Another #FOAMEd production by

MOUNTAIN MEDICINE
BANGOR EMERGENCY DEPT

PART 1:
Educator, Manager & Strategic Planning topics

A taster of the 2014 EMS WORLD EXPO

A totally unofficial report by
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Nov 11-13 2014
NASHVILLE

PLUS contributions from
Rob Lawrence
& Rommie Duckworth

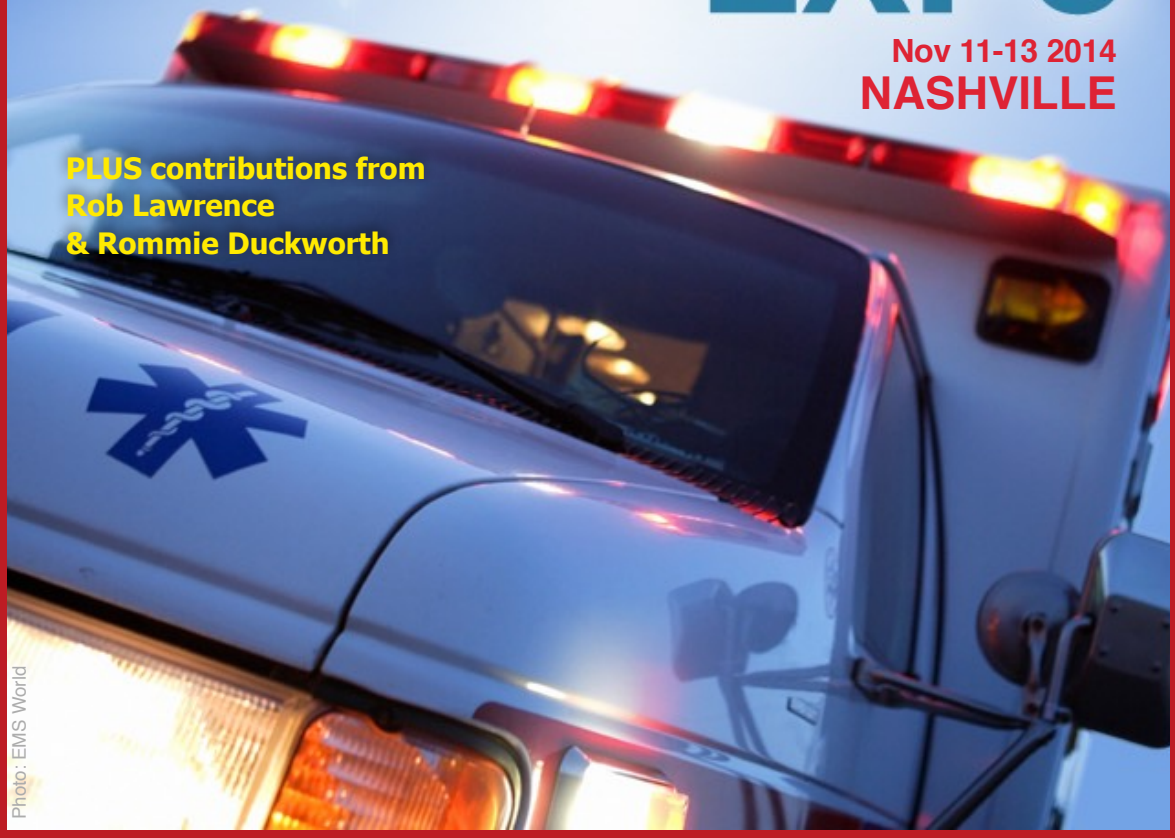

Photo: EMS World

- Improving survivability in Active Shooter incidents
- Getting started in EMS publishing & presenting
- Managing Millennials
- Improving employee engagement
- Community Paramedicine
- Teaching critical thinking in healthcare education
- Habits of high-performing systems
- Major Incidents: top tips & glow sticks
- Planning for Ebola

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Introduction to Part 1: Educator, manager & planner topics

Welcome to Part One of our report of the 2014 EMS World Expo, which took place in Nashville, USA, on 9th-13th November.

This is now the fifth conference we have covered in this way - you can find reports from 2013 EMS Expo, 2014 CEM Spring CPD event, Retrieval 2014 and the 2014 CEM Conference in our Conference Report collection at Scribd website - www.scribd.com/BangorED.

We had two intrepid reporters out in Nashville, but EMS World is a 3000+ delegate multi-stream conference, so this report brings you only a taster in the form of the talks we personally attended. One of us is a paramedic and one an Emergency Physician, so we hope that between the two parts of this report (Part 2 covers clinical topics) we have included material of interest to both EMS and hospital Emergency Medicine clinicians. In addition, some of the speakers have, very kindly, also contributed, and we hope their fuller reports of their own talks will be of use to you.

It takes many hours to turn hastily-scribbled notes into this magazine-style format (you'll need to forgive us the mixture of US and UK spellings in different articles!) and it's all done in our own free time, so please forgive us that this report hasn't appeared until several weeks after the close of the conference!

We must make an important disclaimer. Whilst we try to make our reports as accurate as possible, this whole publication (except for the "first hand" sections) is based upon *notes made during the lectures* with all the attendant distractions and possibility of mis-recording the words of individual speakers.

Whilst we have cross-checked data where possible, and included links to some studies cited during lecture, we can accept no responsibility for any errors or omissions we have made (or that the speakers made and we may have inadvertently propagated).

You should never change your clinical practice based solely on a report like this, but, we hope it will provide you with a springboard for learning & discussion.

Linda Dykes
& Alison Woodyatt

Twitter: #EMSWorldExpo

There wasn't as much Twitter activity as last year - some prolific tweet-reporters were absent or busy speaking! But there was still some active reporting of plenty of talks.
If you haven't yet entered the world of Twitter, make #EMSWorldExpo one of your first search terms!

