

Reuse, Reuse, and More Reuse: The Launch of a Lab Swap Shop

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LEARNING OBJECTIVES

- Understand how the Lab Reuse Program started at U -M and how it has transformed over the last 14 years.
- Learn the challenges and tips for launching a successful swap shop.
- Identify next steps for continuing to grow a reuse program.

THE PROBLEMS

- Researchers buy *more* than they need!
- Where do the items go when a lab closes or they order the wrong thing?
 - Property Disposition has limited capacity.
- Clutter is a safety concern.
- Space is limited!

THE SOLUTION

Lab Reuse!

- Connect researchers with surplus supplies at no cost to the lab.
- Save research dollars, divert items from the landfill, keep labs safe, and effectively use space!

THE HISTORY OF LAB REUSE AT UM

2011

Launch of the Lab Reuse Program

Mainly just chemical surplus: Collected by EHS, inventoried, and delivered to labs by EHS

2018

Expansion of the Lab Reuse Program

Launch of an online order form to include categories like glassware, consumables, and small equipment

2021

First Swap Event: Chemistry Bldg

Held in the atrium, very popular with researchers, 2100 lbs of supplies rehomed

2024

Opening of the Lab Swap Shop

Physical space, basic online inventory, open one day a week/by appt, hold events



PART 1:

**THE DELIVERY
PROGRAM**



PART 1: DELIVERY PROGRAM LAUNCH

- Originally called ChEM Reuse
 - Chemicals, Equipment, and Materials.
 - Rebranded in 2024 to the Door-to-Door Lab Reuse Program.
- Started with only chemicals → some consumables later.
- Promoted in newsletters, website, flyer, digital signage.



PART 1: THE REQUIRED INPUTS

- Small space → 5 Shelves in an EHS chemical disposal space
- Staff: One FTE, intern support
- Weekly deliveries
 - Delivery vehicle
- EHS chemical support
- Property Disposition understanding
 - Nothing asset tagged



