patient care areas and for centers that are not directly tied to student enrollment or graduation competencies.

The first step in defining ROI is understanding the costs of simulation. The most challenging cost to quantify is labor and distribution of effort. While challenging, this is a critical piece to understand capacity, justify non-productive time, and to advocate for more resources.

The Metrics Workgroup, a collaboration of several different sim programs all on the journey of data collection, has created the categories below as a universal set of activities that most simulation programs can align with. With data from a wide array of simulation programs, we can analyze this data to help find similarities and differences in the resource allocation of those programs.

Some of the questions we anticipate arising from the data collection include: Are clinical educators part of the simulation staff? Is travel to other sites or in-situ part of the program? Who manages manikin maintenance? Does the center primarily do custom-designed simulation or programs such as BLS? What are the learner groups served?

We anticipate the data and subsequent analysis will help give all simulation centers a reference point to use to help answer the questions of executive leadership around effort, resource allocation, and capacity.

Activity definitions:

All activities are defined in at least 15 minute segments. If less than 15 minutes, roll into another category as is most logical.

Sim Course Specific:

Execution (#CourseAligned) – Execution of a course from beginning to end, including setup & breakdown, moulage, travel time, hospitality, etc. -- including courses that develop facilitators.

Rule of Thumb: How much time would it take to run the course without any changes?

Course Development (#CourseAligned) – Design and development of a course, including moulage design & practice, course-aligned special projects (models, trainers, mechanisms, etc.), task trainer creation course-aligned meetings, case review & communication, SP trainings, dry runs, etc.

Rule of Thumb: If there are changes to the course or if it was new, how much time would it take to plan and prepare to execute this course?

Core Business:

External Collaboration – activities supporting the greater professional community, such as presentations and their development; "belonging and contributing to the sim community at large;" non-project-specific partnerships work on partnerships that are not project-specific

Rule of Thumb: How much time do we spend supporting groups and activities outside of our program?

Admin – Administrative activity such as correspondence, calendaring, billing, data entry, ordering, staff/departamental meetings, human resource functions, etc.

Rule of Thumb: How much time do we spend on the business of simulation and the organization of daily activities?

Maintenance – Maintenance of equipment, space and processes such as manikin clean-up & repair, supervision or guidance of building maintenance, inventory management, printer maintenance, space upkeep, culling video, system and software updates, new equipment testing, IT support and communications, SP list purging, etc.

Rule of Thumb: How much time do we spend maintaining systems and equipment outside of the course execution?

Professional Development – Creating a better employee, including conference attendance, videos, journals, in-services, CV work, etc.

Rule of Thumb: How much time is spent developing our simulation staff as professionals?

Strategic Projects & System Support (non-simulation specific) – The creation of products, processes and interactions that help the institution and/or simulation program, including large-scale reorganization projects, non-sim innovation projects, quality and safety clinical projects, etc.

Rule of Thumb: How much time is spent on internal programs and projects that are not tied to a specific simulation course?

Instructions:

Utilizing a software such as Timular (free), all staff members are to track their time to the above categories. We've attempted to make them as clear as possible, but knowing that all simulation programs are different we have included a "Rule of Thumb" to help answer additional questions.

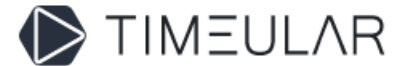
We highly recommend splitting out the Simulation Specific data by course. All courses will vary between simulation programs, but we have found that the course-specific data is what is often most useful to individual programs to help in future decision-making for project prioritization.

Tools for tracking

- Timular

The logo for Clockify, featuring a blue icon of a clock face with a play button symbol inside, followed by the word "clockify" in a blue, lowercase, sans-serif font.

- Clockify

The logo for Timeular, featuring a black icon of a play button inside a square, followed by the word "TIMEULAR" in a black, uppercase, sans-serif font.

- Toggl

The logo for Toggl Track, featuring the word "toggl" in a bold, lowercase, sans-serif font, with "track" in a smaller, lowercase, sans-serif font below it, and a small, stylized, curved line below "track". The entire logo is in a light purple color.

