The Shock of the New: Ethics, Law and the Introduction of Public Access Defibrillation

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There have been recent moves to include Public Access Defibrillation (PAD) in emergency response strategies. The value of this development is explored in this article. The benefits and limitations of extending Automatic External Defibrillator (AED) use to non-traditional first responders, minimally trained witnesses and citizens are examined and the cost-effectiveness of such developments is discussed. The authors contend that, at the present time, enthusiasm for PAD would seem misplaced and that there is a series of economic, ethical and legal uncertainties that need to be addressed before widespread distribution of AED technology should be pursued.

Introduction

Over the past 30 years, mortality rates for most cardiovascular diseases have declined significantly in industrialised societies. The major exception to this is sudden cardiac death, which for many patients is the first manifestation of underlying cardiac disease. Unfortunately, the majority of these sudden cardiac deaths occur not in tertiary health care institutions but in the community. This is believed to be a major contributor to the poor survival rates following out-of-hospital cardiorespiratory arrest, estimated to be 5 to 10 per cent in adults.1

A number of Emergency Medical Service (EMS) strategies have been proposed that would improve the outcome of resuscitation following out-of-hospital cardiac arrest, including community-wide cardiopulmonary resuscitation (CPR) programs and the integration of Automatic External Defibrillators (AEDs) into the EMS “chain of survival”. The “chain of survival” is a metaphor that describes the various interdependent interventions that must be achieved in sequence to ensure survival following out-of-hospital cardiorespiratory arrest. These links include:

1. an enhanced emergency notification and dispatch system;
2. a community-based CPR training program so that bystanders will be able to provide CPR;
3. a first-responder system whereby bystanders, police etc, can provide early defibrillation;
4. advanced life-support providers such as paramedics; and

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5. a hospital-based service with critical-care expertise.

In recent years recognition that the “chain of survival” is only as strong as its weakest link has led a number of commentators to call for the provision of AEDs for use by first responders to improve survival following “pre-hospital” arrest.

The rationale for the use of AEDs is based upon the proposition that, as time to defibrillation has been shown to be the major positive predictor of outcome in adults following cardiorespiratory arrest, reducing the time to defibrillation should significantly improve outcome. On this basis it has been suggested that AEDs should be available for use in hospitals by “traditional” first responders such as medical and/or nursing staff, or as part of a Public Access Defibrillation (PAD) system whereby AEDs may be available for use by “non-traditional” first responders such as emergency service personnel, by families of high-risk patients or by minimally trained members of the general public at work sites, entertainment venues or public places such as airports and shopping centres. Support for Public Access Defibrillation has increased significantly in recent years following rapid developments in AED technology and as a consequence of studies from the United States that suggest that, where EMS response is rapid, the use of AEDs may increase survival from 2 to 30 per cent.

While AED use may justifiably be extended to non-traditional first responders and perhaps to selected members of the public in specific contexts, extension of intervention of electrical defibrillation to minimally trained (or completely untrained) members of the public raises important ethical and legal questions. As a proposed public health measure, it must be shown to be epidemiologically sound, and to take into account all possible hidden costs and burdens.

PAD as a public health measure

The claim that the introduction of Public Access Defibrillation and the dissemination of AEDs will inevitably reduce mortality from out-of-hospital cardiac arrest is not necessarily correct. For PAD to lead to a successful outcome,

- the arrest must be witnessed;
- the bystander must be prepared to apply the defibrillator;
- the AED must be immediately available, well-maintained and functional;
- the device must be applied rapidly and correctly;
- the bystander/first responder must be trained in the use of AEDs;
- the patient’s rhythm must be ventricular fibrillation or ventricular tachycardia;
- the post-shock rhythm must perfuse the patient; and
- the patient must not suffer from any morbidity known to be associated with minimal survival following cardiorespiratory arrest, such as terminal malignancy, pneumonia or renal failure.

