

# A Scoping Review of Analog Serious Games in Medical Education

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## Introduction

- Serious games are increasingly used in medical education
- Analog serious games are more approachable to educators because of their affordability, ease of design, and creation

## Objective

- To scan and describe the landscape of literature (last ten years) regarding analog serious games (**Figure 2**)

## Analog Serious Game

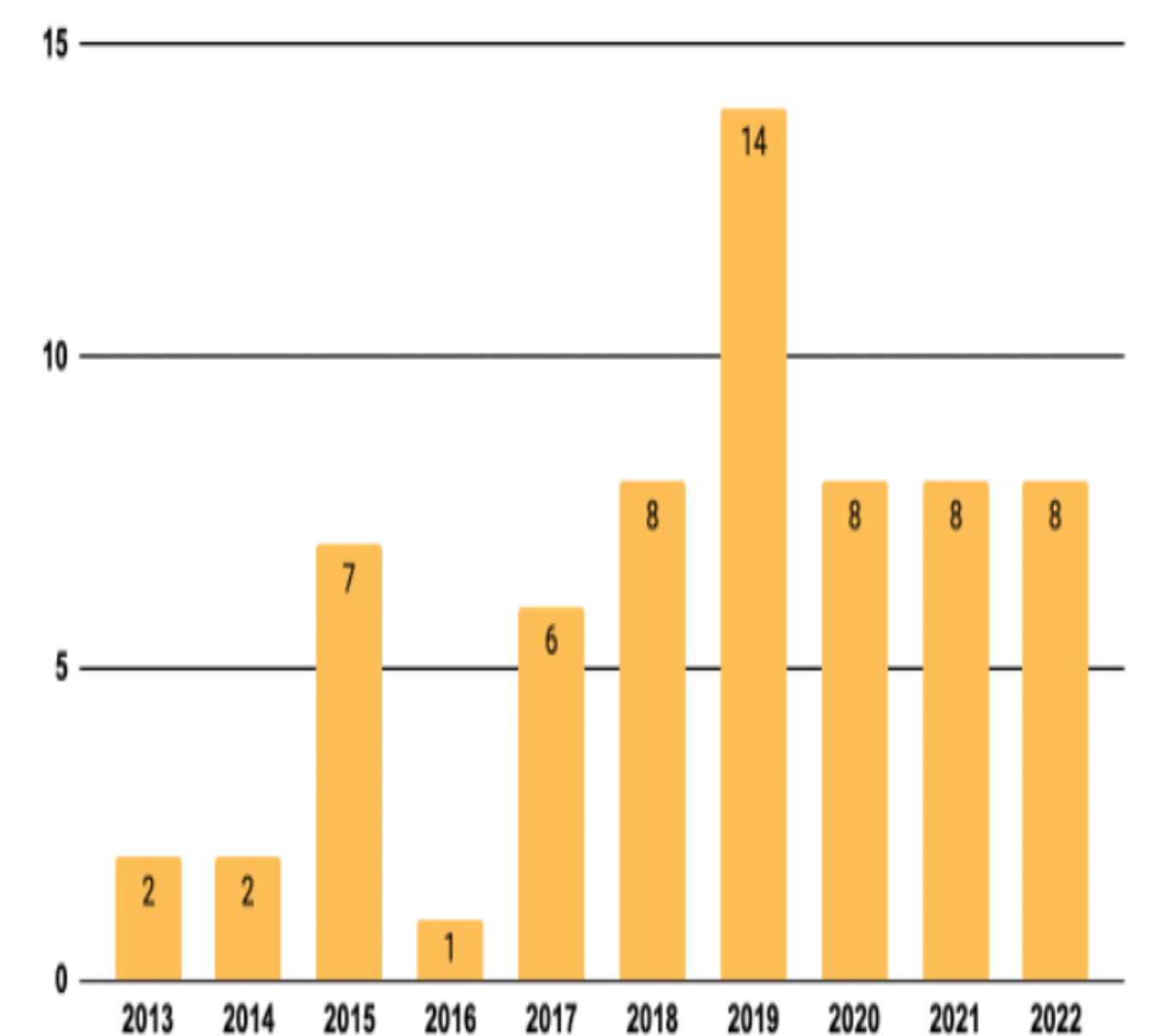
- Any standalone game designed with a specific purpose beyond entertainment regardless of medium in a non-digital format (**Figure 1**)