Data Analysis Process

Analysis Phase 1:

Look back at historical data - understand what happened

Analysis Phase 2:

Look forward with Level of Effort - forecast next year's projects Level of Effort to balance the year

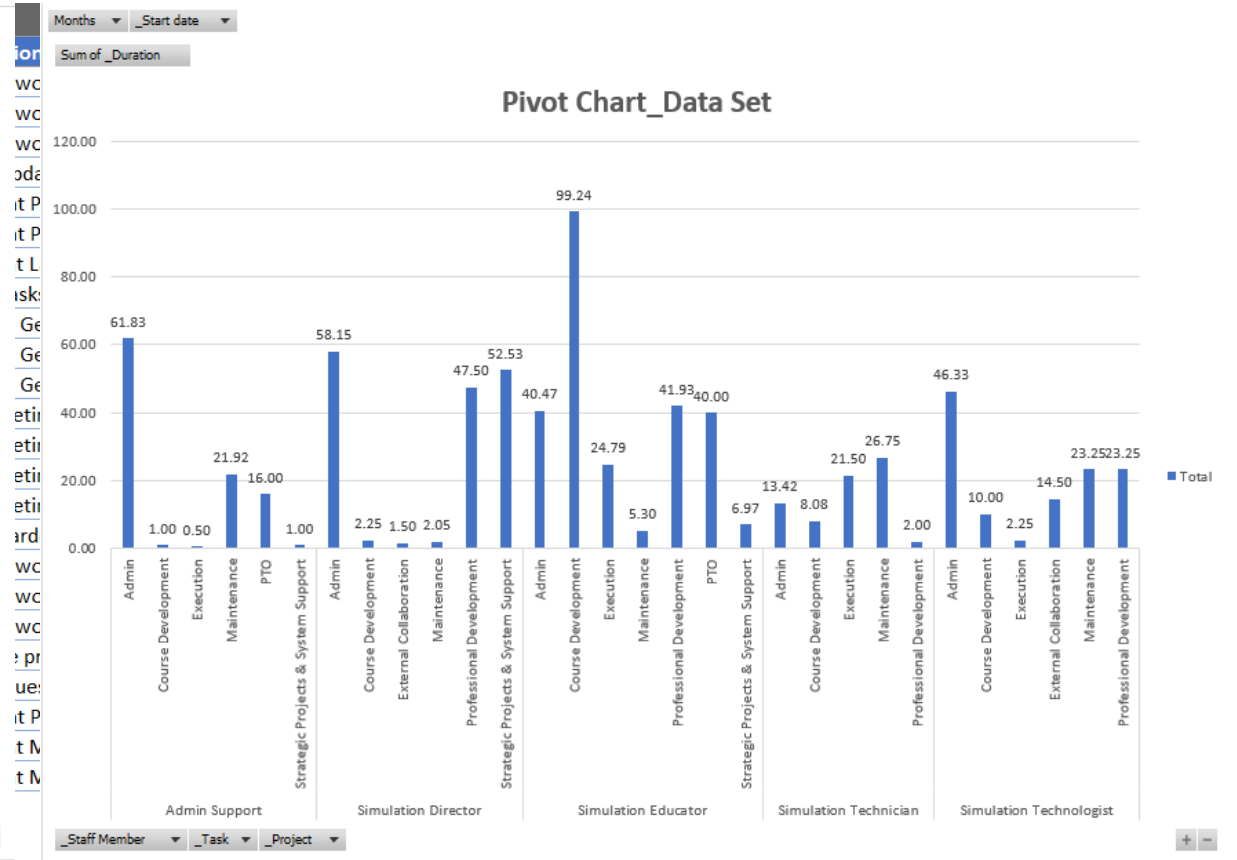
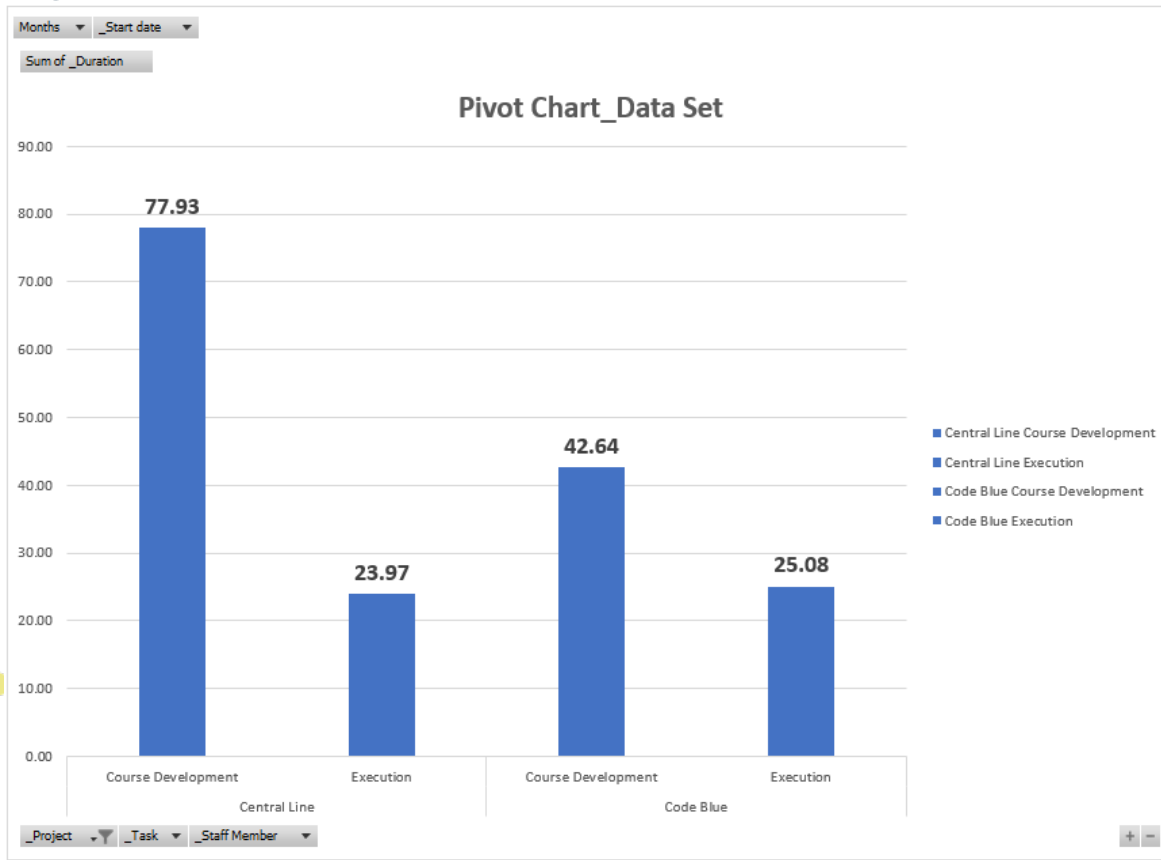
Analysis Phase 3:

Using this data for prioritization & project acceptances

Data Analysis

	A	B	C	D	E	F	G	H	I
1	_Staff Member	_Project	_Task	_Description	_Start date	_Start time	_End date	_End time	_Duration
116	Simulation Technician	Central Line	Course Development	CVC Prep work	1/14/2020	8:40:00	1/14/2020	9:45:00	1.08
117	Simulation Educator	Central Line	Course Development	CVC Prep work	1/14/2020	12:39:42	1/14/2020	13:17:32	0.63
118	Admin Support	Central Line	Course Development	CVC Prep work	1/14/2020	16:30:53	1/14/2020	16:45:53	0.25
119	Simulation Technician	Core Business	Maintenance	System Updates	1/14/2020	9:30:00	1/14/2020	11:00:00	1.50
120	Simulation Director	Core Business	Strategic Projects & System Support	Sharepoint Project	1/14/2020	10:30:00	1/14/2020	11:00:00	0.50
121	Simulation Director	Core Business	Strategic Projects & System Support	Sharepoint Project	1/14/2020	16:30:00	1/14/2020	17:29:00	0.98
122	Admin Support	Core Business	Maintenance	Equipment Labeling	1/14/2020	12:30:53	1/14/2020	12:45:53	0.25
123	Admin Support	Core Business	Maintenance	Closing Tasks	1/14/2020	16:45:53	1/14/2020	17:00:53	0.25
124	Simulation Educator	Core Business	Admin	Email and General To-Do's	1/14/2020	7:37:00	1/14/2020	8:41:21	1.07
125	Simulation Director	Core Business	Admin	Email and General To-Do's	1/14/2020	14:00:00	1/14/2020	15:00:00	1.00
126	Admin Support	Core Business	Admin	Email and General To-Do's	1/14/2020	10:30:53	1/14/2020	10:45:53	0.25
127	Simulation Educator	Core Business	Admin	Team Meeting	1/14/2020	8:41:23	1/14/2020	11:54:39	3.22
128	Simulation Director	Core Business	Admin	Team Meeting	1/14/2020	15:00:00	1/14/2020	16:00:00	1.00
129	Admin Support	Core Business	Admin	Team Meeting	1/14/2020	8:30:17	1/14/2020	9:00:17	0.50
130	Admin Support	Core Business	Admin	Team Meeting	1/14/2020	15:00:53	1/14/2020	16:00:53	1.00
131	Simulation Technician	Central Line	Execution	Setup/Teardown	1/15/2020	7:00:00	1/15/2020	11:30:00	4.50
132	Simulation Educator	Central Line	Course Development	CVC Prep work	1/15/2020	7:48:38	1/15/2020	9:08:38	1.33
133	Simulation Technician	Central Line	Course Development	CVC Prep work	1/15/2020	14:00:00	1/15/2020	16:00:00	2.00
134	Simulation Educator	Central Line	Course Development	CVC Prep work	1/15/2020	15:00:26	1/15/2020	15:15:15	0.25
135	Simulation Educator	Code Blue	Course Development	Code Blue prep work	1/15/2020	8:20:02	1/15/2020	10:28:47	2.15
136	Simulation Technologist	Core Business	Maintenance	Screen issues	1/15/2020	8:00:00	1/15/2020	8:30:00	0.50
137	Simulation Director	Core Business	Strategic Projects & System Support	Sharepoint Project	1/15/2020	8:30:00	1/15/2020	10:00:00	1.50
138	Simulation Technologist	Core Business	Maintenance	Equipment Management	1/15/2020	9:30:00	1/15/2020	10:00:00	0.50
139	Simulation Technologist	Core Business	Maintenance	Equipment Management	1/15/2020	14:00:00	1/15/2020	14:30:00	0.50

