Queen's University Emergency Medicine

Planning and Housing Committee, City of Toronto
Toronto City Hall
100 Queen Street West
Toronto, Ontario
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(sent electronically)

January 22, 2022

RE: Support for Motion to Expand AED Access in Private Residential Buildings (Item number 2025.PH26.16)

Dear Chair and Members of the Planning and Housing Committee,

I am writing in strong support of Councillor Shelley Carroll's motion requesting a staff review of opportunities to expand access to Automated External Defibrillators (AEDs) in Toronto's private residential buildings, with a particular focus on high rise developments and buildings with significant senior populations.

My name is Dr. Steven Brooks. I am an emergency physician and resuscitation scientist based in Kingston, Ontario, where I lead and evaluate community cardiac arrest response initiatives integrating residential AED deployment, optimization modeling, and emergency dispatch technologies. I am a former Torontonian, and frequent visitor. My research focuses on improving survival from out of hospital cardiac arrest through faster bystander intervention and faster access to defibrillation. I serve in advisory roles nationally and internationally to organizations developing public access defibrillation strategies. I serve as a member of the Heart and Stroke Foundation of Canada Resuscitation Advisory Committee, and as an Advisor to the AED Foundation of Ontario.

I am supporting this motion because Toronto has a rare and important opportunity to lead internationally on equitable, evidence-driven cardiac arrest

prevention and response for residents living in vertical, high-density communities. After many years working in cardiac arrest research and frontline emergency care, I have come to view access to early defibrillation in the same way we view access to fire extinguishers, smoke alarms, and fire hydrants. As a society, we have accepted that fire represents an immediate threat to life and that every home, building, and neighbourhood must be equipped to respond to it. We have not yet fully adopted that same mindset for sudden cardiac arrest, even though it is just as immediate, just as lethal, and just as time-sensitive.

Sudden cardiac arrest affects approximately 60,000 Canadians every year, with several thousand occurring annually within the City of Toronto alone. Even with the fastest possible response from firefighters and paramedics, the most critical window for survival is in the first few minutes after collapse, before professional help can realistically arrive. In those early moments, lives are not saved by ambulances or hospitals. They are saved by bystanders providing CPR and using a defibrillator. **The presence of a nearby AED can mean the difference between a survivable medical emergency and an irreversible tragedy.** In cardiac arrest, every minute without CPR and defibrillation reduces survival by approximately 7 to 10 percent.

It is important for the Committee to recognize that AEDs are not simply “shock boxes.” They are life-saving devices that provide real-time voice guidance on CPR and emergency care, enabling minimally trained or untrained bystanders to act with confidence and effectiveness in the first critical minutes of cardiac arrest. Defibrillators should therefore be understood not as optional equipment or building amenities, but as essential public safety infrastructure, no different from fire suppression systems or emergency exits. Access to early defibrillation must be part of the fabric of urban safety in modern cities, particularly in high rise residential environments where rescue times are longer and risk is higher.

High rise residential buildings are a logical and efficient place to begin. The concentration of residents within a single structure means that each AED placed is likely to benefit more people than in lower density settings, making investment in these environments particularly impactful. For that reason, I strongly support the motion’s focus on towers and senior oriented housing as a first step.

At the same time, it is important to recognize that the current reality across most residential neighbourhoods in Toronto is that timely access to defibrillation is extremely unlikely, regardless of housing type. In many low rise communities, the probability that a cardiac arrest victim will be within reach of an AED is close to zero. People collapse in bedrooms, kitchens, driveways, and sidewalks with no life saving equipment nearby. This review presents an opportunity to begin with high rise buildings while also laying the foundation for broader solutions in low rise residential neighbourhoods.

International experience demonstrates that this is achievable. Countries such as the Netherlands, the Scandinavian nations, Singapore, and Japan have incorporated defibrillators into everyday community infrastructure, including outdoor residential deployment and integration with emergency response systems. These cities have shown that it is possible to protect residents not only in towers but across diverse housing environments.

Cardiac Arrest Is Primarily a Residential Crisis

More than 70% of cardiac arrests occur in private homes and residential buildings. Despite decades of progress in public access defibrillation, most AED programs remain centered on schools, airports, gyms, municipal buildings, and malls. While these placements are important, they do not align with where cardiac arrest occurs most.

The result is a widening gap between cardiac arrest risk and AED availability. **Less than 3% of people who experience out-of-hospital cardiac arrest in Toronto benefit from the use of an AED in the first few minutes after collapse while professional responders are en route.** Residential communities, and especially high-rise buildings, are currently the most underserved environment for defibrillator access in Canadian cities.

Vertical Living Significantly Reduces Survival

The challenge of high-rise living is not theoretical. It is real. It is measurable. And it is deadly. A Canadian study published in the Canadian Medical Association Journal demonstrated that survival from cardiac arrest drops significantly in high

rise environments in Toronto, with survival above the third floor nearly half that of lower floor cardiac arrests. 0.9% for those above the 16th floor, and there were no survivors above the 25th floor. This gap exists not because residents are sicker, but because CPR and defibrillation are delayed. Elevator travel time, locked lobbies, concierge access protocols, and poor AED discoverability dramatically increase time to defibrillation for residents living in towers.

This motion directly addresses one of the most remediable barriers in urban cardiac arrest survival: proximity of AEDs to where people collapse.

Lessons from Kingston and International Leaders

In Kingston, Ontario, we are piloting a community program that integrates outdoor residential AED placement with citizen emergency response networks using mobile apps, and integration with 9-1-1 emergency dispatch. We have found that AED proximity, visibility, and integration with lay responders matter just as much as whether an AED exists at all.

Internationally, Singapore provides a compelling comparator. Like Toronto, Singapore faces extreme density and vertical living. The government there has taken a coordinated approach to residential AED deployment, ensuring defibrillators are placed across multiple levels in high rise buildings with strategic visibility and redundancy. The result has been measurable gains in bystander defibrillation and survival.

A Public Safety Investment, not a Private Convenience

AED placement should not be understood as an amenity. It is essential safety infrastructure, no different from fire hydrants, sprinklers, smoke alarms, or stairwell lighting. High rise residential buildings represent one of the highest risk environments for untreated cardiac arrest. Failure to provide rapid access to defibrillation in these settings has become a public safety blind spot.

This motion appropriately frames AED deployment as a city-wide health and safety strategy, not a discretionary building feature.

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Support for Implementation Planning

Councillor Carroll's motion wisely avoids prescriptive language and instead requests a thoughtful, multidisciplinary staff review involving Toronto Building, Municipal Licensing and Standards, and the Medical Officer of Health. This approach will allow the City to examine voluntary approaches, regulatory tools, incentives, integration with EMS, Fire, and your 9-1-1 dispatch systems, and pathways for provincial building code evolution, all while tailoring the response to Toronto's unique housing landscape.

I strongly urge Council to support this motion and enable staff to move this critical work forward. I am at the service of the committee and City staff should any further information or support be required.

Sincerely,

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