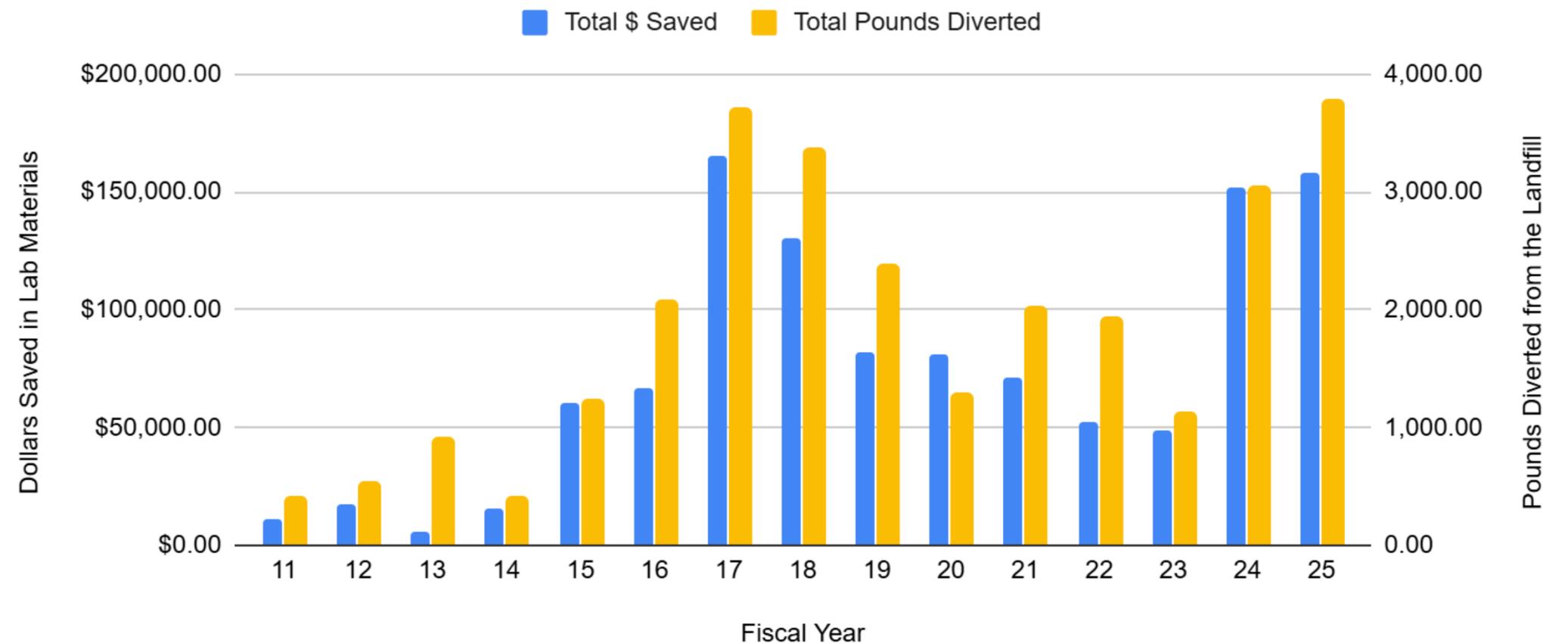
PART 1: METRICS TRACKING

C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Building	Rm #	PI/Lab	School/College	Department	Uniqname	Item Name	Details	Month	Amount	Unit	#	Unit Price	Price	TOTAL LBS
BSB	3170	Mia Howard	LSA	EEB	gyaxuan	Graduated Cylinders	250mL, glass	July			1	63.51	\$63.51	0
						Wide Mouth Glass Media Bottles	250mL	July			6	63.8	\$382.80	4
BSRB	3658	Hisham Bazzi	Med	CDB	jinhuil	Cover Glass	VWR, 48366-227	July			1	282.67	\$282.67	0
						Gas Lighters		July			1	5.6	\$5.60	0
						96 Well Plates	Sero-wel, case of 50	July			1	250	\$250.00	0
						96 Well Plates	expired, costar, 3694	July			1	72.165	\$72.17	0
						Desiccator	small, glass	July			1	273.81	\$273.81	0
						Wide Mouth Glass Media Bottles	2000mL	July			1	24.21	\$24.21	0
						Wide Mouth Glass Media Bottles	1000mL	July			4	9.27	\$37.08	0
						Wide Mouth Glass Media Bottles	500mL	July			4	7.72	\$30.88	35
MSRB 3	3200	Chase Weidmann	Med	Biochemistry	bowbritt	Stir Bars	big	July			1	10.35	\$10.35	0
						Incubation Tubes	w/ acrylic rack, 150mm Long 38mm Diamet	July			9	21	\$189.00	0
						Bucket	1 Gallon, locking	July			1	15.75	\$15.75	7
BSRB	5678	Spencer-Segal	Med	MNI	shanyya	Blotting Paper	VWR, 28298-010, pack/50	July			2	145.69	\$291.38	0
						Surgical Masks	REF 1541, dukal	July			1	36.59	\$36.59	0
						Hemostats	Locking	July			5	12.46	\$62.30	7
LSI		Alison Narayan	LSI	LSI	laring	Rafter Angle Squares		July			1	5.48	\$5.48	0
						Gas Lighters		July			1	5.6	\$5.60	0
						Tape Measurers	white, kinda simple	July			1	0.38	\$0.38	0
						Thermo Scientific Drybath	88870001	July			1	554.57	\$554.57	0
						Lab Stands	L Base	July			1	81	\$81.00	0
						Clamps	Rod	July			1	119.49	\$119.49	18
MSRB 3	8315	Karl Desch	Med	Pediatrics Neo...	kgolden	Shipping Containers	Hold 1L of liquid	July			7	59.6	\$417.20	7
Cancer Center	4411	Ryan Wilcox	Med	Internal Med-H...	wchengua	Tissue Culture Flasks	T75, 353135, case	July			1	82.56	\$82.56	11
MSRB 3	5315	Meredith Skiba	Med	Biochemistry	skibam	Drierite with Indicator	CAS 7778-18-9	July	2	kg	1	212.98	\$212.98	0
						Galactose	CAS 59-23-4	July	1	kg	1	233.74	\$233.74	0
						Potassium Phosphate Monobasic	CAS 7778-77-0	July	500	g	1	58.38	\$58.38	0
						Sodium Phosphate Monobasic, Monohydrate	CAS 10049-21-5	July	500	g	1	69.19	\$69.19	0
						Graduated Cylinders	plastic, 50mL	July			1	11.96	\$11.96	0
						Graduated Cylinders	plastic, 100mL	July			4	13.81	\$55.24	0
						Graduated Cylinders	plastic, 1000mL	July			3	31.48	\$94.44	0
						Graduated Cylinders	glass, 250mL	July			1	53.58	\$53.58	0
						Graduated Cylinders	glass, 500mL	July			6	75.86	\$455.16	0
						Erlenmeyer Flasks	glass,250mL	July			8	2.92	\$23.36	0

PART 1: THE GROWTH

- Google form in 2018.
- Consistent growth post COVID.