At each of these steps issues arise that may ameliorate any benefit that accrues from Public Access Defibrillation. Although data regarding out-of-hospital arrests vary widely between studies, in general it seems that only 40 to 60 per cent of arrests are witnessed. The unwitnessed arrests would, of course, not benefit from PAD. In addition, over 80 per cent of out-of-hospital cardiac arrests occur in the home, generally beyond the reach of PAD. United States estimates suggest that only 12 per cent of public places could realistically be covered by readily available defibrillators. Of those that are witnessed, bystander CPR occurs in 10 to 50 per cent of occasions. Importantly, despite the

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5 R M Norris on behalf of the United Kingdom Heart Attack Study Collaboration Group, “Fatality Outside Hospital from Acute Coronary Events in Three British Health Districts” (1998) 316 BMJ 1065.
fact that CPR has been taught to hundreds of thousands of citizens worldwide since the 1980s, available data suggest that very few individuals have benefited and that there remains considerable reluctance, on the part of both health professionals and members of the public, to perform mouth-to-mouth resuscitation and CPR. In addition, of those who experience out-of-hospital cardiac arrest (OOHCA), 40 to 80 per cent of adults and less than 25 per cent of children are in ventricular fibrillation or ventricular tachycardia and are likely to respond to defibrillation. Indeed, the outcome of OOHCA is extremely poor in children, with high rates of mortality and neurological morbidity. This is largely because, in contrast to adults in whom a cardiac dysrhythmia is often the precipitating event in an arrest, children usually have an arrest secondary to hypoxia, and as such are unlikely to respond to defibrillation. This combination of factors, that is, • that only half of all arrests are witnessed; • that bystander CPR is performed in only half of those cases where cardiac arrest is witnessed, suggesting that bystanders may also be unprepared to utilise an AED; • that of these less than half are likely to respond to defibrillation; • that many will experience significant adverse effects from resuscitation; and • that long-term survival in the few survivors may be as little as 10 per cent, suggests that it is misleading to think that the dissemination of AEDs will benefit all of those who are victims of out-of-hospital cardiac arrest or that PAD is a worthwhile public health measure. Arguments in support of the cost-effectiveness of PAD are generally based on assertions that they work, appear to be safe and at $2,000 to $7,000 per unit they seem relatively inexpensive. In many ways, however, the direct costs of PAD are of considerably less significance than the indirect and intangible costs and do not account for the potential harms that may arise from PAD. The real cost of implementing a system of PAD includes not only the costs of training, education, maintenance and replacement but also the cost of our commitment to care for survivors, including those requiring ICU admission and those with neurological sequelae including global cognitive deficits and persistent vegetative states. Indeed, for many observers, it is the cost of caring for those adults and children who survive with neurological deficits, estimated to occur in 10 to 83 per cent of survivors of OOHCA, that is the major barrier to implementing PAD. This concern is particularly valid in relation to children, as studies consistently demonstrate that, of those who survive, virtually all will have serious neurological deficits and many will remain in a persistent vegetative state. The cost of caring for such patients, the majority of whom demonstrate minimal awareness after an average of four-and-a-half years, has been estimated in one study to be greater than $US90,000 per year. In addition to the harm that results from surviving CPR with major sequelae, other potential harms to patients include being resuscitated when this is not in accordance with the patient’s wishes, and the psychological harm that patients may experience when their loved ones are trained in the skills of CPR and defibrillation.
Some attempts have been made to calculate the cost-effectiveness of PAD by lay responders. For example, a recent study by Nichol et al., calculated a median incremental cost of $US44,000 per additional quality-adjusted-life-year (QALY) (IQR $29,000 to $68,000). Unfortunately, many of these calculations are based on a series of questionable assumptions including:

• that implementation of PAD would not change the costs of treatment of sudden cardiac arrest;
• that a PAD device would be available for each cardiac arrest that occurred in public; and
• that training and maintenance costs would only be equivalent to 10 per cent of the total device cost.

Unsurprisingly, other estimates of the cost-effectiveness of PAD place the cost per QALY as high as $US225,892 ($US406,605 per life saved). Given that, based on United States estimates, the introduction of PAD may save less than a score of Australian lives each year, the cost per QALY may be greater than $A100,000 per QALY.

Such estimates inevitably raise questions regarding the “opportunity costs” of introducing PAD. Opportunity cost refers to the notion that, by choosing to allocate resources to PAD, one is choosing not to allocate resources to other areas of need, such as Aboriginal health care or primary prevention programs to decrease smoking. Indeed, at a time when 51 million people die annually of preventable diseases, the majority in developing countries, many observers are calling upon ethicists to do more than provide post hoc justifications for medical decisions, but instead to take a more global and critical view of decision-making in health care. The issue of opportunity cost is perhaps the most crucial issue in medicine and yet is rarely made explicit. Three points are worth making:

1. resources are limited and distribution decisions must be made;
2. resource allocation decisions should be made on the best available evidence; and
3. demonstrating efficacy is not sufficient and comparative distribution issues such as equity, social justice and cost-analysis must be addressed.