Reflection for your CPD

We've flagged up further reading (and some topics for reflection) in these snazzy green boxes, and included links to relevant papers, abstracts and websites.

This is a mixture of material that **we** have looked up and found, and also material/ papers/reports mentioned by the speakers.

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CHARITY APPEAL

Please help us support The Tusk Trust

We created this report because we're passionate about FOAMed.

But, if you enjoy it and find it useful, could you consider making a donation to the **Tusk Trust**? This wonderful charity is dedicated to protecting rhino and elephant populations endangered by poaching.

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The Opening Ceremony

Reported by Linda Dykes

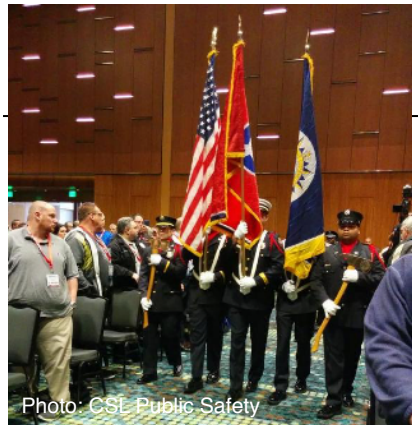


Photo: CSL Public Safety

I love the opening ceremonies at EMS Expo - this is now the third I have attended.

There are flags, and pipe bands, and an up-swelling of pride in being part of the EMS family, with overt, non-cynical American patriotism - something that the British aren't so very good at.

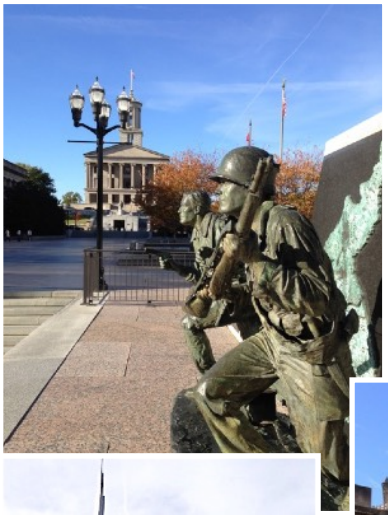
There's the American national anthem (and Americans are much too nice to point out the the Brits present that the lyrics are about our ancestors running away from a battle!) this year sung by EMT-turned-country-singer Jamie Tate.

Various EMS World awards were presented, and this year, following the death of famous EMS Educator Mike Smith, his family were invited to the stage to pay tribute to him (above right) which was immensely touching... one of his daughters described how "I know so many of you, but only by your nicknames..." as her father had talked about his students in the evening at home.

The opening day of the conference was 11th November - Patriot Day in the USA. It was an eye-opener to see just how many of the EMS personnel in attendance were veterans.

Ali and I were pleased we had chosen to wear our British Legion lapel poppies of remembrance.

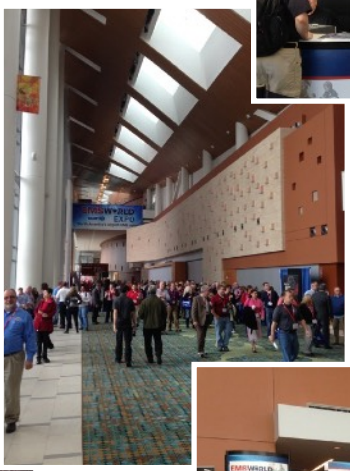
Nashville Gallery



Top - Korean War Memorial view across to the State Capitol Building

Below - Nashville War memorial

Below left - View of Nashville Downtown



Top - we loved the "problem registration" desk!

Middle - Delegates gathering

Bottom - Entry to the trade exhibition

Improving Employee Engagement

- Brian LaCroix

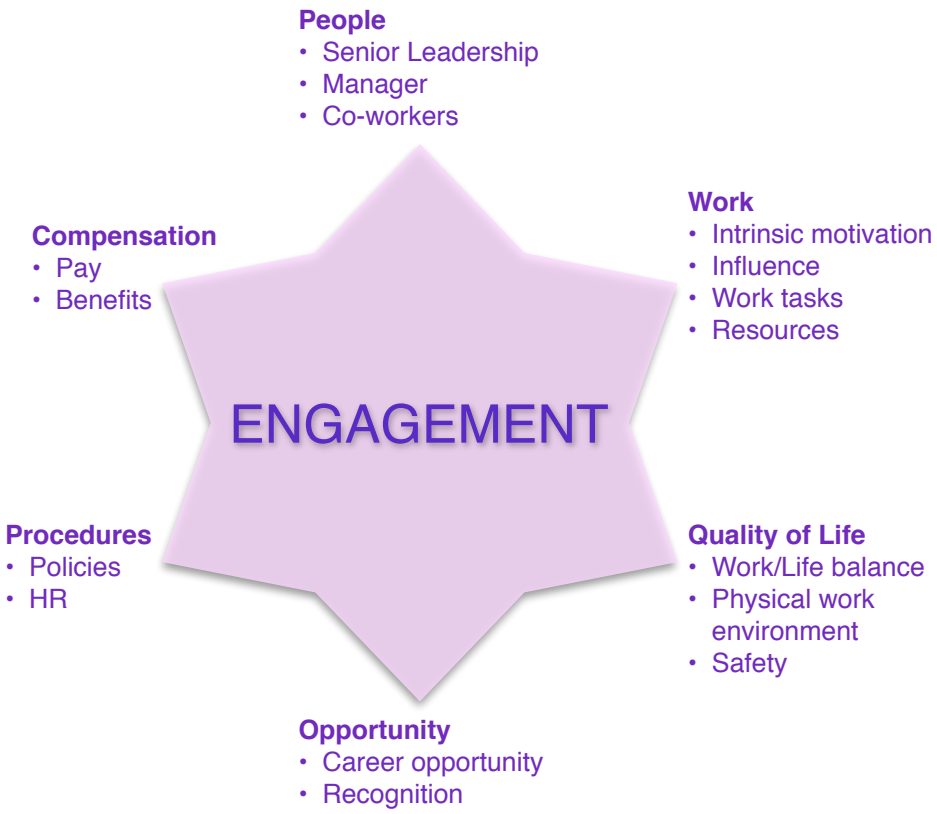
Reported by Linda Dykes

The material in this talk was great, although there were a lot of very text-heavy slides and perhaps too much detail . I was tweeting throughout it, so here it is mainly in snippets of limited characters lifted from my Twitter feed - @mmbangor.

