

# Reduce, Reuse, & Recycle: Going "Green" with Atlas Reusables

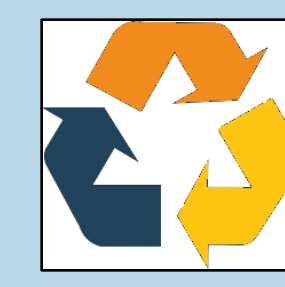
PRESENTER: **Ajit** Londhe

## INTRO:

- Atlas offers a variety of criteria logic and attributes that are the building blocks of cohort analyses.
- CIRCE is the library that provides the cohort logic framework, from entry events to inclusion criteria to subgroups and censoring events.
- When tasked with defining logic – simple or complex – multiple times, the user experience in Atlas can be challenging, particularly with multiple nested criteria and attribute selections.
- We developed a new Atlas module named "Reusables," which is now available in Atlas versions 2.11 and above.

## METHODS:

- We observed that all CIRCE criteria and attribute types would need to be available to import cleanly into Atlas study assets.
- Besides these standard CIRCE features, we observed that the design of a Reusable could benefit from being able to import other Reusables.
- We examined the context with which CIRCE logic is applied across analytic modules in Atlas, aiming to align Reusables with standard study design patterns.
- In cohort definitions, cohort entry and censoring are possible through the union of pathways rather than the intersection of those pathways.
- But inclusion criteria can involve the union or intersection of criteria
- We architected the Reusable import process to pass the CIRCE logic by value rather than by reference to ensure backwards compatibility with previous Atlas versions.