In this light it is worth noting that there are no Australian data providing a cost-utility analysis of PAD.

Public education or medical misinformation

The issue of community participation in PAD also raises questions regarding the adequacy of information in public health and patient education programs. In recent years reviews of patient information resources have found that the benefits of interventions are frequently emphasised and the risks, side-effects and medical uncertainties either ignored or glossed over. Indeed, it must be asked whether, in the enthusiastic rush to promulgate public awareness of and skills in CPR over the past 20 years, the public has ever been adequately informed of the true success rates, complications and morbidity associated with CPR and/or alternatives to CPR such as the “right of refusal”. That this has been the case suggests that

• the level of disclosure is tailored to CPR as an “emergency intervention”;
• the right to express preferences regarding CPR has not really been adequately addressed;
• the ethics of public health education and behaviour modification have not been well explored; and
• medicine has implicitly adopted a position whereby the public has received “selective” education in order to simplify the health message and maximise the “public good”.

It is doubtful whether this degree of education will be sufficient if AEDs are to become widely distributed in the future as part of an integrated PAD system.

Unwelcome resuscitation: Advance directives and the right to refuse

Prior to the development of CPR in the early 1960s, almost all patients died following cardiopulmonary arrest. Following the development

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of CPR, it rapidly came to be applied to all those who experienced a cardiorespiratory arrest. Right of refusal was not seen as an issue because consent was regarded as implied under the emergency exception to the doctrine of informed consent. Over the past 20 years, however, a number of factors have led to the development of Do Not Resuscitate (DNR) policies. These have included:

- recognition of the poor overall success rate of CPR and the limited possibility of survival in patients with pre-existing co-morbidity;
- changes in the health care professional-patient relationship with greater emphasis on patient autonomy; and
- consistent evidence that patients wish to be involved in CPR decision-making and that, when informed, they frequently choose not to be resuscitated.

Most health care institutions now have DNR or No-CPR policies, which recognize the right of competent patients, in ethics and in law, to participate in medical decision-making and to refuse life-sustaining treatment, including resuscitation. Over the past 20 years, however, a number of proposals have been made to enhance pre-arrest decision-making about CPR and the use of portable pre-hospital DNR orders. Indeed, these have become law in a number of States in the United States and health policy in others. Other proposals have included computer-based medical registries with DNR orders linked to emergency calls and DNR identification bracelets or necklaces. Unfortunately, all of these suggestions raise considerable medical, moral, legal and logistic problems regarding documentation, availability, identification, inadvertent harm and legal liability. For, once “000” is dialled and an emergency call activated, the ethical presumption in favour of saving life and the contextual characteristics of out-of-hospital cardiac arrests make it extremely complex questions regarding a patient’s diagnosis, prognosis or wishes. Withholding CPR on the basis of arbitrary grounds or “first impressions”, justified by a nebulous understanding of respect for autonomy, is not appropriate and runs counter to the entire moral and practical basis of EMS systems. For these reasons, in recent years there has been considerable interest in developing mechanisms by which requests not to be resuscitated, recognized as medically and ethically acceptable by numerous institutions and medical colleges, can be honoured in the pre-hospital setting.

Most efforts towards reducing inappropriate pre-hospital CPR have concentrated on enhancing pre-arrest decision-making about CPR and the use of “portable” pre-hospital DNR orders. Indeed, these have become law in a number of States in the United States and health policy in others. Other proposals have included computer-based medical registries with DNR orders linked to emergency calls and DNR identification bracelets or necklaces. Unfortunately, all of these suggestions raise considerable medical, moral, legal and logistic problems regarding documentation, availability, identification, inadvertent harm and legal liability. For, once “000” is dialled and an emergency call activated, the ethical presumption in favour of saving life and the contextual characteristics of out-of-hospital cardiac arrests make it extremely complex questions regarding a patient’s diagnosis, prognosis or wishes. Withholding CPR on the basis of arbitrary grounds or “first impressions”, justified by a nebulous understanding of respect for autonomy, is not appropriate and runs counter to the entire moral and practical basis of EMS systems. For these reasons, in recent years there has been considerable interest in developing mechanisms by which requests not to be resuscitated, recognized as medically and ethically acceptable by numerous institutions and medical colleges, can be honoured in the pre-hospital setting.