What is employee engagement?

"Engagement is the extent to which employees are motivated to contribute to organisational success, are are willing to apply **discretionary effort** to accomplishing tasks important to the achievement of organsitional goals... it's about **psychological ownership**."

- Employee engagement is *not* the same as satisfaction with their job (or employee opinion): it's getting them to the point where they really care & are emotionally involved.
- Behaviours exhibited by engaged employees include speaking positively about the organisation (**say**), exhibiting a strong desire to continue working for the organisation (**stay**), and exerting extra effort to contribute to the organisation's success (**strive**).
- You can measure the engagement of your employees: you want them agreeing with statements such as "Given the opportunity, I tell others great things about working here" and "It would take a lot to get me to leave this organization".
- Employee engagement is essential of healthcare reforms will fail.



Graphic (above right) adapted from one of Brian's slides. If there is a source to quote, please tell us!

What does engagement feel like?

- The **pride** you feel when you tell a stranger who you work for
- The **enjoyment** you get from working with people who are as passionate and dedicated to the work as you are
- The **sense of belonging** you feel when you manager informs you of important decisions that were just made
- The **extra effort** you and your teammates put in to make sure your work is something you are proud of
- The **excitement** of being on a winning team
- The **smile** on your face when a manager pats you on the back and says with meaning "well done"

It is measured using the **Employee Engagement Index** which is a combination of four summary items - pride in working here, advocacy in recommending working here, commitment/loyalty & satisfaction.

Improving Employee Engagement - Brian LaCroix

- Disengagement is bad for business and productivity and very expensive.
- Satisfaction with line managers is important - 49% of those satisfied with their direct manager are "engaged" whereas 80% of those dissatisfied are "disengaged".
- Engagement needs nurturing - supervisors and line managers must *teach* their junior colleagues to keep employees engaged, or engagement levels off after 3 to 5 years.
- Ever found yourself thinking "I'm good at my job *despite* this place"? Beware... that's a marker for not being as good at your job as you think you are.
- In order to build employee engagement, delegate (but point out the traps), trust, have open and honest communications, and as many positive interactions as you can. The ratio of positive:negative comments needed to maintain employee engagement is somewhere between 7:1 and 20:1.
- You can improve your employee engagement: Allina Health EMS (the organisation the speaker works for) has gone from an engagement score of 34% to 87% from 2005 to 2013. So, for those NHS organisations who are struggling with burned out and disengaged employees, all is not lost!

Why you need to be a good boss

Employees valued by their direct boss:
- Enthusiasm
- Confidence
- Values

Employees <u>not</u> valued by their direct boss:
- Decreased productivity
- Poor retention rates
- Higher absenteeism

Improving survivability of Active Shooter incidents - Alexander Eastman

Reported by Linda Dykes

From the perspective of your visiting British reporters, nothing screams "You're at an EMS conference *in America*" as much as the necessity to include talks on "Active Shooter" incidents in the conference programme. Much of the rest of our clinical practice is very similar, but "the gun stuff" is fundamentally different, although the 2011 massacre in Norway by lone-wolf terrorist Anders Breivik remind us that any country - even those where firearms are tightly controlled - may have to deal with incidents of this type.

Just to place this report in context for non-US readers, at the 2013 EMS World Expo, the "Rescue Task Force" was being advocated (i.e. EMS personnel entering the shooting zone *with an armed escort* potentially *before* the shooter had been neutralised).

Preventable deaths are due to haemorrhage

The key theme of Dr Eastman's talk - which opened with harrowing police radio recordings from Sandy Hook - was that if more lives are to be saved at Active Shooter incidents in public places, we need to figure out how to get haemorrhage-control care to the survivors as early as possible.

The "Rescue Task Force" concept, led by Arlington Virginia, was intended to facilitate getting professional responser care to victims even if still in the warm zone (i.e. shooter has moved beyond the location but is not yet accounted for).

"The Rescue Task Force concept won't survive beyond the first dead EMS personnel..."

However, Dr Eastman seemed sceptical of this strategy and pointed out that if the shooter appears, the armed escort will leave to pursue the threat, leaving the EMS personnel extremely vulnerable if there are two shooters.

THREAT:

Threat Suppression
Haemorrhage Control
Rapid **E**xtrication to safety
Assessment by medical providers
Transport to definitive care

By the time emergency services arrive at the scene and get in, it is usually too late to save some of the people bleeding to death inside (the Aurora Cinema shooting was exceptionally quick with police inside the building within 10 minutes).

Instead, Dr Eastman argued that we need to supply survivors *with the means to treat themselves and each other* - possibly by the first-responding police officers (whose primary goal is to find and stop the shooter) tossing "haemorrhage kits" (tourniquets and haemostatics) to survivors as they pass them, or by means of public access haemorrhage kits.