Total Value Saved and Total Pounds Diverted - Door-to-Door





PART 2:

LAB SWAP EVENTS

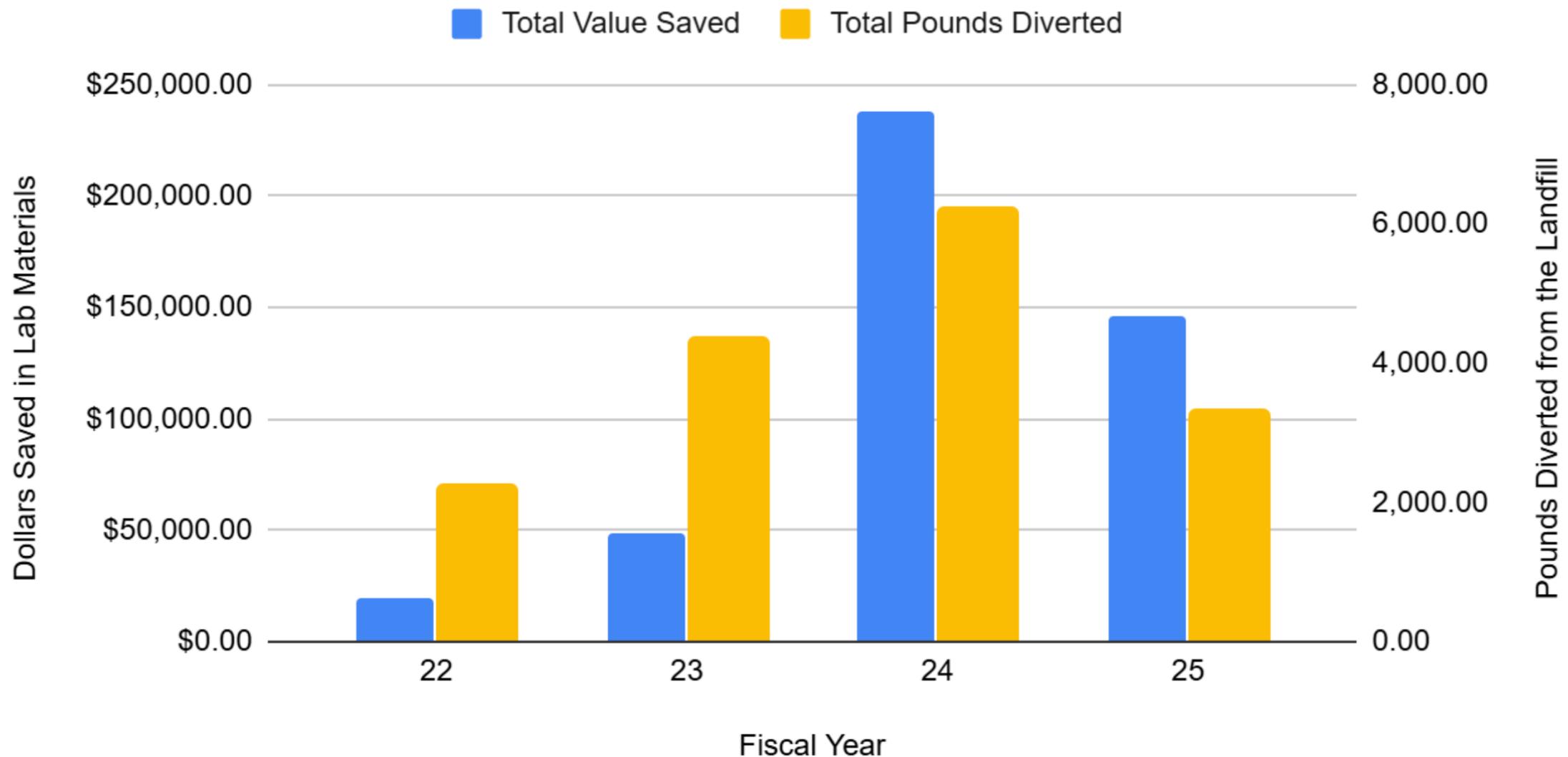
PART 2: THE FIRST SWAP

- In-person swap events allow researchers to assess the viability of different consumables leading to a more efficient transfer of materials.
- **2021:** First swap in the Chemistry Building
 - \$20,000 and 2,250 lbs
- **2022:** First LSA Swapapalooza
 - \$6,000 and 1,394 lbs
- **2023:** First of the annual Medical School Swap series
 - \$42,398 and 1,922 lbs
 - 3 events still occur