If CPR and/or defibrillation is to be withheld on the basis of patient choice, the practical issue may then be how emergency personnel can best be made aware of patients’ deliberated wishes in a manner that is efficient and credible, that does not risk public expectations of the EMS system, and that allows maintenance of the practical and symbolic value of resuscitation. Decisions not to resuscitate are complex decisions of great moral and legal import and the unpredictability and urgency associated with out-of-hospital cardiac arrests do not provide sufficient time for determination of complex questions regarding a patient’s diagnosis, prognosis or wishes. Withholding CPR on the basis of arbitrary grounds or “first impressions”, justified by a nebulous understanding of respect for autonomy, is not appropriate and runs counter to the entire moral and practical basis of EMS systems. For these reasons, in recent years there has been considerable interest in developing mechanisms by which requests not to be resuscitated, recognized as medically and ethically acceptable by numerous institutions and medical colleges, can be honoured in the pre-hospital setting.

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difficult to prevent the application of acute care.
Whilst we may decide that at the current time refusal of CPR in the pre-hospital setting presents too many difficulties to be incorporated successfully into PAD systems, we cannot ignore the issues of rights of refusal and advance directives. The conflict that arises between public policy and individual freedom will inevitably need to be addressed as we consider the wisdom of PAD. As Gillon has noted:

“[V]aluing life … does not confer a general right on others to impose life-saving interventions upon a person against that person’s deliberated choice to the contrary.”

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Unwilling resuscitators: Potential harm to users of AEDs

In addition to the potential harm to recipients of PAD, there are also potential harms to users. These include the risk of electrocution, the guilt or anxiety that may result from the expectation to perform CPR (particularly relevant where AEDs are made available for the families of high-risk patients) and the psychological stress associated with performing CPR. Indeed, given that ambulance services and hospitals provide education and training as well as psychological and welfare support to those providing resuscitation, there would seem to be a strong ethical justification for providing adequate training, counselling and debriefing for all those bystanders/first responders who perform CPR in the community. The risk of physical harm to users would appear to be very small. However, both “user” problems (such as failure to stand back when defibrillating), and “device” problems (such as device shutdown, analysis or algorithm failure, inappropriate application of electrodes and inadequate device maintenance) have been reported. 29 While proponents of PAD assert its safety and ease of use, reports that trained health professionals have poor defibrillation skills and do not use defibrillators safely raise doubts about such claims. 30 Proponents of PAD at times also seem not to appreciate that citizens may not share the health community’s enthusiasm for PAD. Research suggests that many members of the public do not wish to provide resuscitation and may not appreciate being coerced into providing a “community service”. While the question of whether there is any obligation on citizens to provide CPR/defibrillation is primarily a legal one, where an expectation is created that the public must participate in PAD, this also becomes a moral question. While most advocates of PAD accept that participation by citizens is not obligatory, some appear not to share this belief:

“The public at large, including family members and bystander witnesses of cardiac arrest, must be expected to participate in this optimal response capacity.”

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Resource allocation: Influences on the introduction of biomedical technology

Many forces may drive the development of new technologies in medicine, forces that certainly come into question with regard to AEDs but that must be addressed with any emerging technology. This arises in part because of the complex nature of the health system and in part because of the difficulties associated with community involvement in resource allocation. At the current time there is little real involvement of consumers in decision-making, despite the fact that there is a general consensus both that communities should be better informed and that they should have some involvement in decision-making. Unfortunately, community demand is extremely difficult to assess and the mechanism by which consumers should be involved remains unclear, despite exciting “post-Oregon” innovations being made in The Netherlands, the United Kingdom, New Zealand and Sweden.

Whilst resource-allocation is increasingly expected to be “evidence-based”, 32 other forces may influence decision-making, such as commercial,

political and professional self-interest and the “technological imperative”.

The “technological imperative” is a term used to describe the process within medicine that gives primacy to interventions based on doing whatever is possible. It reflects optimism in medical technology and in the hopes of achieving an “outcome”. It may be manifest both in the requests/desires of patients or the community and in the decisions of doctors, and may drive medicine to “do something” – to introduce technologies that may not significantly benefit patients or may actually harm them. The technological imperative is undoubtedly a major force in medicine although one that may be expected to diminish in significance as decision-making becomes more transparent.

