Tools and Methods for Analyzing a Scientific Portfolio: NIAID Type1 Diabetes(T1D) Portfolio

Preliminary Analysis

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Description and Methods

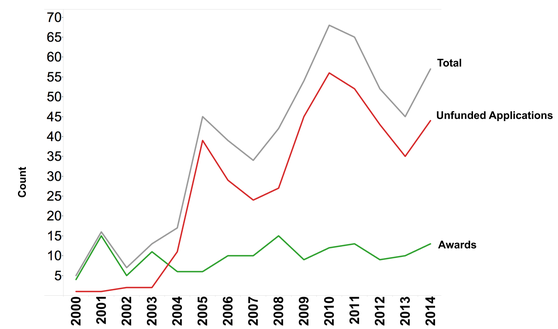
Description of the portfolio

Size: 913 grants
Timespan: FY 2001-2014.
Project Class: All Extramural Grants.
Competing Status: Competing Projects Only.

Methods Used

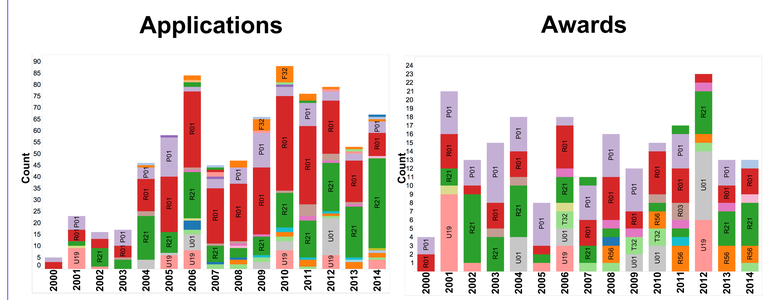
Portfolio: Grants cobtained by keyword search in QVR and portfolio manually curated by subject matter expert.
Analysis and Visualization: Tableau software used for dynamic analysis and visualization.
VOSviewer: Used for clustering of RCDC terms from FY 2008-2014.

Number of New Applications and Awards in the NIAID T1D Portfolio 2001-14



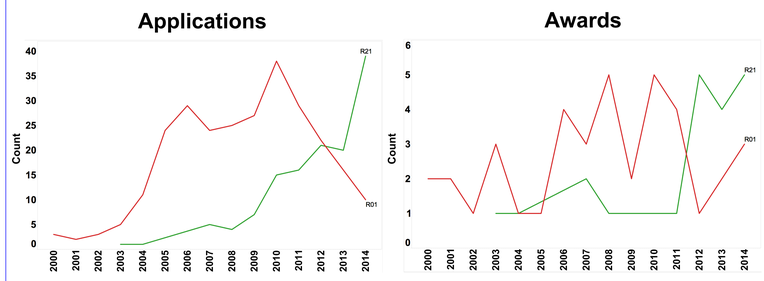
Number of new applications rise sharply starting from 2003.
Number of new applications fluctuate significantly over the years.
Number of awards remain remain stable over the years.

NIAID T1D New Applications and Awards by Acitivity Code 2001-2014



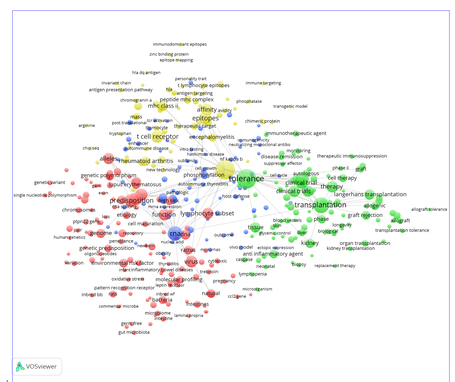
NIAID's T1D Portfolio has a wide diversity in Activity Type.
Diversity in the Portfolio has grown over years.

T1D Unsolicited R01 and R21 Applications and Awards 2001-2014



Number of R01 applications have decreased since 2010.
Number of R21 applications have steadily increased since 2003.
Starting FY 2012, number of R21 awards exceed number of R01 awards for this portfolio.

Topic Analysis of RCDC Terms of T1D Applications and Awards Clustering Tool: VOSviewer



VOSviewer is a tool for constructing and visualizing networks.

Nodes are sized according to the frequency of RCDC terms appearing in grants.

Each cluster is represented by a different color.

Terms appearing together are placed closer to each other in the network.

T1D research portfolio has diverse research topics.

Conclusions and Future Directions

Manual curation was necessary to build a portfolio of relevant T1D grants.

Tableau software was used to analyze and visualize the dataset. This sofware offers a more efficient method of analysis.

RCDC terms were used for categorizing grant topics.

VOSviewer was used as a clustering tool to cluster RCDC terms obtained from grants from FY2008-2014.

Future Direction: Analysis of T1D publications from 2001-2014.

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