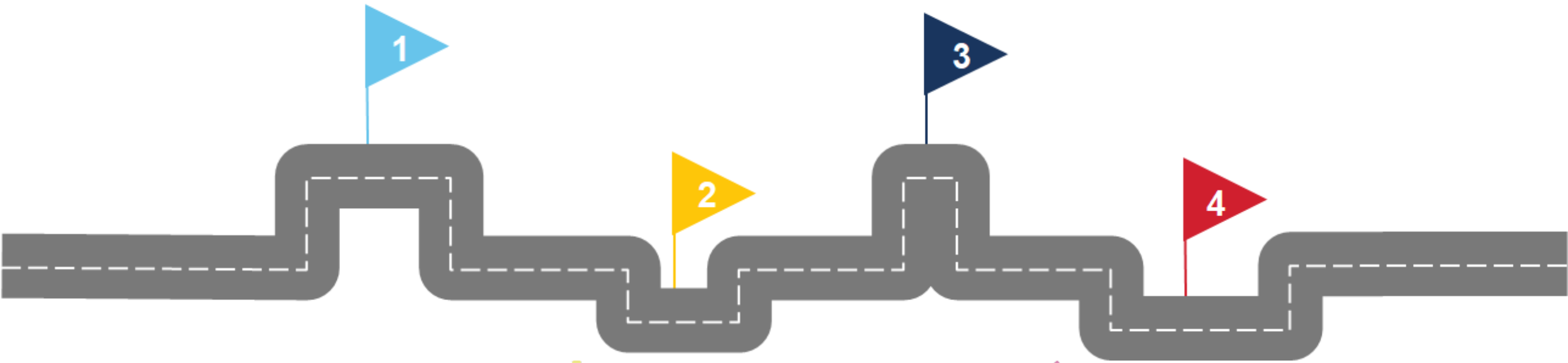
Data Analysis





Demonstration

Roadmap to Optimize Tech Capacity



COLLECT DATA
Time Tracking
Course Datasheets
MS Access / Toggl

**DETERMINE
CAPACITY**
FTE % in Direct vs.
Indirect Time
of Staff / Role

**ASSIGN LEVEL of
EFFORT**
= Gradients of
Design & Delivery
Effort by Event

**ANALYZE DATA
& ADVOCATE**
Compare actual to
scheduled; forecast
scheduling to capacity;
advocate for staffing

Technologist Level of Effort (LOE) Ranking System					
Ranking	Description	Type of Work	Avg Project Hours (Total)	Examples of Prior Programs (2017-2018)	Examples of Future Programs (2019-2020)
0	No LOE	<ul style="list-style-type: none"> > Run program as previously designed. > No additional effort. 	0	<ul style="list-style-type: none"> > CB GME Anesthesia - placed them in existing CB Pre/Post event > SRNA and GME Anesthesia machine checkouts require hardly any tech support > GME Anesthesia basic induction/room setup > GME EM AAA, GME EM LVAD, etc. - only runs every 3 year cycle > UME Barney 6 (even this program had ~2 hours of Technologist time last year) 	<i>Same examples, plus basic events where planning occurred in 2018 and does not require a refresh. Such as:</i> <ul style="list-style-type: none"> > GME Anesthesia Anaphylaxis > GME EM Beta Blocker > GME EM Ultrasound Workshop > GME EM Intern STEMI/Anaphylaxis > GME EM TCA Toxicity > GME IM Brady and Tachy workshops > SHP SRNA Intraop Management > GME TUKHS IP Anesth Neuro ICU
1	Minimal LOE	<ul style="list-style-type: none"> > Minor curriculum/delivery changes only > Refresh meeting only, no walkthrough/pilot > Minor document updates in new form > Some supply management 	Range 1-10 hrs Avg: 5 hrs	<ul style="list-style-type: none"> > GME EM curriculum review with faculty, minor updates without refresh to new forms > GME Peds curriculum review with faculty, minor updates without refresh to new forms > Minor updates or review of supply/equipment management of existing procedural skills training: GME IM Bradyarrhythmia, GME IM Tachyarrhythmia, GME Neurology LP Training 	<i>Most events that were a Light to Moderate LOE previous year due to updates in curriculum, transfer of documentation to new form, new/improved equipment, changes in location will now be a Minimal LOE because bulk of work was completed without plans to change anything:</i> <ul style="list-style-type: none"> > Majority of SHP SRNA events > Majority of GME Anesthesia events
2	Light LOE	<ul style="list-style-type: none"> > Same as Minimal Refresh LOE, except increased supply management or equipment preparations for more complex simulation events 	Range: 10-30 hrs Avg: 20 hrs	<ul style="list-style-type: none"> > Majority of GME Anesthesia events required curriculum and documentation updates due to transitioning of manikins from CAE HPS to SimMan 3G, addition of ASL 5000 lung machine, etc. 	<i>Events that are updated in curriculum and new form, yet will continue to require Technologist's hand due to complexity in equipment or preparations:</i> <ul style="list-style-type: none"> > GME Anesthesia Increased ICP/EVD > GME Anesthesia Acute Hemorrhage > TUKHS Heme/Onc FOI