Decision-making may also be influenced by commercial factors, a fact often not recognised by health care professionals at either the individual or institutional level. The development of any medical technology or pharmaceutical agent requires a considerable degree of co-operation among manufacturers, health administrators and clinicians. The concern that many share is that whilst there are clear benefits from this liaison, the link between health care and industry is extremely ill-defined. As such, the primary ethical commitment to care for the patient and for the community may at times be subverted by the need of companies to recover costs and generate a profit. Although this issue is not limited to PAD, the development of AEDs provides a striking example of the extent and potential influence of commercial interests on medicine. Conferences, symposia and publications are heavily sponsored by manufacturers of resuscitation equipment both in Australia and the United States. With dramatic personal anecdotes and photographs of survivors, they make impressive promotional material but could hardly be called evidence-based. This does not suggest that all links with industry should be prohibited, but that there should be recognition of the impact of commerce on decision-making and the need both for evidence and for a point of separation between industry and the health profession.

Legal responsibility and the use of PAD

A number of legal issues are raised by the use of PAD. They may need to be considered by regulatory authorities before there is widespread placement of the devices. The use of a medical device (such as a defibrillator) by a non-medical person may be regulated by State legislation. Thus in some jurisdictions the use of a defibrillator may be a controlled medical act and so medical practice legislation may need to be amended to allow for the use of AEDs by non-medical persons. Also, when advertising is used to promote public awareness on the use of such devices, consideration needs to be given to the effect of legislation dealing with misleading and deceptive conduct (such as in the Trade Practices Act 1975 (Cth) or Fair Trading legislation in the States), given the likelihood of actually saving a life (as outlined above).

One significant legal issue raised by the use of PAD concerns the civil liability of AED users. It is well recognised that a stranger (not being a medical practitioner, or perhaps other registered health professional) need not stop to give assistance to a person who appears to be having a cardiac arrest. When, however, the stranger stops and decides to render assistance, the question of the appropriate standard of care may arise.

Where a person undertakes a task that would normally call for special training and experience, then that person must not only exercise reasonable care (the usual standard of care) but must also measure up to the level of proficiency that is expected of a person trained and skilled in the task. Thus a person who was to use a device that would require medical or other specialised training may be judged against the professional standard. For example, an ambulance officer, trained in the use of defibrillators, would be judged against the standard of a reasonably skill and trained ambulance officer.

The law does, however, take note of “all the circumstances of the case”, including special circumstances. Thus Jones has commented:

“In an emergency it may well be reasonable for a practitioner inexperienced in a particular field to assist the injured person...”

treatment to intervene, or indeed for someone lacking medical qualifications to undertake some form of treatment. For example, a bystander who renders assistance at a road accident does not necessarily hold himself out as qualified to do so. He would be expected to achieve only the standard that could reasonably be expected in the circumstances, which would probably be very low. This approach is clearly born of the emergency since, if there was no urgency, this unqualified person who undertook treatment beyond his competence would be held to the standard of a reasonably competent and experienced practitioner. For example, a person who holds himself out as trained in first-aid must conform to the standards of ‘the ordinary skilled first-aider exercising and professing to have that special skill of a first-aider’.

Because of doubts about standards of care in emergencies, a number of jurisdictions (notably in the United States) have enacted “Good Samaritan” legislation that indemnifies from liability persons who, in good faith, render assistance in accident or emergency circumstances. In Queensland the Voluntary Aid in Emergency Act 1973 (Qld) offers some protection to registered doctors and nurses who render assistance in an emergency situation.

The 1995 Review of Professional Indemnity Arrangements for Health Care Professionals also recommended that such legislation should be introduced by other States in Australia.

A trained “first responder” such as an ambulance or police officer, when using a defibrillator, would be expected to exercise the expected level of skill of a trained operator. But what of a lay (untrained) member of the public who in an emergency decided to use an available AED? What standard of care would then be expected? It could be argued that an untrained person who used an AED would be judged against the standard expected of a trained user. A reasonable person would not be expected to use such a device as he or she would need to be aware of the parameter of uses for such devices and potential harms. The risks associated with indiscriminate use of AED would outweigh the advantages that may accrue from accidental “correct” use of the device by an untrained member of the public. The first response of a member of the public who is untrained in CPR or the use of AED should be to call for assistance from appropriately trained emergency personnel. Any use of a device could only be justified by considering the risks associated with its use against the benefits that may reasonably accrue from its use.

