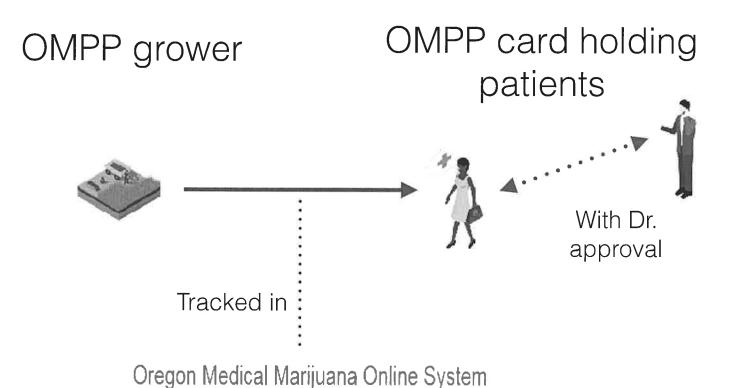
Cannabis registries in Oregon

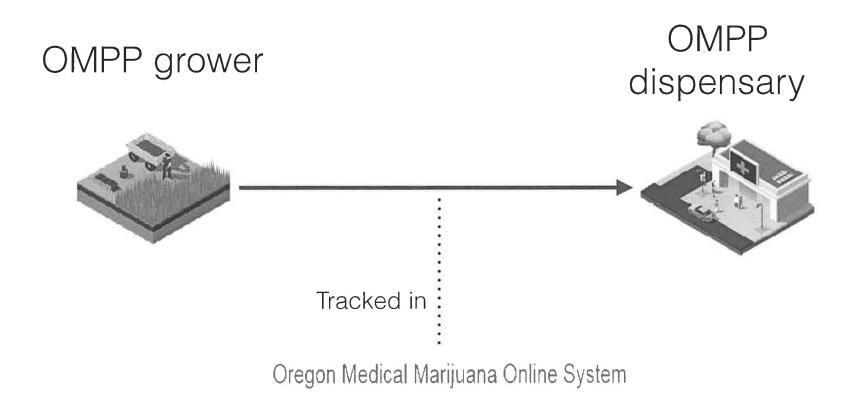
A quick primer

eek

OHA has registry (OMMOS) for tracking patient transfers



OHA's OMMOS also tracks transfers from farms to Dispensaries



OMMOS - transfers

Oregon Medical Marijuana Online System

🙎 Janie Roe Lestonario (gomailla om).

Showing 0 to 0 of 0 entries.

A Second Service blocks in

Click on the inventory tab to begin entry of transfers.

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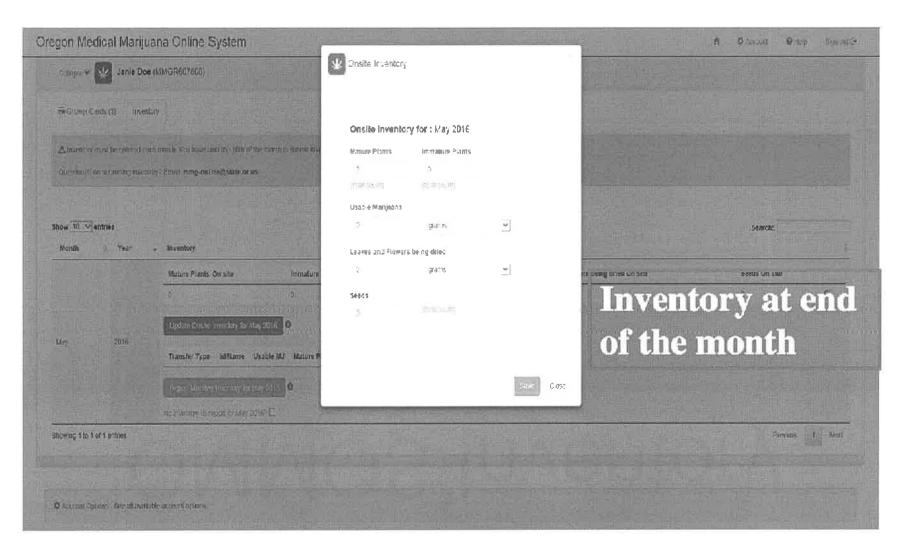
Show of which inventory Entit inventory Entit inventory entit inventory entit inventory.