**Figure 1: Example of Analog Serious Game - GridLockED**

## Methods

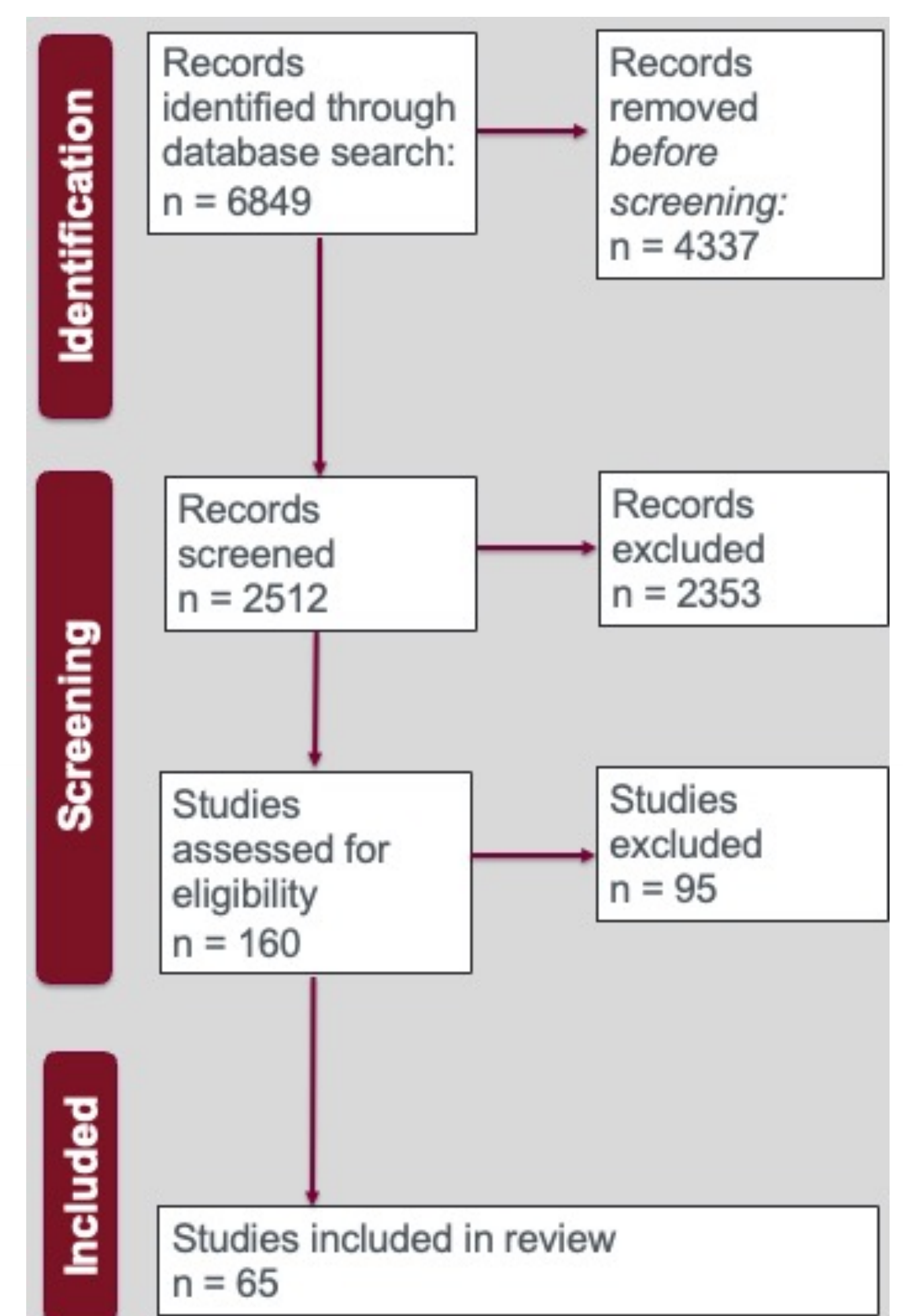
- Arksey and O'Malley methodology was used
- Ovid MEDLINE, Embase, and CINAHL were searched between 2013 and 2022
- **Inclusion Criteria:**
  - Intended for physician track learners
  - Designed to change the learners' knowledge, skills, and attitudes
- Authorship team calibrated and used two reviewers to screen the titles/abstracts
- Discrepancies resolved by a third reviewer.
- Six reviewers independently completed extraction, requesting a second look when uncertain
- Simple descriptive statistics was used to analyze extracted data and mapped to provide an overview



**Figure 2: Distribution of Analog Serious Games Publications**

## Results

- 6849 titles were retrieved, 4337 duplicates were excluded, 2512 items underwent title/abstract review. 160 articles remained, 65 met the inclusion criteria (**Figure 3**)
- High concentration of analog serious games are used by medical students
- Among included articles, 57.81% used board games, 31.25% used card games, 7.81% used puzzle games, 4.69% used role-play games, and 4.69% used simulation games
- Commonly described play duration: 90 minutes to 2 hours
- Top three targeted specialties: Emergency Medicine, Neurology, Infectious diseases
- Primarily implemented in a classroom setting



**Figure 3: Study Flow Diagram**

## Conclusions & Future Directions

- Frequently used in medical education
- Modified learners' knowledge, skills, and attitudes
- Available in a broad spectrum of formats
- Survey existing analog serious games used for medical education
- Determine availability in the marketplace