


**Lane Scheduling:  
An Innovative Approach to  
Improve Resource Utilization  
Efficiency in Academic  
Practices**

*University of Utah School of Medicine  
Department of Family and Preventive Medicine*

# Disclosures

- None

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# Conference on Practice Improvement



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# Learning objectives

On completion of this session, participants will be able to

- Map a draft lane schedule for your current workforce
- Assess your draft lane schedule for areas of possible expansion
- Identify ways to address concerns from your provider team concerning a new scheduling model

# Our journey

## System objectives

- Patient experience
  - Patient access
  - Extended hours
  - Patient satisfaction
- Practice efficiency
  - Room utilization
  - Staff cost per visit
- Productivity
  - Visits per hour

## Department objectives

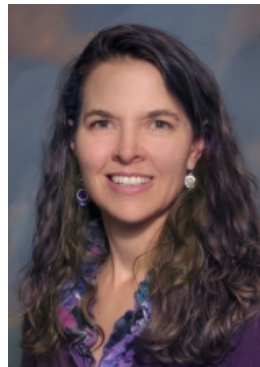
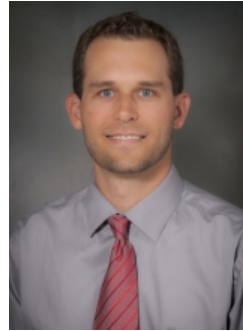
- Same plus
  - High value educational experience for residents and students
  - Provider satisfaction and burnout reduction





# Faculty and provider concerns

- Control over schedules
- Adequate clinical staff
- Work life balance
- Balancing part time clinic and part time academic responsibilities
- Burnout





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# Literature review

514 July-August 2003

*Family Medicine*

Practice Management \_\_\_\_\_

## Improving Efficiency in a Residency Training Clinic: Results From Addressing a Root Cause of Inefficiency

George C. Xakellis, Jr, MD, MBA

Fam Med. 2003 Jul-Aug;35(7):514-8

“Reducing the variation in the number of providers scheduled to see patients toward an optimum number based on the number of available exam rooms resulted in sustainable increases in the number of patients seen...”

# Lane Scheduling

- Definitions:
  - **Team**: a group of one or more providers whose clinical FTE is  $\geq 1.0$
  - **Lane**: a specified schedule during which a team will conduct its clinical work.
    - A lane extends over 4 days per week.
    - One day per week the team is not in clinic.
- More lanes = more clinical productivity in the same space

# Establishing a lane schedule

- Three steps
    - Analyze your space and workforce to determine the maximum number of lanes you can accommodate
    - Plan the lanes
    - Organize the teams
  - As always, collect data and analyze results
- Arrows = Keys to success

# **Step 1: Analyze your space and workforce**

- The maximum number of lanes is a function of 4 factors
  - Number of exam rooms
  - How many used by each provider
  - Hours of operation
  - Clinic hours per provider FTE

## Exam rooms

- 12 exam rooms
- 2 procedure rooms
- 3 consultation rooms
  - BH, pharmacy, dietician





# New building 2019



## Rooms per provider

- How we started
  - 3 rooms per provider
  - 4 providers working at a time
- With Lane Scheduling
  - 2 rooms per provider
  - 6 providers working at a time
- Address clinic workflow issues separately to achieve goal of smooth flow with smaller number of rooms.

# Hours of operation

- How we started
  - 2010: 8:30 am - 5:30 pm
    - Block schedule 45 hours per week
  - 2015: 7:30 am - 8:30 pm, 4 hours Saturday
    - Block schedule 60 hours per week
  - 2017: 8:00 am - 7:30 pm, 4 hours Saturday
    - Block schedule 58 hours per week

## Hours of operation

- July 2018 Lane Scheduling
  - 7:00 am - 7:00 pm Monday-Thursday
  - 7:00 am - 5:30 pm Friday
  - 8:00 am - 5:00 pm Saturday
- Continuous schedule
  - 67.5 hours per week

# Clinical hours per FTE

- How we started
  - One session per week per 0.1 FTE
  - One session = 4 hours
- One session = 4 hours?
  - Leaving early
  - Coming late
  - Cancelling clinics
  - Special deals