PART 2: GROWTH SINCE THEN

Total Value Saved and Total Pounds Diverted - Lab Swap Events





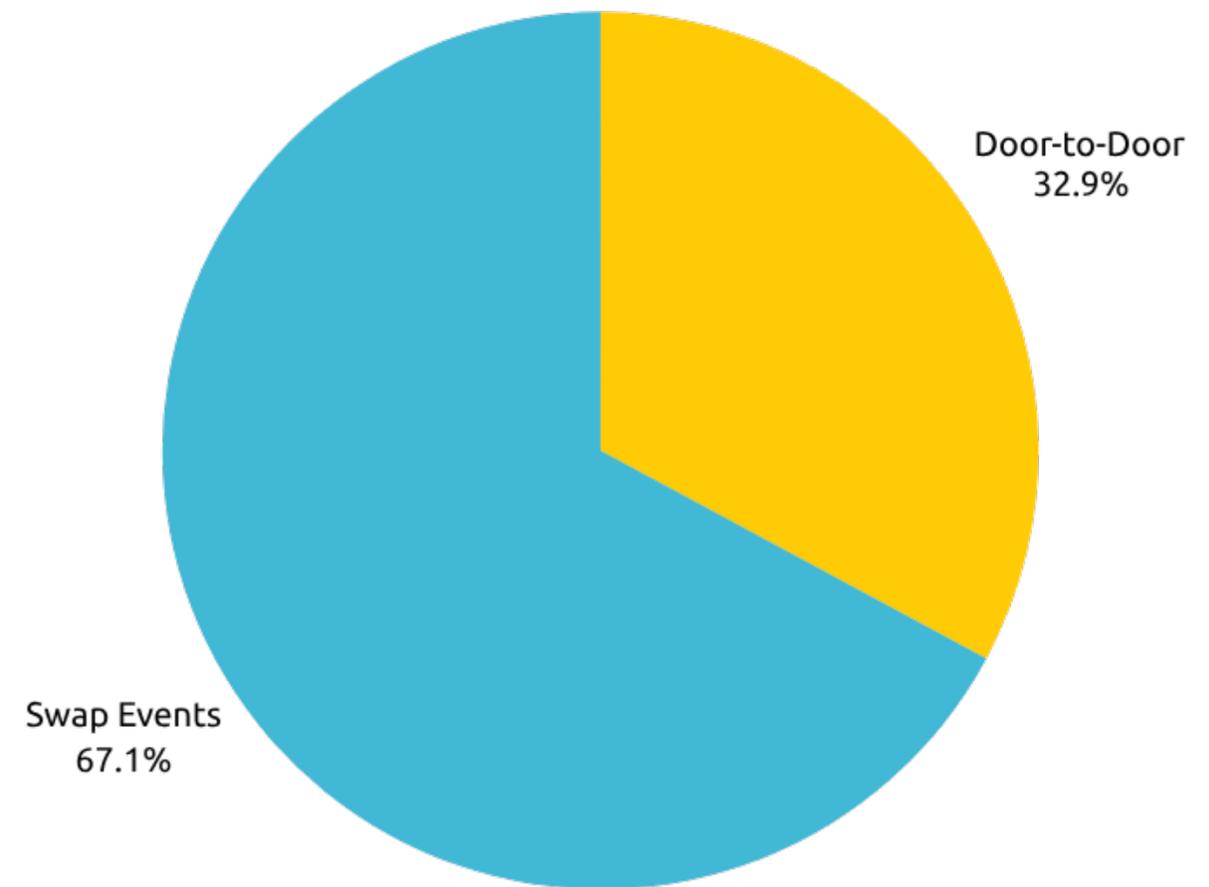
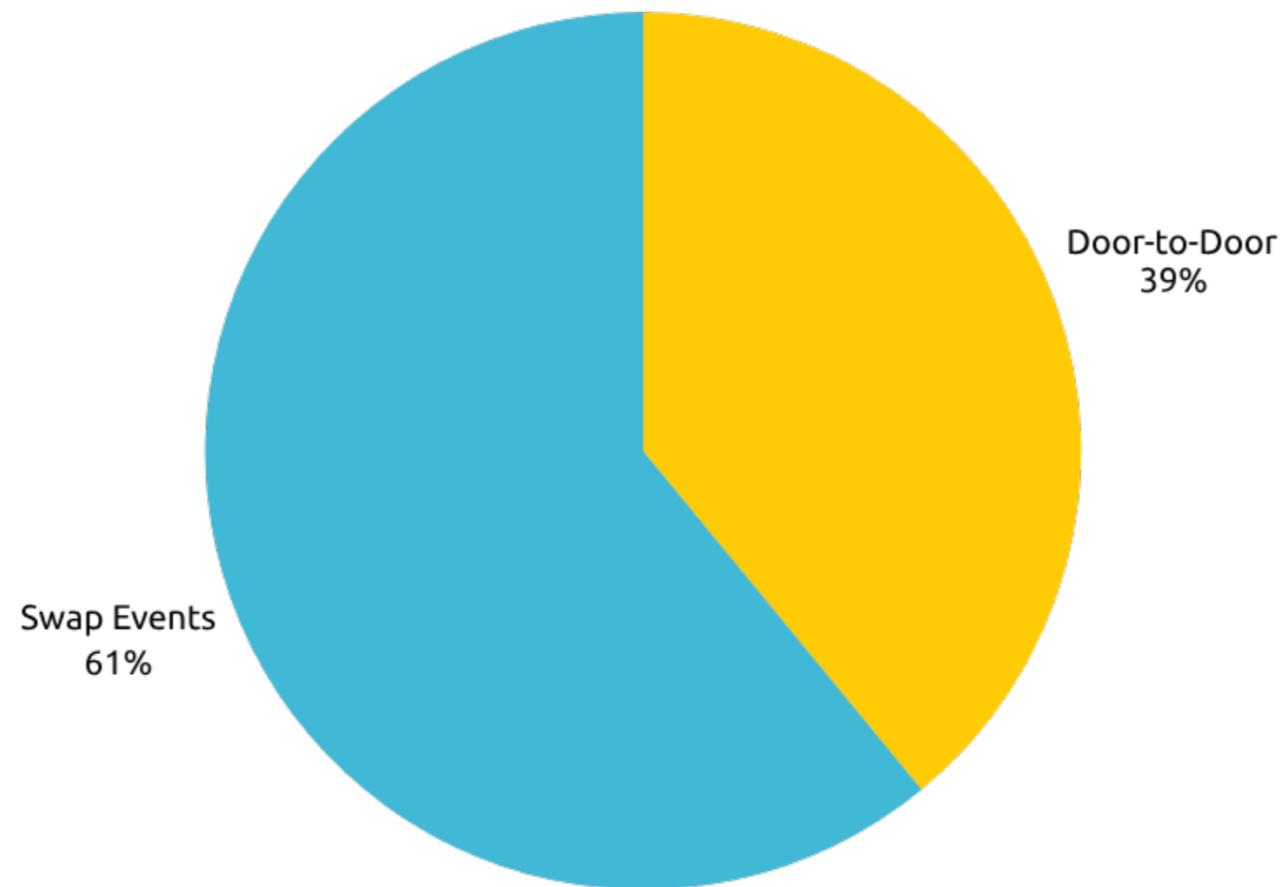
PART 3:

THE SWAP SHOP

PART 3: DELIVERY VS SWAP EVENTS

FY2024 Dollars Saved

FY2024 Pounds Rehomed



PART 3: SWAP SHOP CHALLENGES

3 main challenges :

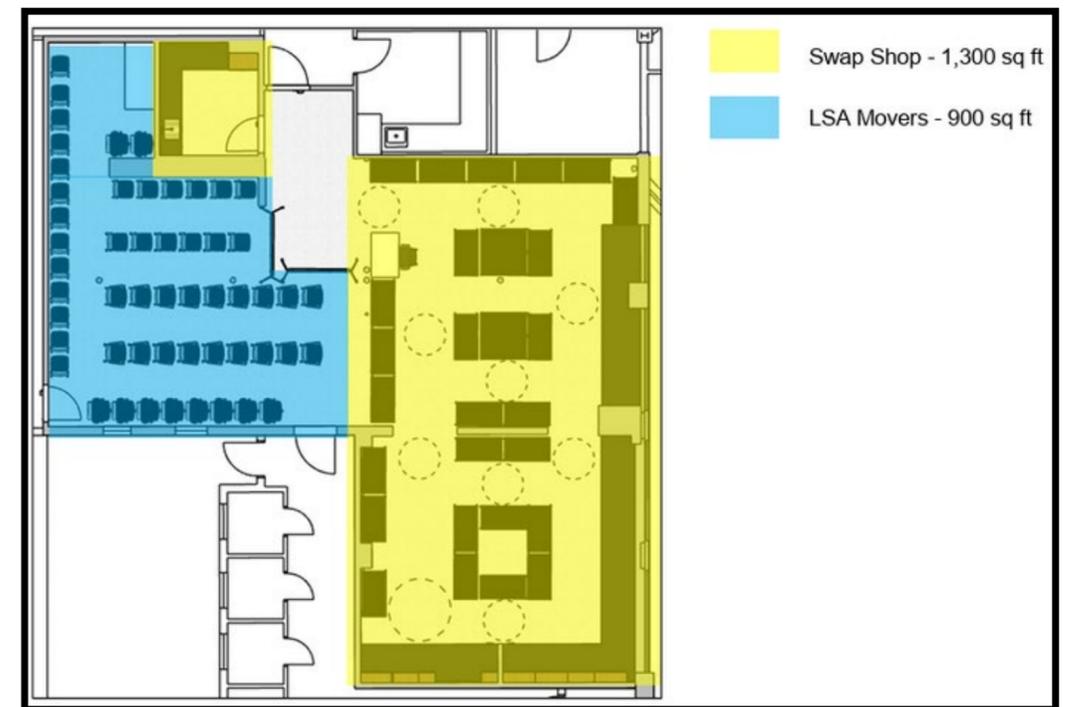
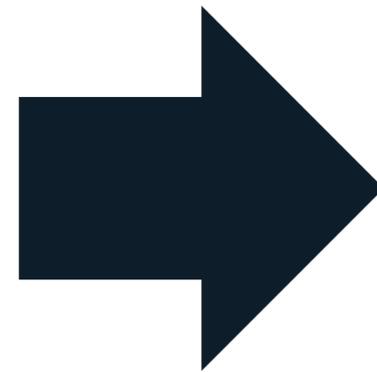
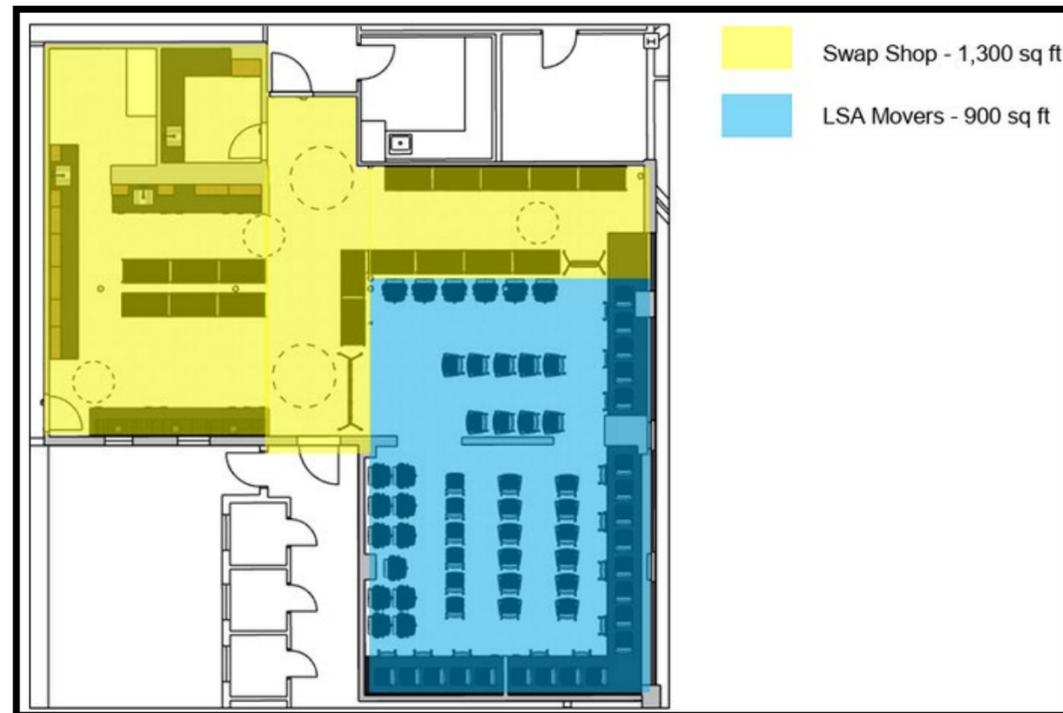
- Space
- Staff
- Funding

Tips and tools to overcome:

- Find an ally you can leverage.
- Don't take no for an answer.
- Explain how it will benefit that partner.
 - Historical reuse data and money saved.
- Again, be annoying, keep asking!

PART 3: SPACE

- 2,200 sq ft room being used a chair graveyard.
- Started with 900 sq ft, then changed sides and got 1,300
- Now have the full 2,200 with mobile metal carts for inventorying.