According to the entities search:

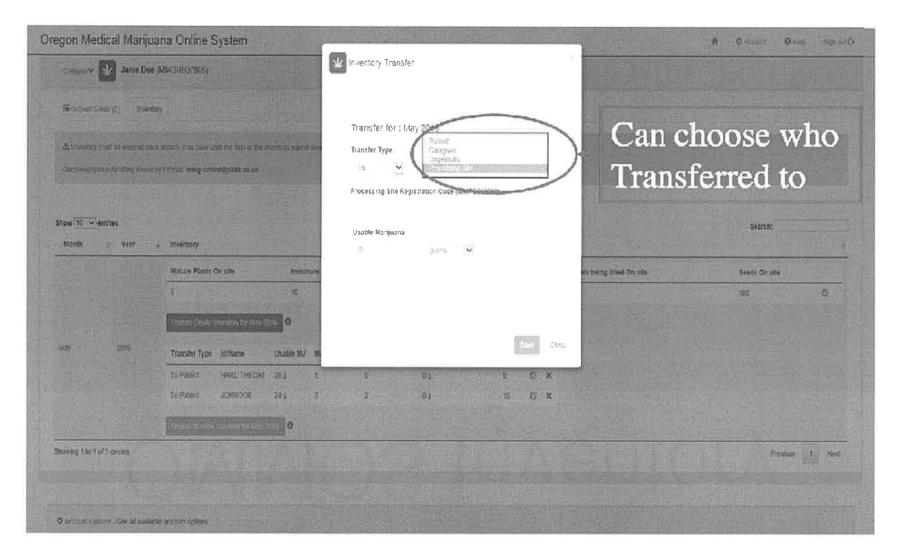
North Vest Inventory

Flewalls Nest

OMMOS Inventory



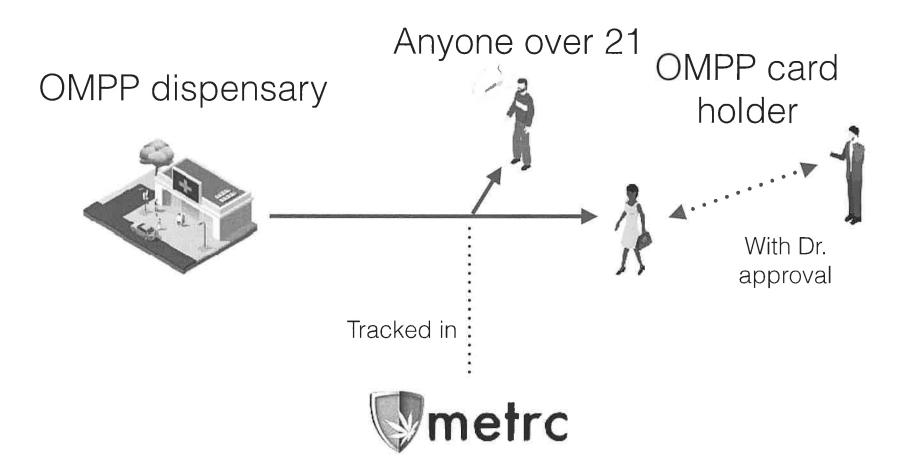
OMMOS Inventory



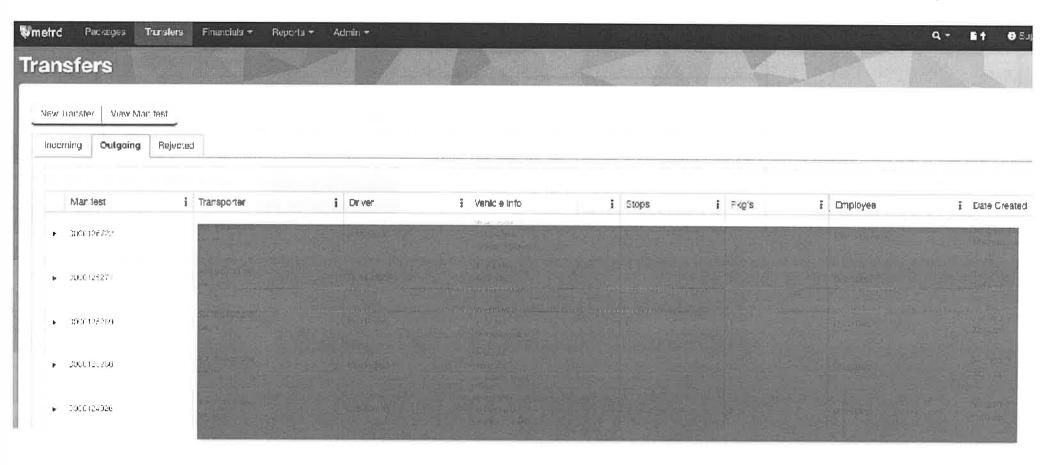
OLCC's METRC tracks transfers from producers to retailers

OLCC OLCC producer dispensary Tracked in metrc

OLCC's METRC also tracks sales from retail to patients and consumers



METRC has more precise transfers (at time of transaction)



METRC generates manifests for product moving between facilities



OREGON LIQUOR CONTROL COMMISSION CANNABIS TRANSPORTATION MANIFEST

All sales transactions are to be completed prior to transportation of any Cannabis. The receiving entity may reject product delivered, but amount delivered must be limited to amount agreed upon in prior sales transaction. If the person transporting Cannabis has not yet received his or her Handler's Permit number, please put "Pending" in the appropriate field.

Manifest #:		Date Completed:	4/12/2017 12:37 PM
License # of Originating Entity:			For OLCC Use Only
Name of Originating Entity:			
Address of Originating Entity:			
Phone No. of Originating Entity:			