Some hospital wards in the USA actually have these kits already in case of an Active Shooter in a hospital - there is a mass of guidance for healthcare facilities on how to prepare for

Reflection for your CPD

The **Hartford Consensus** emerged from an American College of Surgeons "Joint Committee to create a National Policy to enhance survivability from mass casualty shooting events" (Dr Eastman is a member) - this is the origin of the THREAT acronym. There is also the **FEMA guidance to EMS "Mass Incident Deployment"** and - almost unbelievably to UK mind-set - **an official public safety video called "Run, Hide, Fight®"** - which is worth watching.

The Washington Navy Yard shooting - just days after the 2013 EMS Expo - has a publicly accessible official report - although the Washington Post's account is a lot less dry!

Millennials and EMS Leadership:

The art of tapping their potential - Gary Ludwig

Reported by
Linda Dykes

There's a warning attached to this report. As you can imagine, describing the characteristics of an entire generation necessitates some broad generalisations. If that makes you mad - skip this page. Assuming it doesn't, Gary's talk contained some really useful tips on how to help our younger colleagues perform to their best in the workplace.

The class of 2014: new doctors joining Bangor ED in August 2014.

Unless they came to medicine as a second career, these guys are almost all Millennials.

Who are they?

The Millennial Generation are the children of the Baby Boomers. They were born from the mid-1980s onwards, and started reaching adulthood with the new century. They are "digital natives" - they can't imagine running their lives without the internet. And they're in our medical and EMS workforce right now - by 2025, they'll make up 75% of the workforce.

They're amazing

The millennial generation is globally oriented, diverse, technologically brilliant and has the most progressive political orientation ever. They are highly entrepreneurial, and accustomed to having women in leadership positions.

They're bombarded with information - they probably get more information on their phone each day than a person in 1850 got by reading a newspaper for an entire year.

The downside

This is a generation brought up in a world where every moment of their lives has been celebrated: graduation for kindergarten, anyone? Their schoolday sports may have had no scores: nobody won or lost, everyone got a trophy.

They've never learned to fail, and they're used to instant gratification.

Things that defined their world

These young people saw corporations making their parents redundant in the 1990s - they don't believe that corporations will make a commitment to them, so why should they be loyal to corporations? The result is frequent job changes - an average of seven jobs by the age of 26. And they'll start their own businesses: "owner" is very common in their job titles.

Generation	Silent Generation	Baby Boomers	Generation X	Millennials
Current age	66-88	47-65	29-46	28 and younger
Defining events	Great Depression WWII	Vietnam War Rejection of traditional values	Personal Computers, Cold War, Divorce	Internet A Dangerous World, the Great Recession
Technology	Radio	8-track	CD	iPhone/iPad
Communicate	In person	Telephone	Cell phones	Text message
Defining movies	The Best Years Of Our Lives	The Big Chill	Breakfast Club	The Social Network

Millennials and EMS Leadership - Gary Ludwig

The behave differently

39% of millennials have a tattoo, so if you haven't already revised your uniform policy about visible tattoos, you might soon need to!

They're on-line. Lots. In the USA, youths age 8-18 spend 7.5 hours ever day using "entertainment media".

95% have a social media presence, 1 in 5 has posted a video of themselves on line, and half of youtube videos are uploaded by people under 20. What's more, 40% of them believe that blogging about a workplace issue is acceptable.

Top Tips for managing Millennials

1. They want training, not education... they can educate themselves on line, they want hands-on stuff from you
2. They want to grow. Empower them, and take every opportunity to do stuff one-on-one with them
3. Help them map out their future, help them plan for promotion
4. They want to be heard (and they have information they think is valuable)
5. They listen - all the time
6. The want immediate feedback
7. Lead them, don't micromanage ("lead people, manage things")
8. Provide mentorship.
9. Look for opportunities for coachable, teachable moments
10. They want to work collaboratively, they want to belong to a

Identification guide to the generations

Silent Generation	Baby Boomers	Generation X	Millennials
• Disciplined • Loyal • Traditional work ethic • Sacrifice for the common good • Respect authority • Obey the rules • Patient *(incidently, Millennials get on very well with the Silent Generation)*	• Workaholics • Optimistic • Person Gratification • Want recognition • Like to be involved • Health & Wellness important	• Independence and self reliant • Resilient • Fluid careers - lateral moves • Value free time • Want to have fun in the workplace • Creative risk takers • Diversity is the norm	• Extremely confident • High expectations • Social • Value diversity • Thrive on challenge and growth • tech savvy • Want instant feedback

But, whatever the differences, **all generations work for personal fulfillment and satisfaction**. The highest indicator of satisfaction is to **feel valued on the job**, and hence 95% of employees of any generation want an environment where they are **recognised and appreciated**.

Sophistication is possible in Rural EMS

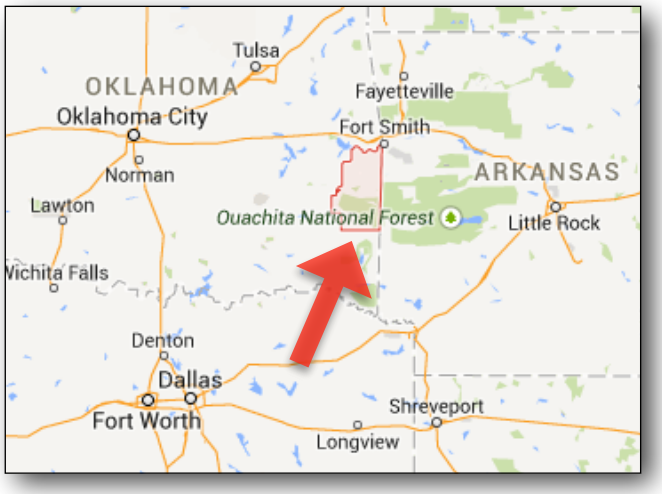
- David Grovdahl

Not reported (!) by Linda Dykes

LeFlore County EMS has 7 ambulance handling 6700+ calls each year, and is 1-2 hours drive away from their receiving hospitals. In Medicare terms, it's a "super-rural" system.