PART 3: STAFF

- Our team had one FTE and one intern (who is now a 2nd FTE) for lab efforts
 - Bulk of the day-to-day operations.
- Partnered with our College of Literature, Science, and the Arts (LSA).
 - 2 FTE for sustainability + interns
 - Lab safety coordinator
 - Team of movers to support



PART 3: FUNDING

Split between OCS and LSA

- **Start -up costs:**
 - \$500 for signs and posters, a rug, welcome event pizza
- **Growth costs:**
 - LSA gave \$4500 and OCS gave \$2,250 for moveable racks.
 - 24 total racks.
 - Allows for pop-up swap events
 - Pizza and art supplies for events.



PART 3: THE LAUNCH EVENT

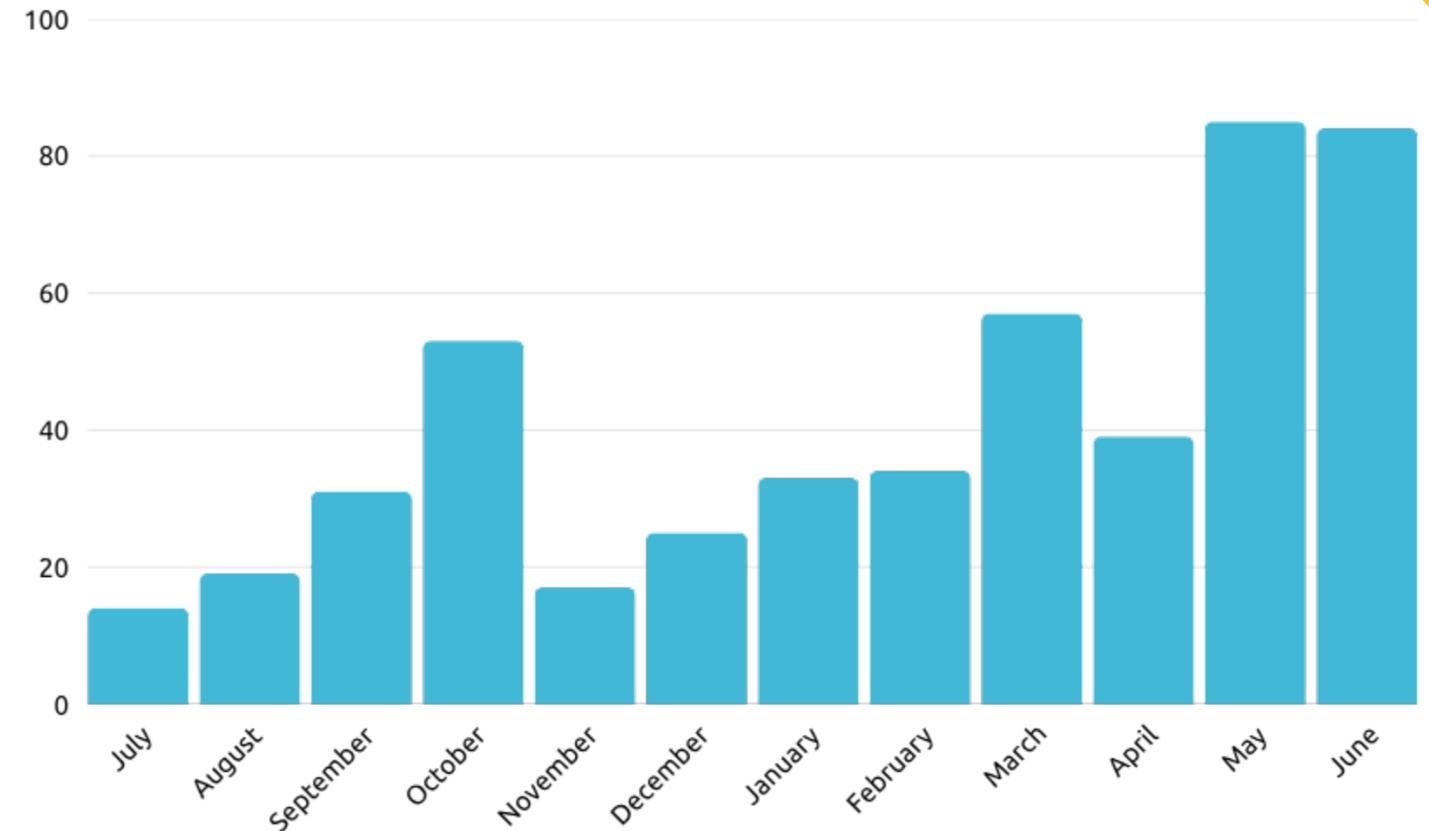
- June 6, 2024
- **Inputs:**
 - Flyering, digital signage, newsletters, “The Record” article.
 - Air plants from campus botanical garden with repurposed glassware as vases (big hit!).
 - Pizza!
- **Outputs:**
 - 29 lab groups attended.
 - \$162,987 saved for researchers.
 - 563 lbs diverted.