## Clinical hours per FTE

- With Lane Scheduling
  - 1 FTE = 36 patient contact hours per week
  - Smaller FTE's pro-rated
    - 3.6 hours/ 0.1 clinical FTE
  - Monthly provider dashboards track actual clinic hours on a trailing 12-month basis



# Worksheet 1

- Work in teams or individually
- 5 minutes

## Step 2: Plan the Lanes

Lane	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	Off	Clinic	Clinic	Clinic	Clinic	
2	Clinic	Off	Clinic	Clinic	Clinic	
3	Clinic	Clinic	Off	Clinic	Clinic	
4	Clinic	Clinic	Clinic	Off	Clinic	
5	Clinic	Clinic	Clinic	Clinic	Off	
6	Clinic	Clinic	Off	Clinic	Clinic	
7	Clinic	Clinic	Clinic	Off	Clinic	
8	Off	Off	Clinic	Clinic	Off	Clinic

## **Worksheet 2**

- Work in teams or individually
- 5 minutes

## **Step 3: Organize the teams**

- Providers group themselves into teams of 1.0 FTE
  - A team can consist of 1 full-time individual
  - Teams pick their desired lane
  - The teams plan their individual desired schedules to fit within the hours of operation (7 am to 7 pm) on those days
- Individual choice is considered

## Residents

- Two residents each clinic session
    - Didactics on Wednesday
    - Clinic 36 hours per week, 9 hours M-T-Th-F
  - 3<sup>rd</sup> or 4<sup>th</sup> resident scheduled whenever another lane is open
    - Vacation
    - CME
    - Other cancellations
- Measure actual resident time in clinic

# Incentives



- Choice of preferred lane
  - Teams and individuals with larger FTE
- Incentive pay
  - 7 am start or 7 pm finish
  - Teams larger than 1 FTE
  - Regular scheduled Saturday
  - 36 hours into 3 days
    - Teams only, not individuals



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Sugarhouse Schedule Lanes Template: Effective 10-1-2018 to 6-30-2019, Revision date 9-14-2018