David gave a wonderful talk, with a smattering of insightful humour - "the whole community can be reached if we go to Walmart or the cattle market".

We were going to report his talk fully here, but EMS World's Jason Busch beat us to it, and given that there's no point in re-inventing the wheel, we'd suggest that you read Jason's report of this talk on the EMS World website.



Ebola - experiences from Dallas

- Paul Pepe

Reported by Linda Dykes

Paul's talk was sadly truncated by a late start due to a venue mix-up, but insights from the one developed-world city that has, de novo, handled Ebola, attracted an attentive audience.

Texas has been training for handling viral haemorrhagic fevers since 2001, and initially, EMS planners weren't all that concerned with the news of an Ebola outbreak in West Africa. Ears pricked up when EVD started crossing international boundaries.

Paul's key message was that handling the community fear is paramount - there were no secondary cases *in the community* from the Texas Ebola case (the two nurses who were infected in Dallas probably had exposed skin on their necks) including household contacts of the index patient.

However, the kids from the affected household were discriminated against when they returned to school on day 22. The reason, it transpired, was that there was a cultural assumption in a strongly Hispanic population that "Quarantine" meant - literally - 40 days of isolation, as per the original use of "quarantina" which originates from Venice in the days of the Plague.

Lessons for EMS

- Video gowning up and taking PPE off again - to enable you to look for any breaches in protocol.
- Be aware of the effect on hospitals: Texas Health Presbyterian hospital lost 50% of its business in the month following its Ebola cases. "Single hospitals get burned out" - but all should be capable of initial receipt of a suspected EVD case.
- Keep your staff informed & trained.
- Modify dispatch protocols to ask re travel/contacts
- Have plans for EVD transfers - including kids.
- Have a trusted medical leader talk to the people.
- Think about handwashing facilities at mass gatherings, and ask people not to attend if they are unwell.
- Don't forget this preparation is never wasted: one day, we'll be facing the next pandemic of a disease spread by aerosolisation.

We admit it - this link is purely for your entertainment rather than your CME/CPD. But we defy you to watch it and not laugh out loud. May we present to you the comparison between the UK and US media handling of Ebola, courtesy of comedian Russell Howard?

An insiders guide to publishing & lecturing on EMS topics - Raphael Barishansky

Reported by Linda Dykes

So, you've been to talks at events like EMS Expo, and written stuff for your own service, and done some local presentations at CME/CPD events and now you're itching to take that next step up. How do you do it? Raphael presented his top tips for a variety of US EMS-related media. This was only a

Getting an article into a trade journal

- Pick your target journal, follow it, and check the requirements for publications in it (on the journal's website). Think laterally to work out a fresh angle on what you want to say.
- Contact the editor to discuss your idea before getting going: keep things formal in the first instance.
- In your pitch, summarise the point & unique viewpoint your article will bring in 2-3 sentences.
- Plan your article like a construction project: an outline first, then focus on your topic.
- Make sure your first paragraph says what you're going to say, and the last paragraph says what you said and suggests future directions.
- Define abbreviations, avoid slang and regional technical terms
- Watch out for spelling and grammar problems, especially those that won't show up on a spell-check (e.g. complaint and compliant)
- Have at least two people read your work before submission (a topic expert and a writing expert). These people need to be brutally honest.
- Beware of any lack of originality, lack of a useful message, lack of proper referencing.
- If your submission is rejected, ask about the possibility of resubmission after changes.
- If your work has gone out to peer review, don't expect all reviews to be positive. You may feel hurt, but every review contains some good suggestions.
- If several reviewers have have the same comments or recommendations, you probably need to implement them!

Working with editors

- Rule 1: You are the EMS expert but they are the writing experts (and it's their publication)
- Rule 2: See Rule 1

Speaking & presenting

- There are local, regional, state, national & international events. Some (like EMS Expo) expect you to respond to a call for presentation proposals. Plan this submission like you would an article (and if accepted, make sure your presentation matches the description & educational objectives you said it would!)
- Conferences like experienced presenters, but you can't get in without experience. Success begits more success, though, so once you are in, you will hopefully get invited again.
- Know your audience - is "edutainment" appropriate or not? Levity may make your message easier to convey but needs to be appropriate for the subject matter.
- Banish the fear: speak from experience, practice, and get as much experience as you can.
- Give proper credit to others whose material you may talk about, and quote your sources.
- Read and reflect on your feedback, good & bad.

"Most of us fear public speaking more than death. If we are at a funeral, that means we would prefer to be in the casket rather than delivering the eulogy"
- Jerry Seinfeld

Books

- Writing a book is a labour of love that may take years. You have been warned!

Contracts

- Read carefully, check carefully.
- Make sure you know what you'll get and what you are expected to deliver. If organisers don't send you one, send them an example.

Nearly as good as being there:
The UK College of Emergency Medicine Annual Scientific Conference 2014.