Contact Phone No. for Inq	uiries:	510-316-4501	
DESTINATION:	Green-Way Medicinal	Destination Phone No.:	503-385-1848
Stop Number on Route:	1	Destination License Number:	
Address of Destination:		Date and Approximate Time of Depa	arture: 4/12/2017 12:35 PM
		Date and Approximate Time of Arriv	ral: 4/12/2017 4:35 PM
Route to be Traveled:		Notes: details for extenuating circumst	ances (e.g., road closure, flat tire, etc.)
15			

Some Feature Observations

- Features METRC has the OMMOS doesn't currently
 - Legal manifests
 - Day to day measurements (sales receipts, packages, transfers, ...)
 - Finer grain details for plants, harvests, transfers
 - Real-time transfer system (verified participants and packages)

Some Observations

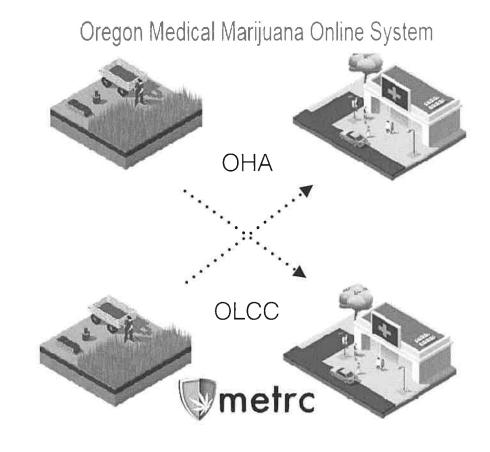
- Potential long term challenges to METRC
 - Scaling the registry Will it grow with user growth?
 - Enforcing the rules Are the analytics useful, actionable for participants and enforcement?
 - Effort to manage, effort to enforce are cited as high
 - Requires new capability for system to generate paperwork for producer -> patient tracking
 - Does it promote a false sense of security for identifying out of METRC product diversions