A duty of care is also owed by organisations or persons (such as building owners and event organisers) who provide AEDs on their premises. Their standard of care would include an obligation to maintain their AEDs and keep them in good working condition. This may involve regular checking and maintenance of the devices. The more common the devices become (as advocated by proponents of AEDs), the more likely the public would be to rely upon their availability.

Having identified that there may be significant legal questions on liability posed by the use of PAD, calls have been made for a legislative response to clarify these issues. Most States in the United States were expected to have passed laws by 1999 limiting the liability of users of AEDs.

The American Heart Association has released a model for State legislation regulating AEDs. This model legislation provides, amongst other things, that the device must:

- have FDA approval;
- be able to detect the presence or absence of ventricular fibrillation or rapid ventricular tachycardia and be capable of determining (without the intervention of an operator) whether defibrillation should be performed; and
- automatically charge and request delivery of an electrical impulse (when appropriate).

It also provides that any person or organisation that acquires an AED must:

- provide training for expected users;
- ensure that the defibrillators are appropriately maintained and tested;
- involve a licensed physician or medical authority

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38 G Sharpe, The Law and Medicine in Canada (2nd ed, Butterworths, Toronto, 1987), Ch 15.
to ensure compliance with the requirements for training, notification and maintenance; and

• ensure that any person who uses the AED activates the EMS system as soon as possible and reports the use of the AED.

The model legislation then provides limited liability protection:

“[A]ny person or entity, who in good faith renders emergency care or treatment by the use of an AED shall be immune from civil liability for any personal injury as a result of such care or treatment, or as a result of any act or failure to act in providing or arranging further medical treatment, where the person acts as an ordinary, reasonably prudent person would have acted under the same or similar circumstances and does not amount to wilful or wanton misconduct or gross negligence.”

Thus the standard of care to avoid liability is that of the “ordinary, reasonably prudent person”. The limitation of liability extends to any person who uses the AED and is not limited to those who have been trained in its use. This seems to go beyond what is necessary. Would an ordinary, reasonably prudent person be expected to use a device in which they have not been trained? There is also concern that the limitation extends to omissions to seek further medical treatment.

Of those American States that have introduced limited liability legislation for the use of AEDs, most do not extend the immunity to untrained, lay users, only to “properly trained users”. 43 A Bill (Cardiac Arrest Survival Act 1999)44 currently before the 106th Congress would provide for the amendment of the Public Health Service Act45 to provide for the placement of AEDs in federal buildings and establish protection from civil liability arising from the use of the devices. The Act (if passed in the current form of the Bill) would provide an immunity for

“any person who provides emergency medical care through the use of an automated external defibrillator ... from civil liability for any personal injury or wrongful death resulting from the provision of such care [providing there was no] gross negligence or wilful or wanton misconduct”. This federal legislation thus goes further in providing immunity for lay users than most of the State legislation.

Conclusion

In our enthusiasm to strengthen the “chain of survival” we must not lose sight of the fact that a series of economic, ethical and legal uncertainties needs to be addressed before widespread distribution of AED technology is pursued. Discussions of PAD have generally considered four levels of defibrillation:

• level one: traditional first-responder defibrillation;
• level two: non-traditional first-responder defibrillation;
• level three: citizen CPR defibrillation; and
• level four: minimally trained witness defibrillation.46

While strong arguments may be made for support for levels one, two and, perhaps, three PAD,47 the problems raised by level four PAD make it difficult to justify.

At the current time our understanding of many of the issues is made more difficult by the relative lack of data. More research is clearly needed to demonstrate the utility and cost-effectiveness of PAD systems in the relevant setting. Clinical anecdotes, physiological data and extrapolation from small studies in select populations, such as in airline passengers, are insufficient to justify the incorporation of AEDs into the EMS system and do not satisfy the requirements for “evidence-based” resource allocation.

44 HR 2498 (introduced 13 July 1999). Title: To amend the Public Health Services Act to provide for the amendment of the Public Health Service Act to provide for the placement of AEDs in federal buildings and establish protection from civil liability arising from the use of the devices.
45 42 USC 238 et seq.