

Evaluation of the Cardiac Emergency Preparedness of Philadelphia's Parks and Recreation Centers

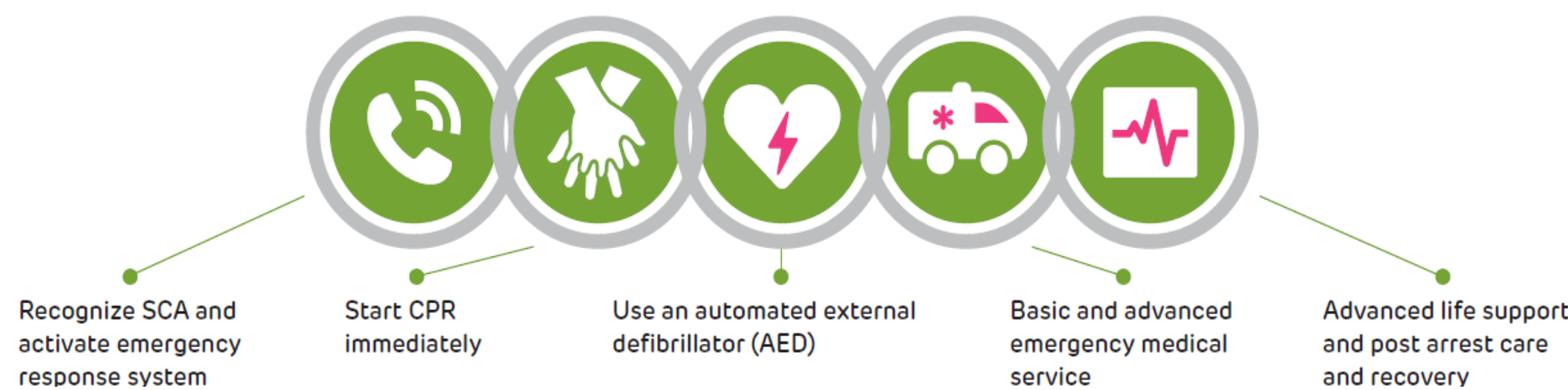
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Background

- ♥ Sudden cardiac arrest (SCA), a life-threatening condition, occurs when the heart suddenly and unexpectedly stops.
 - ✓ Caused by abnormality in the heart's structure, function, or electrical system.
- ♥ Rapid emergency response via cardiopulmonary resuscitation (CPR) and an automated external defibrillator (AED) is essential for survival.
- ♥ SCA in youth occurs most commonly in the 10-19 age group.
- ♥ Youth Heart Watch (YHW) at the Children's Hospital of Philadelphia, an affiliate of Project ADAM®, prevents sudden cardiac death among children by placing AEDs in schools and public places and training staff in their use.
- ♥ Philadelphia Parks and Recreation (PPR) Centers serve as community resources for youth providing recreational activities, pools, gyms, and camps.
- ♥ AEDs and emergency preparedness are important in PPR to provide a safe space for the community and to ensure effective response to SCA.

Role of CPR and AED in Chain of Survival

- ♥ **CPR:** Pushing hard and fast on center of chest to manually pump the heart.
 - ✓ May be given with or without rescue breaths depending on age and circumstance of arrest (respiratory/drowning).
- ♥ **AED:** Devices that analyze the heart and deliver shock to restart heart's normal rhythm.
 - ✓ Shockable rhythms = ventricular fibrillation and pulseless ventricular tachycardia.
- ♥ Performing CPR and using an AED can triple a person's chance of survival of SCA.
- ♥ Every minute of delay following SCA decreases chance of survival by 10%.