3	Moderate LOE	<ul style="list-style-type: none"> > Planning work plus moderate delivery work >>> design changes >>> minor equipment substitutes and subsequent testing >>> minor scenario updates, etc. > Updating documentation into new form. 	Range: 30-50 hrs Avg: 40 hrs	<ul style="list-style-type: none"> > Code Blue Session 1 > Code Blue CC Onboarding > Code Blue Pre/Post > CVC GME IM and Anesthesia > GME Anesthesia Increased ICP > UME and SON STATT Event 1-4 as second time around requiring a moderate level of design 	<i>Mostly existing programming but requires full refresh work to be able to deliver effectively:</i> <ul style="list-style-type: none"> > Modifying existing code blue for new discipline SHP DPT based on Event 6 code blue > SON APRN Shock Simulation > TUKHS GME FM Rapid Response on CFP > GME Neurology Brain Death
4	Heavy LOE	<ul style="list-style-type: none"> > Planning work plus significant delivery work >>> major equipment and/or space changes >>> large amount of scenario updates to be re-programmed >>> added moulage/model making, etc. 	Range: 50-80 hrs Avg: 60 hrs	<ul style="list-style-type: none"> > Code Blue Peds/PICU - New Program > GME Orientation Bootcamp - Significant Refresh > CVC Warmup/Wrapup move from Sudler to HEB 	<ul style="list-style-type: none"> > GME Anesthesia Ischemia > GME Anesthesia Post Partum Hemorrhage > GME Anesthesia VAE > Some UME SON STATT Event 5 and 8 overhaul > Maintenance of TUKHS OR Team Training OBGYN
5	New Project	<ul style="list-style-type: none"> > Development of original curriculum and design; plus corresponding delivery planning, testing, and preparations. Significant project management and interprofessional coordination required. Usually requires multiple Technologists that span multiple weeks to months 	Over 80 hours, multiple Technologists Avg: 100+ hrs	<ul style="list-style-type: none"> > TUKHS OR Team Training Urology > TUKHS OR Team Training OBGYN Prep > Code Blue Session 1.5 > Code Blue Session 2 > SON N3 BATI - Significant Refresh/Redesign 8 weeks program 	<ul style="list-style-type: none"> > Code Blue NICU > Code Blue Session 2 - All new curriculum each year > TUKHS OR Team Training Non-Surgical Code Blue > TUKHS OR Team Training - New Service Line > KUMC FIPC Level 3 - All new curriculum

Questions for you:

- What would be the outcomes for your center if you were to implement a process like this?
- What are the barriers that you see to implementing it? What is one step you could take to break down some of these barriers.
- What other questions do you have for us?



We use data to protect our staff.

Acknowledgements

- **(5036) Capacity Analysis: Using a Simple Metric to Tell Your Story (1090-000139)**

SSH Hospital-Based Simulation Program Section Metrics Workgroup

**Feel free to reach out with
any additional questions or
comments!**

Stephanie Swanson – sswanson4@kumc.edu
Akiko Kubo – akubo@kumc.edu
Scott Voss – svoss@kumc.edu



A stylized illustration on the left side of the slide depicts three healthcare professionals in yellow, blue, and green silhouettes. They are gathered around a patient lying on an orange gurney. The patient is covered with a purple blanket. The background is white with scattered colorful dots in yellow, blue, green, and orange.

Staffing Capacity Analysis: Protect Your Team, Grow Your Center!

Stephanie Swanson, BS
Akiko Kubo, BSN, RN, CCRN
Scott Voss, MBA

IMSH 2021 | March 26, 2021

THANK YOU!

SIMULATION:
BRINGING LEARNING TO LIFE

#IMSH2021