The "Block Model" at the University of Rochester

What is block scheduling?

Block scheduling is an alternative structure for a residency program. In the traditional medicine residency structure residents have a half-day of continuity clinic every week while they rotate through different inpatient settings. Residents can feel pulled in too many directions in this structure, unable to focus fully on their outpatient clinics or on their inpatient rotations. In our block schedule, every fourth 2-week block is a dedicated Ambulatory Block, as shown in Figure 1 (ours is a "6+2" model, or 6 weeks of the "usual" rotations followed by 2 weeks of Ambulatory Block). The Ambulatory Blocks are fixed and are not replaced by vacation. When residents are not in Ambulatory Blocks they rotate through traditional inpatient rotations, electives, and other focused ambulatory-based experiences (such as geriatrics), without continuity clinic sessions (except for one partial clinic session [<2 hours] during the 6 weeks between Ambulatory Blocks).

	Block Start Date											
	6/24/16	**7/13/16**	**7/27/16**	**8/10/16**	**8/24/16**	**9/7/16**	**9/21/16**	**10/5/16**	**10/19/16**	**11/2/16**	**11/16/16**	**11/30/16**
Resident A	Ambulatory Block	Vacation	SMH Floors	SMH Floors	Ambulatory Block	CCU	Geriatrics	Night Float	Ambulatory Block	Cardiology Elective	Cardiology Elective	SMH Floors
Resident B	MICU	Ambulatory Block	Vacation	SMH Floors	SMH Floors	Ambulatory Block	CCU	Geriatrics	Night Float	Ambulatory Block	Nephrology Elective	Nephrology Elective
Resident C	Palliative Care	MICU	Ambulatory Block	Vacation	SMH Floors	SMH Floors	Ambulatory Block	CCU	Geriatrics	Night Float	Ambulatory Block	Endocrine Elective
Resident D	HH Floors	Palliative Care	MICU	Ambulatory Block	Vacation	SMH Floors	SMH Floors	Ambulatory Block	CCU	Geriatrics	Night Float	Ambulatory Block

Figure 1. Example of 4 residents' schedules during 6 months of the R2 year (the basic structure is the same all 3 years). Each box represents a 2-week rotation. Residents A through D may form a "mini-practice," with each member helping cover urgent issues of the combined panel of patients when in their Ambulatory Block while mainly focusing on their own panel of patients.

What happens in an Ambulatory Block?

When a resident is in an Ambulatory Block s/he has 4 continuity clinic half days ("sessions") per week, 3 subspecialty/elective sessions per week, and three additional sessions used for education, quality improvement, and administrative ("other") time, as shown in Figure 2. Subspecialty electives are longitudinal over the course of the year. For example, a resident may choose an ambulatory nephrology elective on Monday afternoons, cardiology elective session Tuesday mornings, and hematology clinic Wednesday afternoons. Over the course of the year, the resident will work with the same attending in the same clinic over 12-14 sessions; this allows the resident to develop a longitudinal relationship with the attending and with some patients (e.g., the same patient could be seen by the resident in an initial specialty evaluation and then again in follow up visits over the course of the year in the specialist's office).

		Monday	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
Week 1	**AM**	**Continuity Clinic**	**Cardiology elective**	**Quality Improvement**	**Education session**	**Continuity Clinic**
	PM	**Nephrology elective**	**Continuity Clinic**	**Hematology elective**	**Continuity Clinic**	**Administrative**

		Monday	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
Week 2	**AM**	**Continuity Clinic**	**Cardiology elective**	**Quality Improvement**	**Education session**	**Continuity Clinic**
	PM	**Nephrology elective**	**Continuity Clinic**	**Hematology elective**	**Continuity Clinic**	**Administrative**

Figure 2. Example of a resident's schedule in each Ambulatory Block over the course of the year. The resident would be paired with a specific subspecialist in each elective clinic over the year. Nephrology, Cardiology, and Hematology are shown for illustrative purposes only. "Administrative" consists of a combination of self-study modules, administration time, and other time.

What are the advantages of block scheduling?

Internal medicine is primarily practiced in the outpatient setting following residency, but traditionally resident education has been primarily inpatient-based, with resident clinics scheduled for a ½ day per week while they're on their inpatient rotations. This disrupts the inpatient experience and makes the ambulatory experience feel hectic and like an afterthought, rather than a critically important domain for education. We surveyed our residents before (June 2014) and 1 year into our block model structure (June 2015) and found substantial improvements in residents' experiences in a number of important domains (survey results in italics):

- Our residents are much more satisfied with their ambulatory training and feel more favorably about ambulatory general internal medicine in the Block Model. *After 1 year in our Block Model, 80% of our residents were "very satisfied with their training in ambulatory medicine" (compared to only 31% before the Block Model), twice as many residents feel that ambulatory medicine is an enjoyable field of medicine, and there was a 3.5 fold increase in the number of residents more interested in a primary care career because of their continuity clinic experiences.*
- When in ambulatory blocks, residents are not pulled toward other patient care commitments. This allows them to focus on their continuity practice, ambulatory electives, and ambulatory education without competing inpatient responsibilities: *In the Block Model, 90% of our residents reported being able to focus on their outpatient education, compared to only 31% in the traditional ½ clinic per week format.*
- Residents are immersed in ambulatory practice early in residency. This enables them to build a strong foundation in ambulatory skills and efficiency early in residency, which can be built upon throughout residency. *In the Block Model, interns felt much more favorably about the pace of clinic for training and documentation (62% positive responses compared to 18% before the Block Model, even though patient visits were scheduled for the same 40 minute visit length during both years).*
- Removal of clinics from floor rotations and traditional inpatient elective blocks helps keep the whole team present each afternoon, allowing for better continuity with patients and more time for teaching and learning. *In the Block Model, residents reported substantially less inpatient handoffs caused by clinic (73% to 12%) and less clinic interference with providing high quality care to inpatients (46% to 12%).*
- The structure of electives in an ambulatory block allows for longitudinal relationships to form between residents and their ambulatory preceptors and patients. *In the Block Model, satisfaction with ambulatory training in subspecialty medicine increased from 31% to 82%.*
- Ambulatory blocks contain dedicated time for ambulatory education, quality improvement education, and mentored quality improvement projects. *Residents overwhelmingly found the education sessions highly useful, and there was a 30% increase in the number of residents who reported feeling well-trained in quality improvement and patient safety.*
- *87% of our residents who had experienced both the traditional clinic structure and our Block Model strongly preferred our Block Model structure overall.*
- Our June 2016 resident survey (year 2 in the model) was at least as positive as the year 1 survey.

What happens with a resident's patients when s/he is not in an Ambulatory Block?

Each resident is part of a resident mini-practice consisting of the resident and other residents in the other 3 ambulatory block cycles (e.g., Residents A, B, C, and D in Figure 1) who share the same preceptor. In this model, at least one partner from each mini-practice is in an Ambulatory Block at all times. The partners see each others' patients for urgent visits that cannot wait until the next Ambulatory Block or intersession clinic of the primary resident.

Do residents have traditional elective blocks?

Residents have both longitudinal ambulatory electives within Ambulatory Blocks and traditional 2 and 4-week long elective blocks, which can be used for inpatient electives, outpatient electives, or mixed inpatient-outpatient electives, depending on the resident's preferences.