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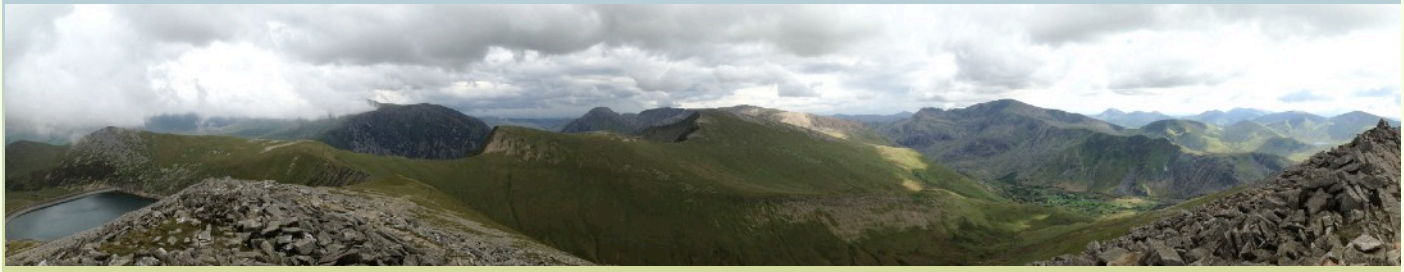


Approaching CCT, or fed up with life in the rat race and want a move? Take a look at our unofficial website - www.mountainmedicine.co.uk - and see whether you like the sound of our team. If you like to work hard and play hard, in a relaxed and friendly department (egos are left at the door here), get in touch. Even better, from 2015 there is the opportunity of PHEM sessions. And getting paid to fly over the magnificent scenery of Snowdonia National Park as part of your day job is, let's face it, simply awesome.

Preventing emergency vehicle rollovers

- David Bradley

Reported by Alison Woodyatt

This short lecture was to highlight contributing factors to unnecessary rollovers of emergency vehicles. The emphasis was on the responsibility of ambulance services to provide current and appropriate training to EMS drivers to ensure that accidents are prevented - the strict 3-week Blue Light Driving course does not exist in the USA.

The majority of incidents involving Emergency Vehicles are single vehicle errors, a major factor being driver error. Inexperienced drivers with lack of relevant training are at higher risk, especially those who drive with excessive relative speed.

"Rollover prevention: ***SLOW DOWN"***

His top tips for preventing rollovers were:

- Watch out for soft verges: the weight distribution of dropping onto a soft verge when going too fast is enough to tip a vehicle over.
- Stop veering around animals: their lives are not worth that of you, your crew mate or your patient.
- Drive in accordance to the weather conditions.
- Know your area... Know the edges of the road for "rollover" potential. If out of area, reduce your speed accordingly.
- Remember speed limits are only suitable for cars, not trucks.

Photo: Fiona Moore

- Control your speed with appropriate braking, deceleration, changing gear and feathered acceleration.
- Use steering control methods such as correctional moves for skid or directional control.
- If you find yourself in a bend that seems impossible, hold the vehicle in a straight line: cutting a corner or driving into a field may be a better option that tipping a vehicle over at speed.
- Wear your seat belts in the front and **back** of the vehicle

A day in the life of a Mobile Integrated Healthcare paramedic - John Ferris

Reported by Linda Dykes

I was particularly keen to hear this talk, as I was one of the other speakers at this event on this topic. As we repeatedly here, "if you have seen one community paramedic scheme in the USA you have seen one community paramedic scheme", but John outlined the key features of several schemes in his talk before going on to describe some of his own clinical caseload. So many EMS systems the world over are looking for inspiration of where they might themselves go with community paramedicine that this type of talk deserved a full-length slot rather than just 30 minutes.

John works for Medstar in Fort Worth, Texas, a large provider of EMS services that has developed a range of community paramedicine programs. Paramedics working in these schemes have 10+ years of experience, plus rotations in hospitals and clinics and in-depth pathophysiology knowledge.

Medstar's Mobile healthcare programs

1. CHF
2. Hugh User Groups (HUG) - system abusers. This is a very small group of patients. Medstar defines "high user" as 15 calls in 90 days, whereas some hospitals call four visits in one year "frequent".
3. OBS admit avoidance (send a paramedic to assess at home)
4. Home Health (Klarus) - used for things that worry patients/families but don't need the ER, for example, wound vac systems falling off, or feeding tubes coming out.
5. Hospice (Vitas) - all the paramedics working in this program have de-escalation and motivational interviewing training, with the aim of helping patients to achieve the death they wanted without their relatives revoking DNAR orders. These medics are allowed to administer the "just in case" narcotics, and have direct access to hospice and Medstar doctors

John's role as a Mobile Healthcare Paramedic (MHP) is very different to how community paramedicine in the UK, and seemed more of a cross between a GP, a District Nurse, and "the cousin in medicine your never had".

John makes scheduled client visits, 5-6 visits per day M-F, with one-hour slots (30 minutes patient interaction + 30 minutes charting/admin/tasks) plus involvement in community initiatives such as falls schemes & safeguarding.

Patients are enrolled in the MHP program for 30-90 days, and the paramedic has a merged clinical care, patient advocate, case management & social work responsibility - "allocating appropriate resources for the right patient at the right time". They have an i-stat machine enabling them to check U&Es, Hb, Hct, TCO2 and anion gap.

John described two cases as examples. **"Antoine"** - a 32 year old man with IDDM, gastroparesis, high BP, glaucoma, PUD, mental health problems and substance abuse - had attended the ER 11 times in the year prior to enrollment. He was scheduled to enter the MHP program with two visits a week for up to an hour each with the goal of decreasing ER utilisation, helping him navigate to appropriate medical care, and with the MHP orchestrating and co-ordinating his multiple primary care and specialist clinicians, some of which (notably mental health services) didn't communicate with the others.

"George" is an affluent businessman enrolled on the CHF program. He wasn't well educated about managing his CHF and didn't trust any of his specialists (so didn't attend follow up). To make matters worse, communications between his cardiologist and nephrologist were less than slick, making orchestration of care difficult.

As well as spotting acute problems on a scheduled visit (such as symptomatic hyponatraemia, or escalating severity of CHF) the MHP program will liaise with the ER team if the patient was admitted, sometimes significantly changing how the patient was treated. The MHP scheme also resulted in him agreeing to cardiac rehab, and having a better understanding of his medical problems, reducing his anxiety and low mood.

