

## Introduction

- Citizen science is the relatively new approach of recruiting public help to advance legacy data findings and curation (1).
- Recent shifts in scientific methodology have been promoting this kind of work across all scientific fields (2).
- We will perform a scoping review to map how research has been conducted around citizen science in the field of oral health sciences and to summarize the existing literature about this concept and application in this field.

## Methodology

Arksey and O'Malleys (3) five step framework:

### Step 1: Identifying Research Questions

- 1) How is citizen science defined in oral health sciences including the respective synonyms?
- 2) In which areas of oral health does it apply?
- 3) How is citizen science work measured?

### Step 2: Identifying Relevant Studies

- The scoping review search strategy will be developed by a health sciences librarian
- Search in five databases: Ovid Medline, CINAHL, Embase, ProQuest; and the journal of Citizen Science: Theory and Practice.

### Step 3: Selecting Studies

Inclusion	Exclusion
Participation in: data collection, analysis, interpretation, or providing feedback	Uses citizens strictly as patients
Studies conducted in any dental setting	Is not part of oral health sciences
Provides a definition of citizen science	--
Reports a recruitment process	--

### Step 4: Charting the Data

A rapid review will inform coding tables.

### Step 5: Reporting Results

The extracted characteristics will be analyzed according to content analysis (4,5).

## Results

- Multiple searches were completed in Prospero to search for any previous knowledge synthesis projects on this topic. No results were found.
  - A rapid review was performed in Ovid Medline to provide the necessary contextual knowledge to prepare the search strategy for the scoping review.
  - Rapid review yielded 50 articles.
  - The following information was extracted:
- | Publication year        | Citizen science term | Area of oral health | Population | Outcome measurement method |
|-------------------------|----------------------|---------------------|------------|----------------------------|
| [Data from 50 articles] |                      |                     |            |                            |
- There was only one criterion for inclusion, if the study used the citizen scientists/participants as contributors and not as subjects/patients.
  - 11/50 studies were deemed acceptable for inclusion.
  - There is no consensus on the term for citizen science in the oral health field (Figure 1).
  - There is no distinct area of oral health where this approach is applied; it is used in oral health education, research, policy, and even clinical settings (Figure 2).

## Discussion

- We will provide foundational work for future application of citizen science in oral health.
- The results from the rapid review will inform terms for the scoping review search strategy and design of cohesive coding tables.
- The novelty of this method provides anyone access to unique educational opportunities.
- Increasing scientific engagement will advance research progress, and improve community perception and understanding of research.

## Conclusions

- This scoping review will dissect the current status of community involvement in oral health and pinpoint where citizen science methodologies will have the most impact.
- Citizen science will accelerate oral health research and improve care, and provide young professionals with unique educational opportunities to help grow the scientific field.