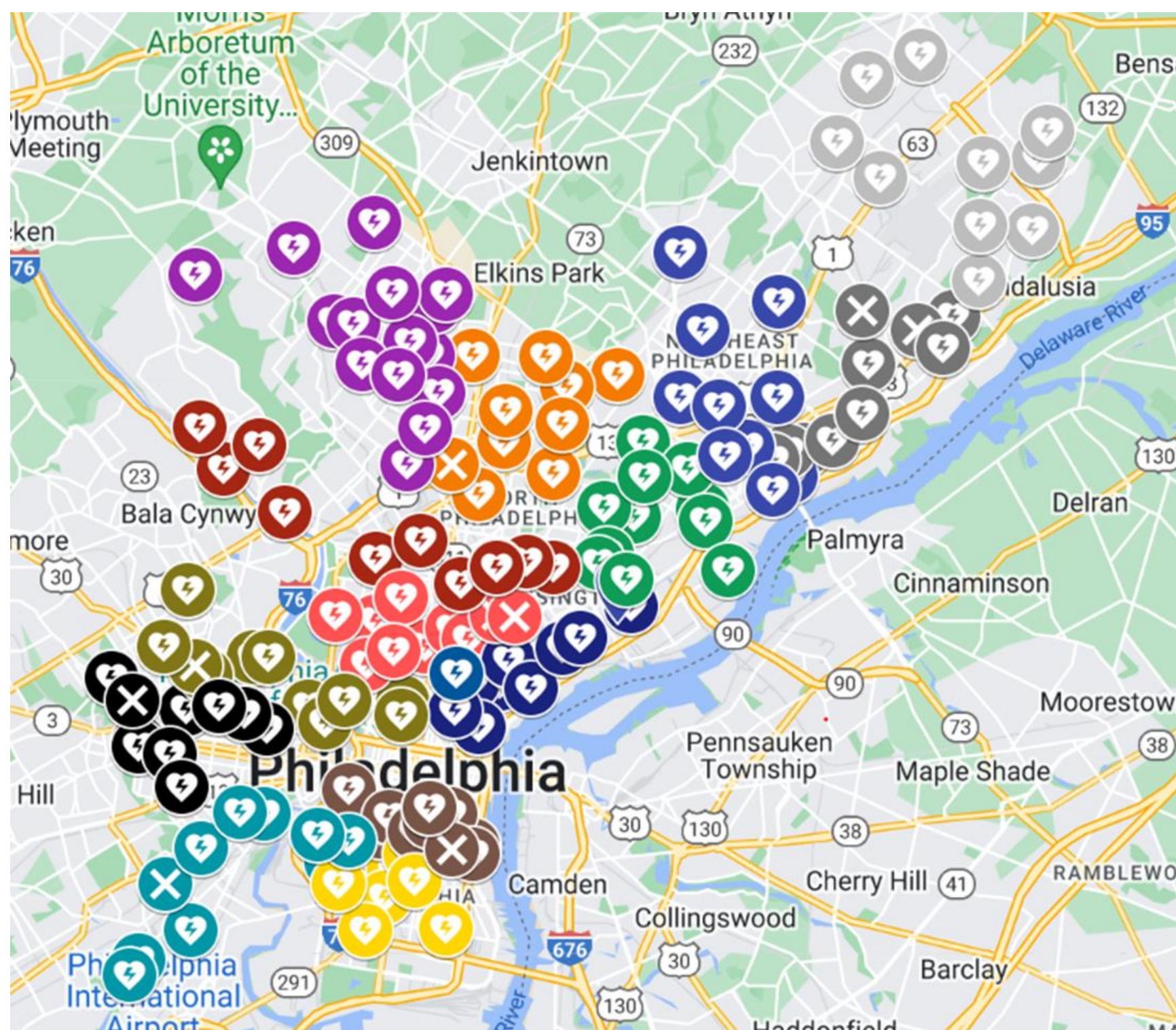


Study Aims

- Aim 1:** Determine number of functional AEDs in the Philadelphia Parks and Recreation (PPR) Centers.
- Aim 2:** Replace expired AEDs, batteries, and electrode pads to ensure functional units to increase the safety of Philadelphia community.

Importance of Rec Centers in Philadelphia Community

- ♥ Rec Centers serve as community hubs and safe spaces for children and young adults in Philadelphia.
 - ✓ Median age in Philadelphia is 34.5 years, with 57% of the population under 40 years.
 - ✓ 22% of Philadelphians are under 18 years.
 - ✓ 35% of children under 18 in Philadelphia live in poverty.
- ♥ Centers are used for recreational activities, daycare, senior centers, and general gathering places.
 - ✓ In 2016, 179,567 youth between the ages of 2-18 participated in programs hosted by PPR
 - ✓ >130 Day Camps and a dozen Theme Camps host >7,000 kids between the ages of 6-12 each summer.
- ♥ Working AEDs and emergency preparedness preserve the role of Rec Centers as safe spaces by ensuring best possible response to a SCA.