Organising Chaos in 20 minutes: Major Incident command - Ken Bouvier

Reported by Alison Woodyatt

Reporter Ali Woodyatt pictured with Ken Bouvier

Ken is a bit of a legend in UK EMS circles, most definitely a charismatic character! As Deputy Chief of Operations of the New Orleans Emergency Medical Services (NOEMS) Ken shared with us some of his experiences of commanding major incidents, and some of the lessons he has learnt.

In the UK, most areas use the terminology of the MIMMS course, which differs to the USA, but Ken's key points - enthusiastically delivered - would make a major incident easier to manage. And we just *loved* the glow stick suggestion!

The first person on scene

The first person on scene to identify that "this is a major incident" may be an ambulance crew, in which case they should take the following steps:

1) Determine the number of patients.
2) Call for additional ambulances and declare the scene as a major incident.
3) Become the triage officer and recognise life threats.
4) Begin patient care until next crew arrives.
5) Establish the Incident Command System and organise transport.
6) Remain on scene until responsibility is reassigned to an EMS Ops Officer.

Don't forget your Five Functions!

- Sound leadership
- Systematic organisation
- Effective command
- Good communications
- Functioning equipment (always report poor

Incident command systems

Having a system within your own organisation is vital, but communicating inter-service is just as crucial. NOEMS has developed its own incident command system, beginning with the Incident Commander who is in charge of all EMS staff.

Good commanders should:

- Stay strong regardless of what a scene throws at you
- Trust the command system.
- Stay on scene for as long as is possible to ensure continuity.
- Go to work dressed properly! If you are an EMS officer, wear all of your uniform - do not dress down. Showing as much 'bling' on your shoulders as possible enables others to identify your authority: other agencies behave differently and will respect you more if you instantly recognisable as a commander.

Photo: Fiona Moore

Top tips on organizing chaos

- Use a peg boards (an old but reliable method - see above) to control major incidents, then back up the information later to a computer.
- The command station must be well organised and well lit, both to avoid mistakes and to help identify the command centre.
- The Incident Commander nominates Sector officers with letters of the alphabet (A B C D etc.) Each is given a sector of the incident to run, and these officers *and their sectors* from that point on will be referred to as Alpha, Bravo, Charlie etc.

Major Incident command - Ken Bouvier

- Each officer will control medics/rescue squads working in their sector and report directly back to the commander.
- As each sector officer sends in a crew, they are responsible for ensuring the crew has appropriate kit: in the USA this may include "shooting kits" containing bullet-proof vests and helmets and a police escort.
- Roles of individual medics within each sector are identified by the Velcro label attached by the sector officer to their personalised fluorescent jacket, for example, triage, treatment, transport etc.
- These jackets with the identities on must be worn until the incident is declared over, including in transit and in hospital.

Communicate, communicate

Communication with the public is key during a major incident: use a "big mouthed" person to control vehicle movements - there is no point having a quiet person who can't be heard over generators and engines controlling the traffic.

Public/media relations are important, therefore, always prepare statements for press releases in advance: do not "ad lib"or be "lead" by reporters' questions whilst speaking to the media. *Only quote facts*. Keep the press informed so that they don't speculate. Only confident, competent, representatives of the service should publicly announce information. If you feel this is not you, delegate to someone who is confident and correctly informed.

Our prize for the Best Idea of the Whole Conference?

GLOWSTICKS!

The triage system used by NOEMS is assisted in poor visibility by glow sticks. Yes, glow sticks - like kids wave at pop concerts.

As the medic responsible for triaging patients works their way through a scene, they leave a glow stick (with the colour dependent on triage category) with the patient. The treatment and transport teams can then work their way through the colours, treating patients identified as time-critical. It has to work better in the dark than our UK major trauma cruciform cards where you need a torch if walking round an incident scene in the dark early in the process (i.e. before any lights are set up).

NOEMS also use this method in a multiple car crash: if a car is search and declared clear, a white glow stick is put in view (for example, on the dashboard) in the car to prevent the vehicle being searched repeatedly.

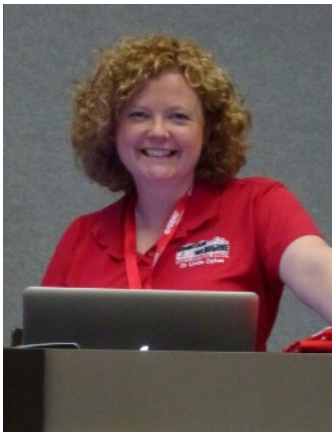
If you haven't got kids, you may not be familiar with glowsticks, but a bit of googling revealed there are even "NATO-approved Safety Glowsticks" (pictured right) complete with a lanyard and hook & eye.

They last for at least 12 hours once activated, and this product (from where I have nicked the photos, but I'm hoping they won't mind in return for the free advertising) has a guaranteed 2-year shelf life. On glowsticks.co.uk they start at 83p each.

Community Paramedics in the UK

- Dr Linda Dykes

First Hand: reported by the speaker



It was a great honour to be invited to speak at EMS Expo: I was thrilled by the number of delegates who turned up to listen to my talk, on a topic that just isn't be as sexy as Major Trauma or the very latest in resuscitation techniques, especially not at 0815 on the first morning!

My goal was to equip listeners with sufficient grasp of the UK EMS system, paramedic training/practice and the NHS to enable them to put any UK literature on community paramedicine in context, in order to help work out what elements might be applicable to their own services. So my talk covered this, before exploring some of the range of community paramedic models currently running in the UK. I'd like to share the key points of my talk with you here.

Putting it in context: the NHS

The National Health Service was founded in 1948, to provide universal health coverage for the British population, funded from taxation, and free at the point of need.