PART 3: SUCCESS SINCE

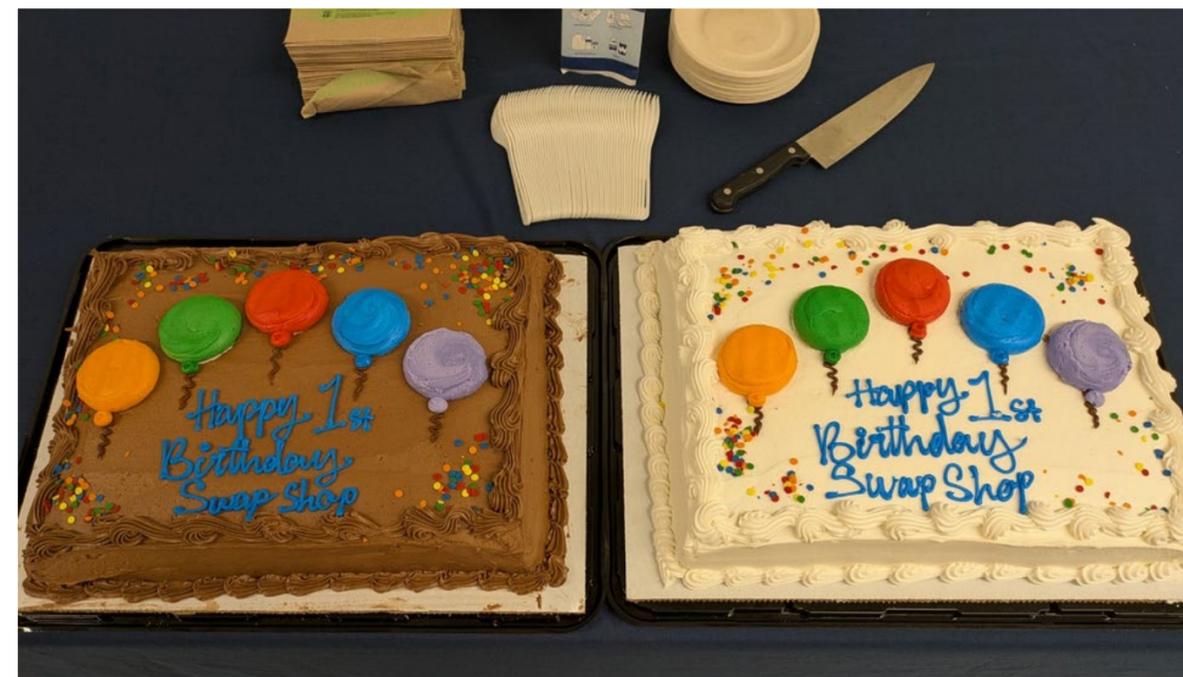
- 784 orders to date.
 - ~200 unique labs.
- \$875,000 saved compared to researchers buying new.
- 16,000 lbs diverted.
- Streamlined lab cleanouts.

FY 2025 Visits per Month



PART 3: SWAP SHOP EVENTS

- Pizza, giveaways, crafts!
- LSA Swapapalooza
 - \$41,700
 - 1,130 lbs
- Spooky Swap Shop
 - \$19,000
 - 422 lbs
- Birthday Party
 - \$53,400
 - 838 lbs



PART 3: BEYOND JUST SWAPPING

- Hub for sustainability
 - Stickers, promote certification and events.
 - Events are zero waste.
- Creative reuse
 - Glassware for crafts.
 - Creative Reuse series with the Arts Initiative.
 - Lab coat embroidery, “potion making”, serological pipette pointillism painting.



NEXT STEPS

- New Swap Shop!
 - North Campus and Med Campus.
 - Phase out Door-to-Door Delivery.
- Lab Reuse onto procurement portal.
 - Restrictions on items like volumetric flasks
- Tracking avoided scope 3 emissions and chemical disposal avoidance costs.
 - Estimated 60 MTCO₂e in FY25.
- Tracking donations? Repairs?



QUESTIONS?



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<https://ocs.umich.edu/programs/waste-reduction/lab-reuse/>