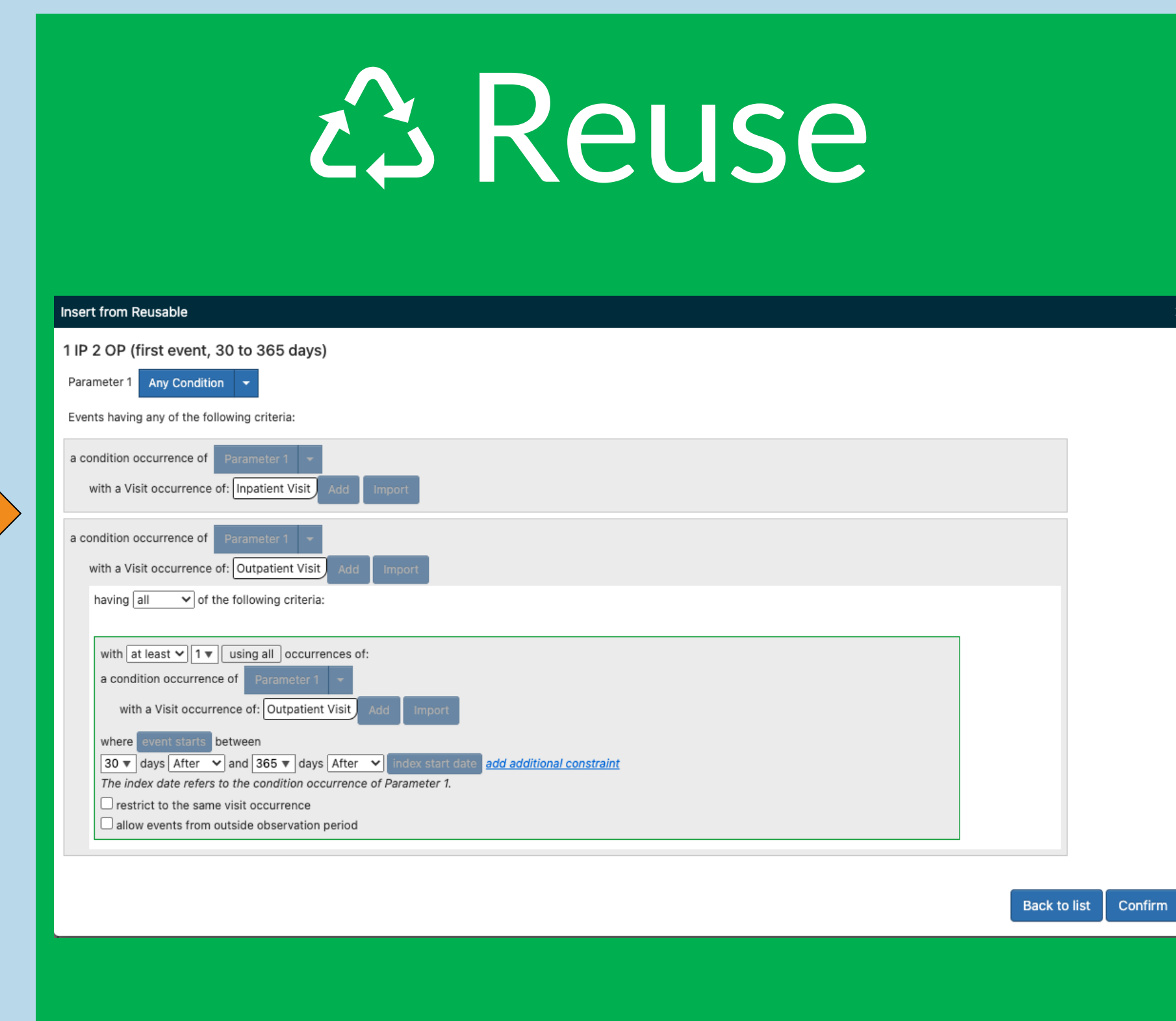
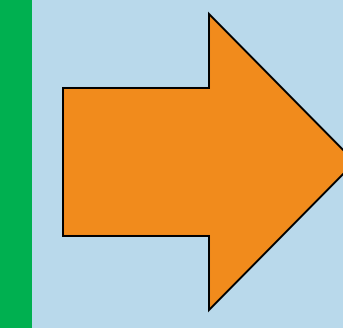
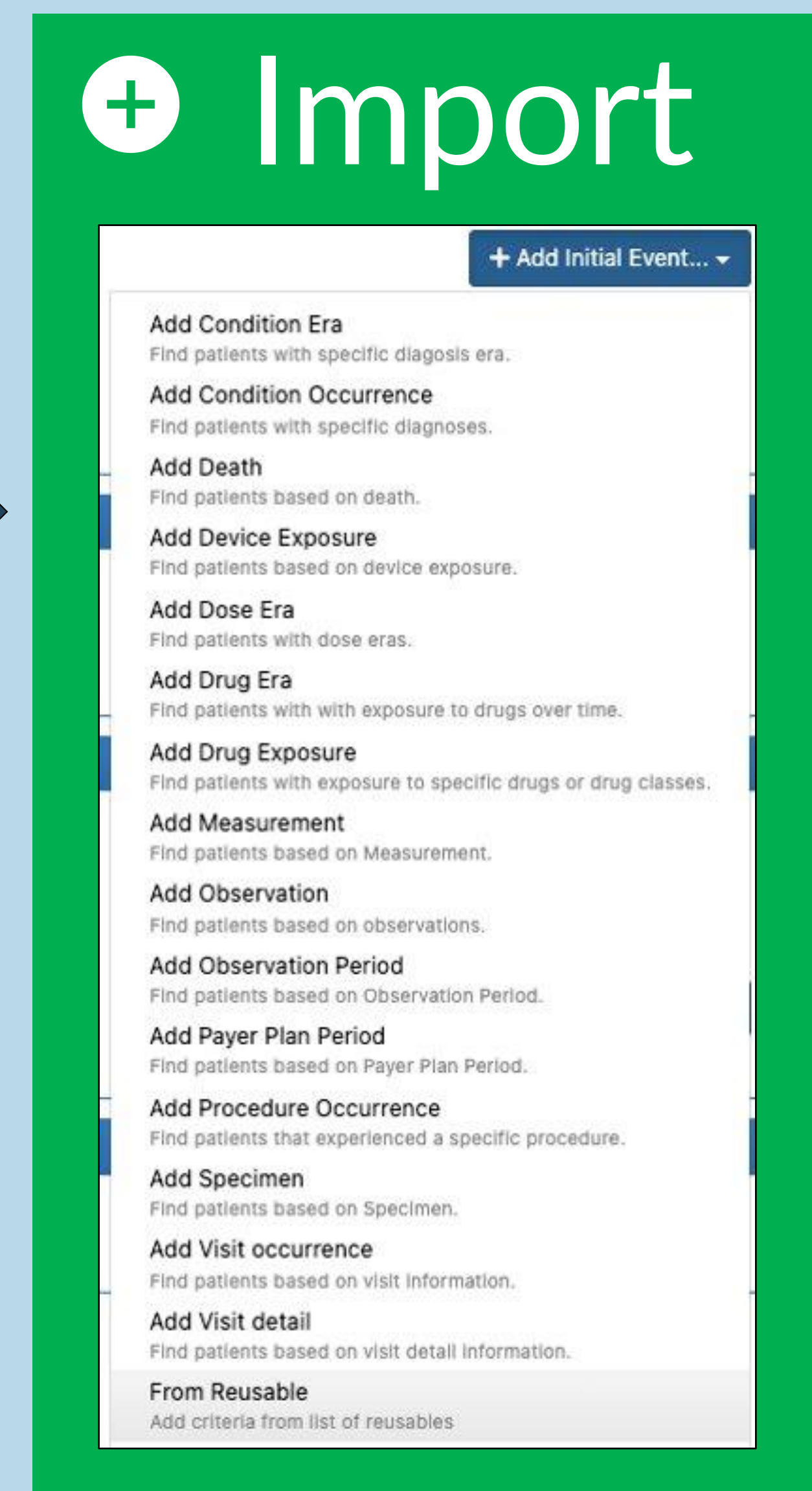