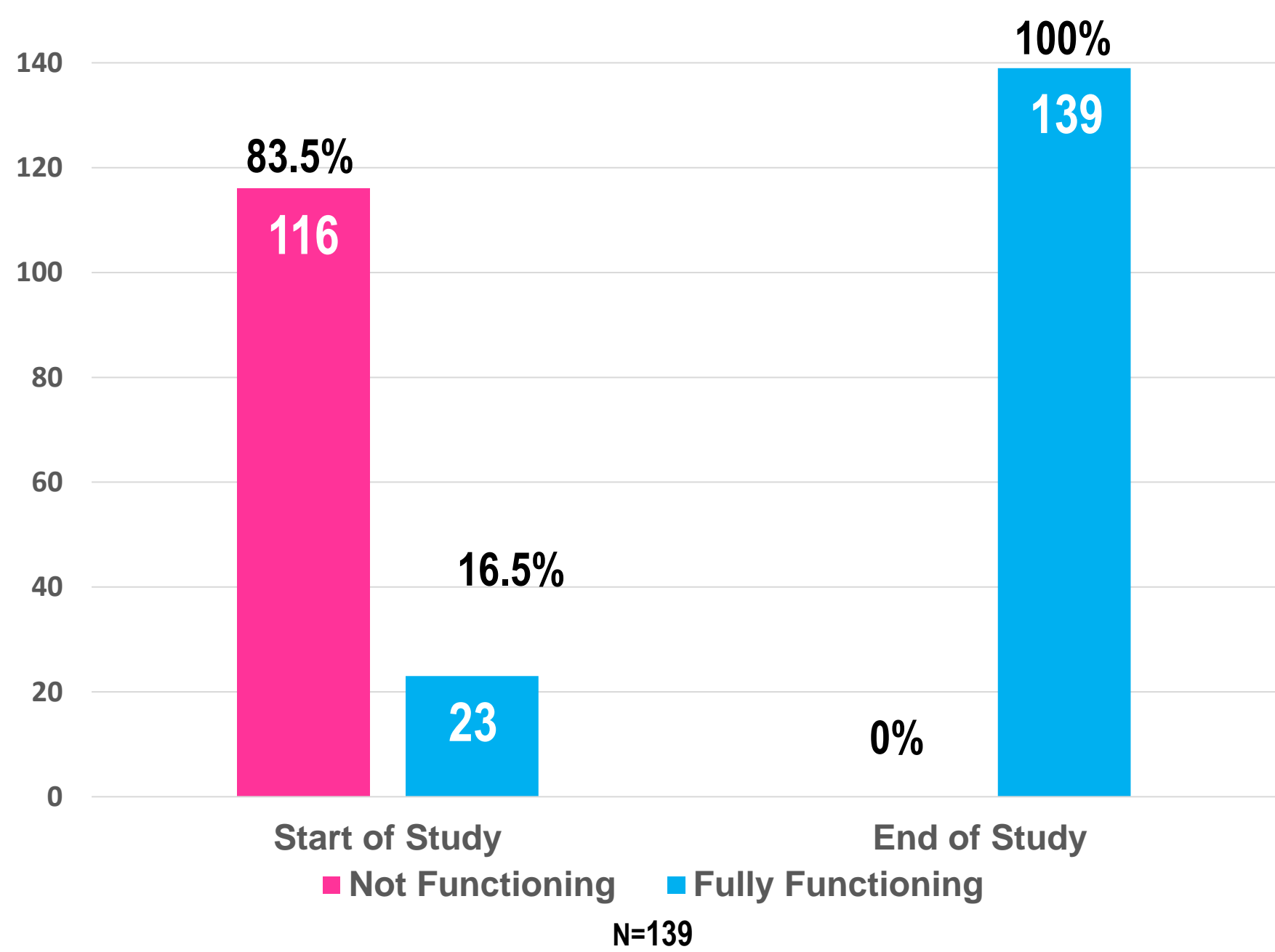


Methods

- ♥ Site visits and phone surveys with staff to determine quantity, manufacturer, location, and expiration dates of pads and batteries of Centers' AED units.
- ♥ Creation of REDCap database to track inventory and expiration dates for future planning and prompt replacement.
- ♥ Expired materials were replaced, providing PPR with units in working condition.
- ♥ CPR and AED virtual training during the COVID-19 pandemic with instructional videos and posters.