LANE	ATT	MONDAY								ATT	TUESDAY								WEDNESDAY								ATT	THURSDAY								FRIDAY								SAT	
		1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8										
700					MS	JG							SCo	MS			JRoI																JG	SCo											
730			Res	Res	MS	JG	EM				Res	Res	SCo	MS			JRoI										Res	Res	EM	MS			JG	SCo			EM								
800			Res	Res	KP	MS	JG	EM			Res	Res	SCo	MS	JG		JRoI		CQM Gen'l meeting at DFFPM								Res	Res	EM	MS			SV		JG	SCo	ES	EM	AS						
830			Res	Res	KP	MS	JG	EM			Res	Res	SCo	MS	JG		JRoI		QI Groups at DFFPM								Res	Res	EM	MS		TP	SV		JG	SCo	ES	EM	AS						
900		KS	Res	Res	KP	MS	JG	EM			Res	Res	SCo	MS	JG		JRoI		travel								Res	Res	EM	MS		TP	SV		JG	SCo	ES	EM	AS						
930			Res	Res	KP	MS	JG	EM			Res	Res	SCo	MS	JG		JRoI				MS	JG	SFeI	JRoI	AS		Res	Res	EM	MS		TP	SV		JG	SCo	ES	EM	AS						
1000			Res	Res	KP	MS	JG	EM			Res	Res	SCo	MS	JG		JRoI									Res	Res	EM	MS		TP	SV		JG	ES	JRoI	EM	AS							
1030			Res	Res	KP	MS	JG	EM			Res	Res	SCo	MS	JG		JRoI				KP	MS	JG	SFeI	JRoI	AS		Res	Res	EM	MS		TP	SV		JG	ES	JRoI	EM	AS					
1100			Res	Res	KP		JG	EM			Res	Res	ES	EM			KSt				KP	MS	JG	SFeI	JRoI	AS		Res	Res	EM			TP	SV		JG	ES	JRoI	EM	AS					
1130			Res	Res	KP		JG	EM			Res	Res	ES	EM			KSt				KP	MS	JG	SFeI	JRoI	AS		Res	Res	EM			TP	SV		JG	ES	JRoI	EM	AS					
1200					SCo	MS		EM					ES	EM			KSt				KP			SFeI	JRoI					MS			KSt		ES	JRoI									
1230					SCo	MS							ES	EM	JL		KSt				KP			SFeI	JRoI				MS			KSt		JRoI											
100			Res	Res	SCo	MS	JG				Res	Res	ES	EM	JL		KSt						MS	JG	SCu	JRoI	AS		Res	Res	SV	MS		TP	KSt		JG		JRoI	EM	AS				
130			Res	Res	SCo	MS	JG	EM			Res	Res	ES	EM	JL		KSt				KP	MS	JG	SFeI	JRoI	AS		Res	Res	SV	MS		TP	KSt		JG	ES		EM	AS					
200			Res	Res	SCo	MS	JG	EM			Res	Res	ES	EM	JL		KSt				KP	MS	JG	SFeI	SCu	AS		Res	Res	SV	MS		TP	KSt		JG	ES		EM	AS					
230			Res	Res	SCo	MS	JG	EM			Res	Res	ES	EM	JL		KSt				KP	MS	JG	SFeI	SCu	AS		Res	Res	SV	MS		TP	KSt		JG	ES	JRoI	EM	AS					
300	JRod		Res	Res	SCo	MS	JG	EM		SCo	Res	Res		EM	JL		KSt				KP	MS	JG	SFeI	SCu	AS		Res	Res	SV	MS		TP	KSt		JG	ES	JRoI	EM	AS					
330			Res	Res	SCo	MS	JG	EM			Res	Res			JL		KSt				KP	MS	JG	SFeI	SCu	AS		Res	Res	SV	MS		TP	KSt		JG	ES	JRoI	EM	AS					
400			Res	Res	SV	MS					Res	Res	ES	EM	JL		KSt				KP	MS	JG	SFeI	SCu	AS		Res	Res	SV	JL		TP	SCu			ES	JRoI	EM	AS					
430			Res	Res	SV		EM				Res	Res	ES	EM	JL		KSt				KP		JG	SFeI	SCu	AS		Res	Res	SV	JL		TP	SCu			ES	JRoI	EM	AS					
500			Res	Res	SV	MS		EM			Res	Res	ES	EM			KSt				KP		JG	SFeI	SCu					SV	JL			SCu											
530					SV	MS							ES	EM			KSt				KP		JG	SFeI							JL			SCu											
600					SV	MS							ES	EM			KSt						JG	SFeI							JL			SCu											
630					SV	MS							ES	EM			KSt						JG	SFeI							JL			SCu											