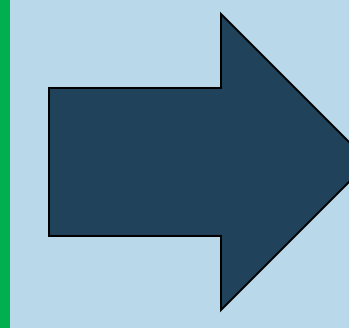
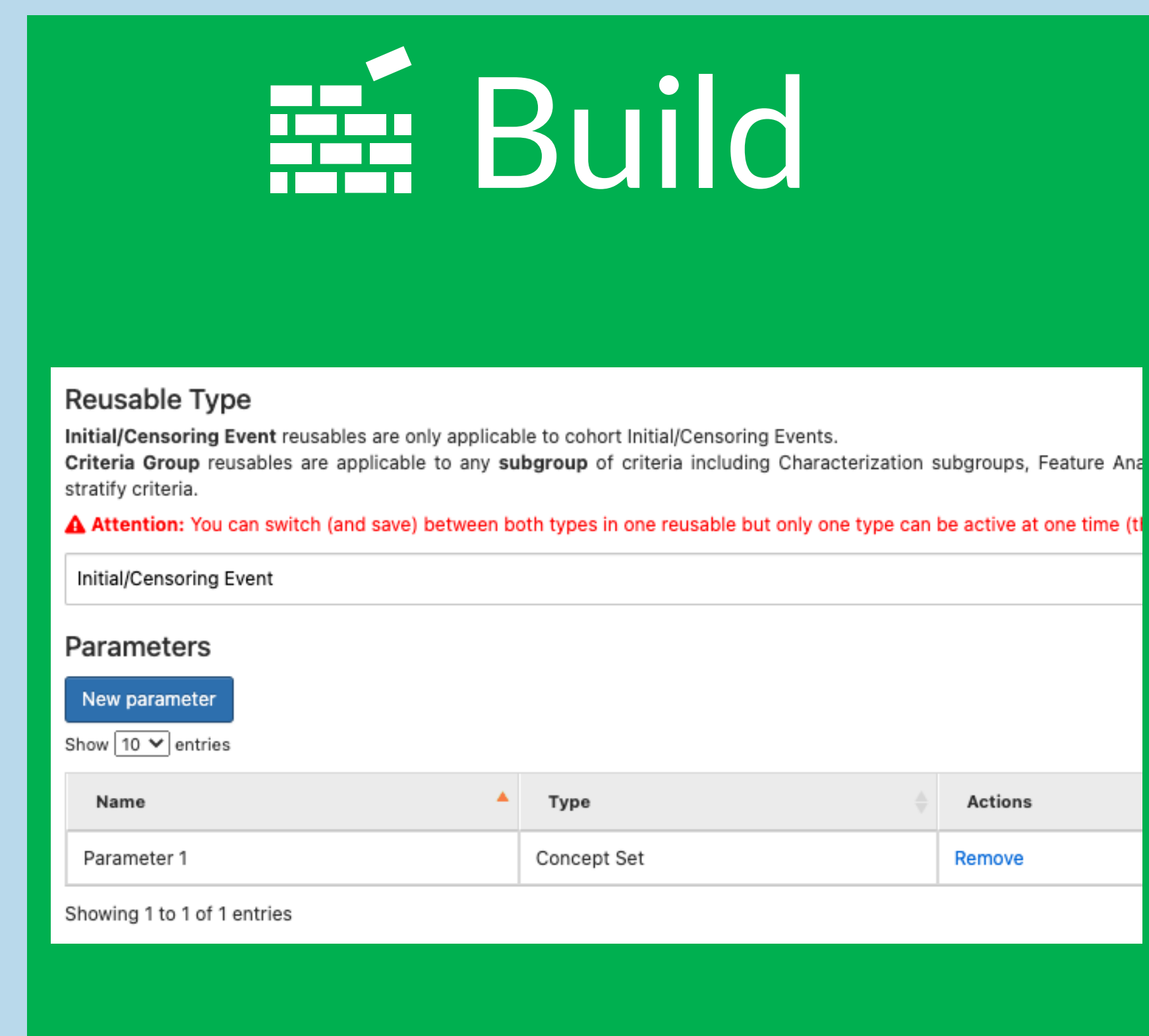
# Reusable Atlas Logic Prevents