## Figures

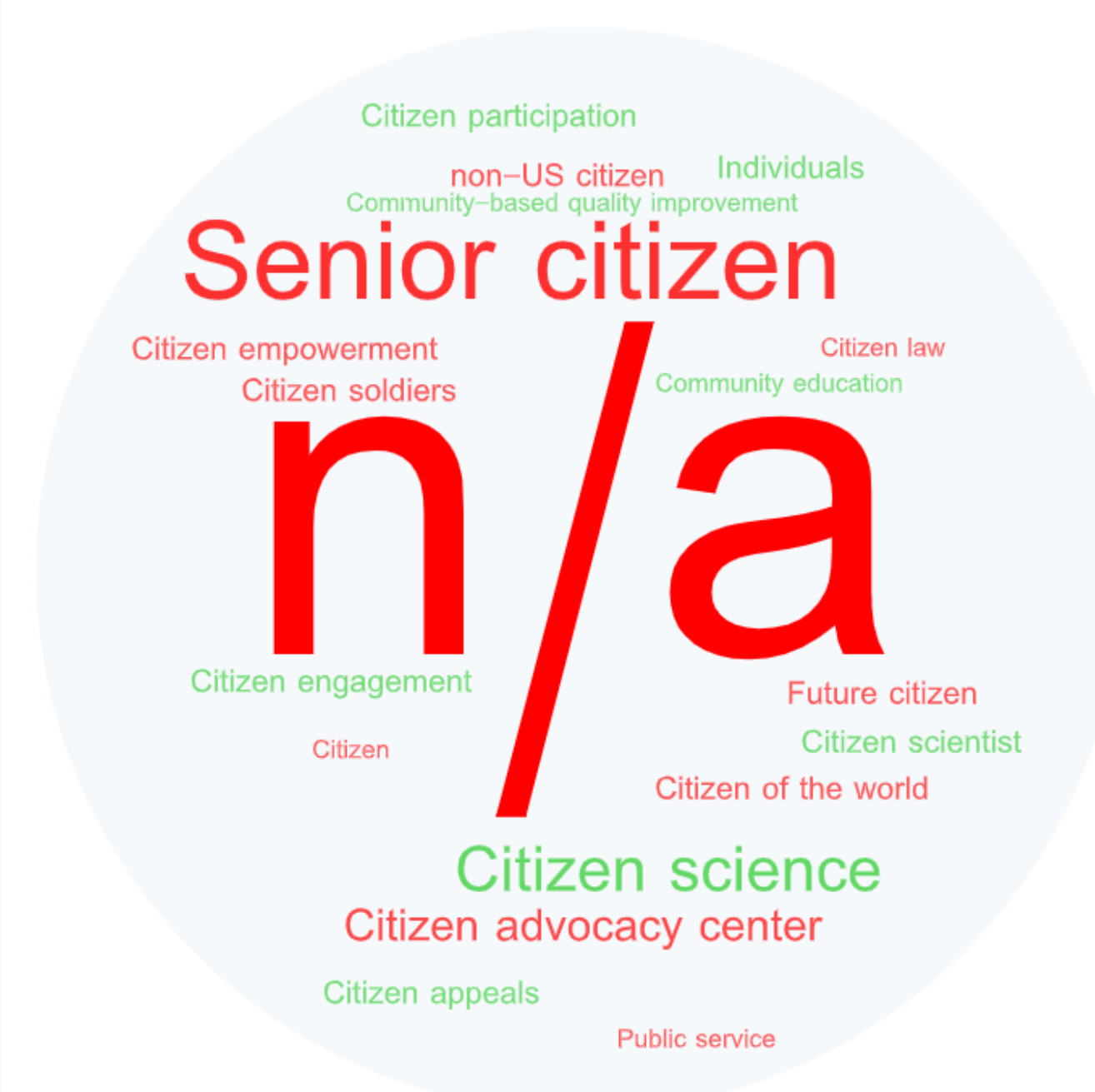


Figure 1. Word cloud of citizen science terminology reported in all rapid review articles. Red indicates articles that were excluded whereas green indicates included. Size of the word corresponds to frequency of reporting.

Area of Oral Health Distribution from Included Articles

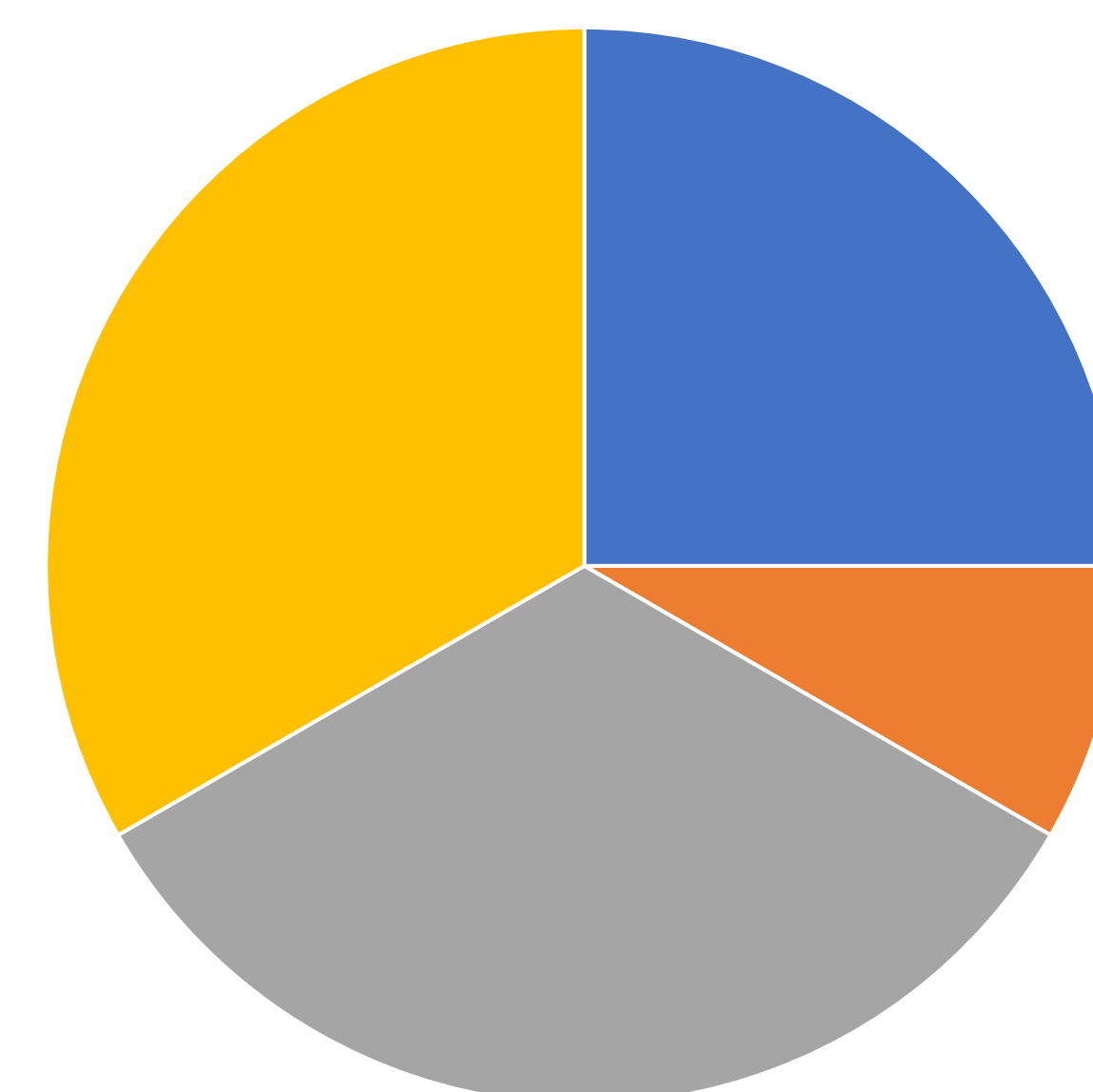


Figure 2. Distribution of citizen science in different areas of oral health among included articles during the rapid review

## Future Directions

- Enhance coding table information with country, recruitment method, number, roles, demographics, and training.
- Completion of the scoping review.
- Application of a sixth step described by Levac et al. (6) to involve stakeholder consultation.
- Development of a citizen science protocol for identified areas of oral health sciences..

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## References

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