WEEK 1	700				MS	JG							SCo	MS			JRoI																JG	SCo										
	730			Res	Res	MS	JG	EM				Res	Res	SCo	MS			JRoI									Res	Res	EM	MS			JG	SCo			EM							
	800			Res	Res	KP	MS	JG	EM			Res	Res	SCo	MS	JG		JRoI		Clinic meeting at clinics								Res	Res	EM	MS			SV		JG	SCo	ES	EM	AS				
	830			Res	Res	KP	MS	JG	EM			Res	Res	SCo	MS	JG		JRoI		Journal Club								Res	Res	EM	MS		TP	SV		JG	SCo	ES	EM	AS				
	900			Res	Res	KP	MS	JG	EM			Res	Res	SCo	MS	JG		JRoI								Res	Res	EM	MS		TP	SV		JG	SCo	ES	EM	AS						
	930			Res	Res	KP	MS	JG	EM			Res	Res	SCo	MS	JG		JRoI		travel								Res	Res	EM	MS		TP	SV		JG	SCo	ES	EM	AS				
	1000			Res	Res	KP	MS	JG	EM			Res	Res	SCo	MS	JG		JRoI				MS	JG	SFeI	JRoI	AS		Res	Res	EM	MS		TP	SV		JG	ES	JRoI	EM	AS				
	1030			Res	Res	KP	MS	JG	EM			Res	Res	SCo	MS	JG		JRoI				KP	MS	JG	SFeI	JRoI	AS		Res	Res	EM	MS		TP	SV		JG	ES	JRoI	EM	AS			
	1100			Res	Res	KP		JG	EM			Res	Res	ES	EM			KSt				KP	MS	JG	SFeI	JRoI	AS		Res	Res	EM			TP	SV		JG	ES	JRoI	EM	AS			
	1130			Res	Res	KP		JG	EM			Res	Res	ES	EM			KSt				KP	MS	JG	SFeI	JRoI	AS		Res	Res	EM			TP	SV		JG	ES	JRoI	EM	AS			
	1200					SCo	MS		EM					ES	EM			KSt				KP	MS		SFeI	JRoI	AS				MS			KSt		ES	JRoI							
	1230					SCo	MS							ES	EM	JL		KSt				KP	MS		SFeI	JRoI	AS				MS			KSt		JRoI								
100			Res	Res	SCo	MS	JG				Res	Res	ES	EM	JL		KSt						MS	JG	SCu	AS		Res	Res	SV	MS		TP	KSt		JG		JRoI	EM	AS				
130			Res	Res	SCo	MS	JG	EM			Res	Res	ES	EM	JL		KSt				KP	MS	JG	SFeI	SCu	AS		Res	Res	SV	MS		TP	KSt		JG	ES		EM	AS				
200			Res	Res	SCo	MS	JG	EM			Res	Res	ES	EM	JL		KSt				KP	MS	JG	SFeI	SCu	AS		Res	Res	SV	MS		TP	KSt		JG	ES		EM	AS				
230			Res	Res	SCo	MS	JG	EM			Res	Res	ES	EM	JL		KSt				KP	MS	JG	SFeI	SCu	AS		Res	Res	SV	MS		TP	KSt		JG	ES	JRoI	EM	AS				
300	JRod		Res	Res	SCo	MS	JG	EM		SCo	Res	Res		EM	JL		KSt				KP	MS	JG	SFeI	SCu	AS		Res	Res	SV	MS		TP	KSt		JG	ES	JRoI	EM	AS				
330			Res	Res	SCo	MS	JG	EM			Res	Res			JL		KSt				KP	MS	JG	SFeI	SCu	AS		Res	Res	SV	MS		TP	KSt		JG	ES	JRoI	EM	AS				
400			Res	Res	SV	MS		EM			Res	Res	ES	EM	JL		KSt				KP		JG	SFeI	SCu	AS		Res	Res	SV	JL		TP	SCu			ES	JRoI	EM	AS				
430			Res	Res	SV		EM				Res	Res	ES	EM	JL		KSt				KP		JG	SFeI	SCu	AS		Res	Res	SV	JL		TP	SCu			ES	JRoI	EM	AS				
500			Res	Res	SV	MS		EM			Res	Res	ES	EM			KSt				KP		JG	SFeI	SCu					SV	JL			SCu										
530					SV	MS							ES	EM			KSt				KP		JG	SFeI							JL			SCu										
600					SV	MS							ES	EM			KSt						JG	SFeI							JL			SCu										
630					SV	MS							ES	EM			KSt						JG	SFeI							JL			SCu										

WEEK 2	700				MS	JG							SCo	MS			JRoI																JG	SCo									
	730			Res	Res	MS	JG	EM				Res	Res	SCo	MS			JRoI									Res	Res	EM	MS			JG	SCo			EM						
	800			Res	Res	KP	MS	JG	EM			Res	Res	SCo	MS	JG		JRoI		Clinic meeting at clinics								Res	Res	EM	MS			SV		JG	SCo	ES	EM	AS			
	830			Res	Res	KP	MS	JG	EM			Res	Res	SCo	MS	JG		JRoI		Journal Club								Res	Res	EM	MS		TP	SV		JG	SCo	ES	EM	AS			
	900			Res	Res	KP	MS	JG	EM			Res	Res	SCo	MS	JG		JRoI								Res	Res	EM	MS		TP	SV		JG	SCo	ES	EM	AS					
	930			Res	Res	KP	MS	JG	EM			Res	Res	SCo	MS																												

WEEK 1

WEEK 2

# Outcomes since July 2018

- Our 12 exam rooms accommodate 8 lanes
- Our method is being studied for possible implementation in other clinics and specialties at our institution.

# Outcomes since July 2018

- Increased satisfaction
  - Management
  - Faculty
  - Staff
  - Patients
- Increased visit numbers overall
- Improved burnout scores
- Decreased resident satisfaction
- Q1 decrease in resident visit numbers

# Questions and discussion