Options for Oregon Registries

- A. Both registries continue to exist, but try to integrate in best, easiest way (recognizing that some farms will be in both)
- B. OMMOS is extended to become both
- C. METRC is extended to become both
 - A. With no changes
 - B. With modifications for OHA

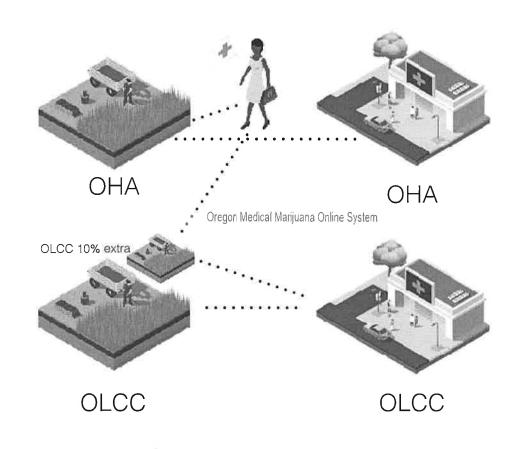
Options assuming both systems co-exist

- A. Keep boundaries between them (e.g. OHA sells to OHA only using OMMOS, OLCC sells to OLCC only using METRC)
- B. OLCC registrants with medical grows track all in METRC and extend METRC to push data to OMMOS
- C. OHA registered growers in OMMOS also opt in to METRC using one of METRCs data import tools (either registered themselves or through a licensee)



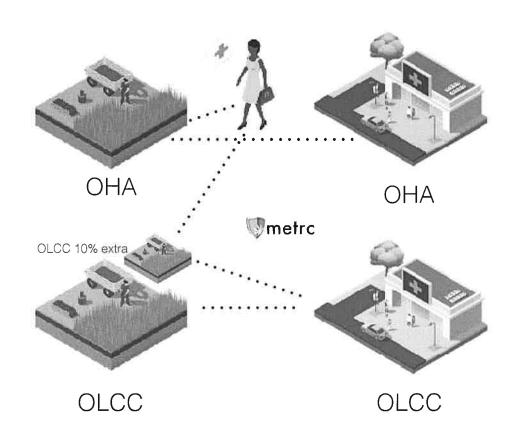
Options for scenario where only OMMOS was to exist for both markets

- Greatly extend functionality of OMMOS to handle missing pieces that METRC has working
 - Daily reporting
 - Manifests
 - Finer grain controls of transfers
 - Tags
- Note: Perhaps look at California and/or a distributed ledger approach to further extend safety of data and participants (e.g. Blockchain registry) - build a next generation system for Oregon