Results

Status of AEDs in Recreation Centers

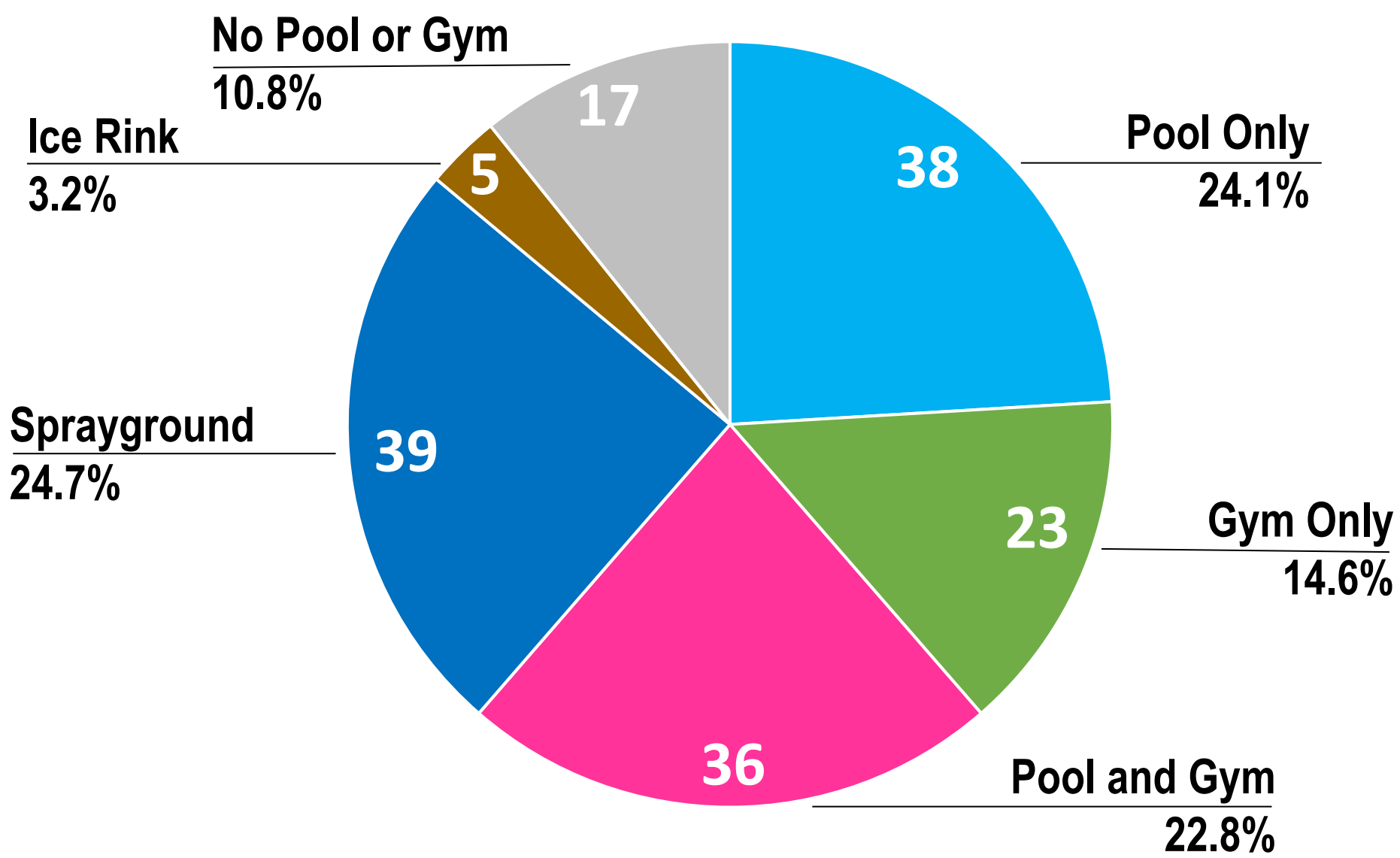


Not Functioning AED Units= AEDs with expired batteries, pads, or both
Fully Functioning AED Units= AEDs with up-to-date batteries and pads

- ♥ 142 AED units were assessed in 139 Centers
- ♥ 116 (83.5%) of the 139 Centers had non-functioning AEDs
 - ✓ 17 (11.9%) AEDs had expired batteries
 - ✓ 81 (57.0%) AEDs had expired pads
 - ✓ 18 (12.6%) AEDs had both expired batteries and pads.
- ♥ Post intervention, 100% (n=139) of the sites had fully functioning AEDs with up-to-date batteries and pads.
- ♥ Comprehensive database is being used to track units and components to ensure future planning and timely replacement.

Results

Recreation Center by Facility Type



Conclusions

- ♥ Rec Centers are gathering sites for younger populations in Philadelphia's communities for recreation and socialization.
- ♥ Units at PPR Centers were donated by Philadelphia Police and Fire Departments 10-20 years ago with many materials needing to be updated.
- ♥ For Centers to be safe, they must be prepared for a SCA by having staff trained in CPR and AED use and units that are ready to be used if needed.
- ♥ AED units are considered operative for ~10 years; batteries functional for 4-5 years, and pads for 2-4 years. This study enable us to track expiration of PPR's AED materials and prepare for future replacement efforts to keep the Rec Center AEDs up-to-date.

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Contact Information

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