## Repeated Mistakes

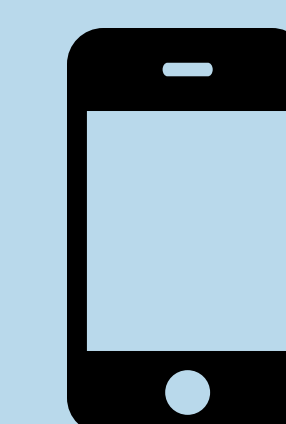
## Resulting in

## Reputable

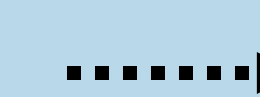
## Results



<https://github.com/OHDSI/Atlas>  
<https://github.com/OHDSI/WebAPI>



Poster QR Code



## RESULTS:

- The Reusables designer interface allows for parameterization of concept sets and all the CIRCE-powered criteria types found throughout Atlas.
- As inclusion criteria can involve the union or intersection of criteria, the Reusables designer presents the user with explicit choice on whether the Reusable will be used as (1) an initial or censoring event, or (2) a criteria group-based event.
- The import process is simple, with "From Reusable" as a new event type button available in Cohort Entry Events, Inclusion Criteria, Censoring Events, Characterization custom features or subgroups, and Incidence Rate strata
- Importing the Reusable allows the user to fulfill any parameters defined in the Reusable's design before completing the import into the Atlas study asset.
- A Reusable can consist of 1 or more Reusables, leading to a new ability for users to craft multi-part algorithms with more modularity.

## CONCLUSIONS:

- Atlas has been an important platform for OHDSI studies over the years, allowing for robust cohort design in a standardized method without programming.
- Reusables provide a powerful new method in Atlas for ensuring streamlined design and reproducibility of algorithms both within and between OHDSI sites.

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- 3) Odysseus Data Services, Inc., Cambridge, MA, USA
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