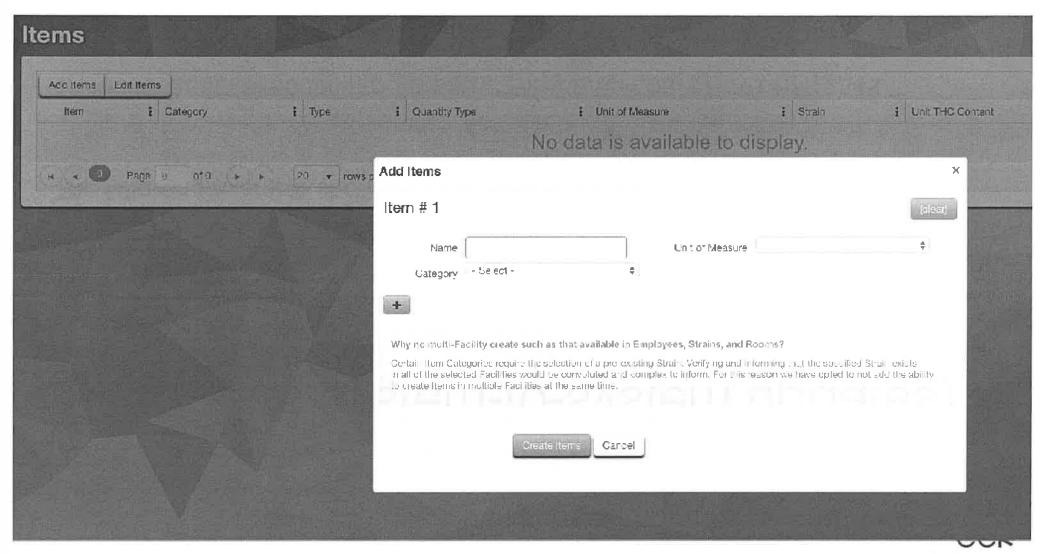


Options for scenario where only METRC exists

- Extend functionality to handle any missing pieces
 - Capability for Producers, Processors, and Wholesalers (as well as Retailers) to product to registered patients directly
 - Capability for tracking "medical only" product in the system to have appropriate controls for 'medical only' dispensaries
 - Create a process for a lighterweight model to allow OHA participants to use the system similar to OMMOS (imports)



METRC - Adding an item manually



METRC - CSV uploads (API also supports system-to-system updates)



Package Adjustment .CSV Uploads

The following example shows several lines of a CSV:

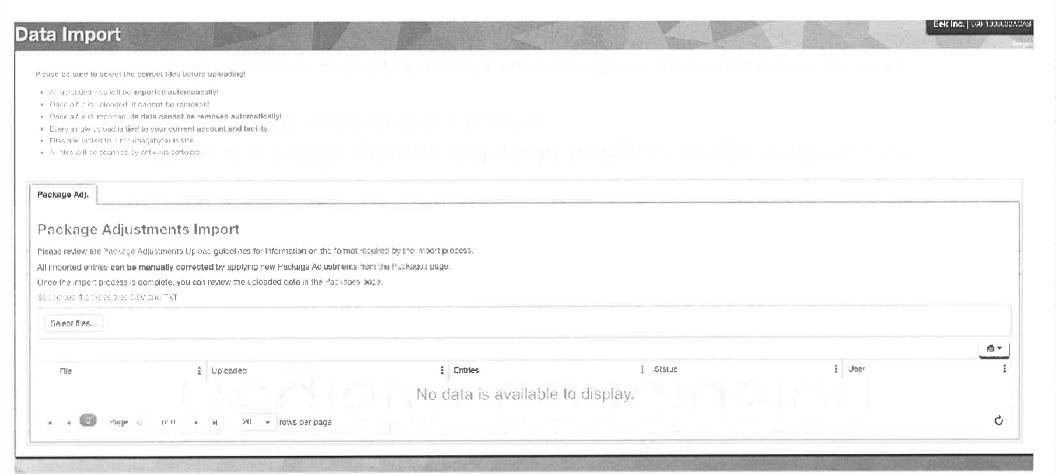
1A400000266EF88000004FD,10,Each,"Entry Error",06/17/2014,M12345

1A400000266EF88000004FE,-1,Ounces,"Drying",06/16/2014,M12345

1A400000266EF88000004FF,-3, Kilograms, "Over Sold", 06/14/2014, M12345



METRC - Data import tool for CSVs



Registry conclusion

- It is likely the best choice for Oregon to choose one registry and have it deliver for all participants
- METRC feels like the right choice right now
 - There is a middle ground that could be lighter-weight for OHA users, and still fulfill seed-to-sale tracking
 - Could support a lighter weight process (e.g. monthly) for most data and be used in a way similar to OMMOS.
 - Some METRC features will require more interaction with the system than OMMOS, such as transfers
- A deep dive should occur to create a one-registry system in Oregon now, supporting both markets that honors both ecosystems