There are some quite substantial differences in the availability of community-based care in the UK compared to the USA, which is important to grasp before considering how our version of Community Paramedicine is evolving.

For example, just about everyone has a General Practitioner (GP - i.e. family physician) who has a gatekeeper role to any secondary care services except ED care, sexual health or maternity services. District Nurses (visiting patients in their home) and palliative care services are well established, and there are many specialist community services too, with specialist nurses supporting patients with chronic conditions like COPD and heart failure.

Despite challenges - and in the post-recession age of austerity, emergency care in the NHS & related social care provision is undoubtedly creaking - the NHS largely succeeds, and yet consumes only 7.8% of UK GDP.

The Commonwealth Fund, a US-based think-tank, recently ranked the English NHS as first in the world on a whole range of parameters, in a report where US healthcare didn't fare well, despite consuming 17.7% of USA GDP.

COUNTRY RANKINGS

Top 2*
Middle
Bottom 2*

	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
OVERALL RANKING (2013)	4	10	9	5	5	7	7	3	2	1	11
Quality Care	2	9	8	7	5	4	11	10	3	1	5
Effective Care	4	7	9	6	5	2	11	10	8	1	3
Safe Care	3	10	2	6	7	9	11	5	4	1	7
Coordinated Care	4	8	9	10	5	2	7	11	3	1	6
Patient-Centered Care	5	8	10	7	3	6	11	9	2	1	4
Access	8	9	11	2	4	7	6	4	2	1	9
Cost-Related Problem	9	5	10	4	8	6	3	1	7	1	11
Timeliness of Care	6	11	10	4	2	7	8	9	1	3	5
Efficiency	4	10	8	9	7	3	4	2	6	1	11
Equity	5	9	7	4	8	10	6	1	2	2	11
Healthy Lives	4	8	1	7	5	9	6	2	3	10	11
Health Expenditures/Capita, 2011**	$3,800	$4,522	$4,118	$4,495	$5,099	$3,182	$5,669	$3,925	$5,643	$3,405	$8,508

So, when it comes to supporting patients in the community, the UK is in a very different point to the USA.

For all its difficulties, the NHS works well overall, and we don't have the same need as the USA for community paramedics to support patients with chronic conditions in the community - they are already relatively well provided for. The UK does, however, need to treat more acutely-presenting patients without transporting them to their nearest ED which is increasingly likely to be suffering from crowding and "exit block".

First Hand: reported by the speaker

Community Paramedics in the UK - Linda Dykes

Paramedics in the UK

The first paramedics in the UK emerged in 1971, an example being "cardiac paramedics" in Brighton, who could defibrillate and use four drugs... atropine, lidocaine, epinephrine (intracardiac!) and, if the patient had ROSC but remained unconscious, dexamethasone.

By the mid-1980s, each ambulance service was training their own paramedics, with a typical programme being about 360 hours of clinical education. Today, the vast majority of UK paramedics are trained via a degree or foundation degree HEI (Higher Education Institute) and, like UK nursing before it, paramedicine is well on the road to becoming an exclusively graduate profession.

"US ambulance services cover an average of 21,000 people. UK ambulance services cover an average of 4.6 million"

Organisation of ambulance services in the UK

Here's the real biggie: the scale of ambulance services. In the USA, you have 15,000 ambulance services covering 315 million people... a mean of 21,000 patients per ambulance service. In the UK, we have only 14 NHS ambulance services providing 999 (=911) responses for a population of 63 million, a mean of 4.6 million.

Our smallest ambulance service, the Isle of Wight, still serves 140,000 people, whereas London Ambulance Service is the busiest in the world.

What's driving community paramedicine in the UK?

- Rising demand on ambulance services: 248% growth in call numbers in 20 years
- Ageing population
- GP services under strain
- ED crowding and access block
- Delayed handovers at hospital
- Reduced asset availability to respond to emergency calls

What community paramedics do in the UK

There are three main models of extended-scope community paramedic in the UK:

1. Working as part of the Primary Care/Family Practice team
2. "Admission avoidance" - supporting road crews with standard level of training, to reduce the number of patients who are conveyed to ED for assessment.
3. "See & treat" at scene.

In addition, some areas of the UK use extended-scope paramedics in Minor Injuries Units, and various specialist services such as Falls or Geriatric Assessment schemes, but I won't be considering those roles further. In general, the UK does not use paramedics to support patients on discharge from hospital, or to pro-actively visit "familiar faces" (aka "frequent flyers"), although I believe some areas may be doing so on a small scale.

Job titles

If reading UK literature, be aware that the titles of these extended-scope paramedics are only just being standardised now.

Different ambulance services have called them "Emergency Care Practitioners", "Advanced Paramedic Practitioners", "Specialist paramedics" and all sorts of combinations therein!

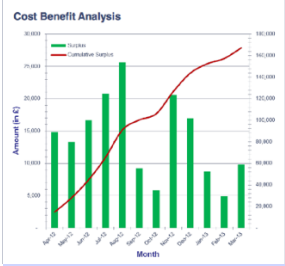
First Hand: reported by the speaker

Community Paramedics in the UK - Linda Dykes

Example Scope of Practice SWAST, South West England

- Trips and falls
- Minor wounds (except facial triangle, palmar or glass injuries)
- Minor head injuries (except on anticoagulants)
- Corneal abrasions or minor eye infection/ injury
- Dental abscess/pain
- Soft tissue neck injuries
- Mild/moderate pain control
- Extremity injuries not requiring x-ray
- Chest, skin & ENT infections not requiring admission, ?UTI
- Some abdo pain (e.g. gastroenteritis, biliary colic)
- Social care and safeguarding advice
- Urinary catheter issues
- Mental health problems
- Mild/moderate allergic reactions

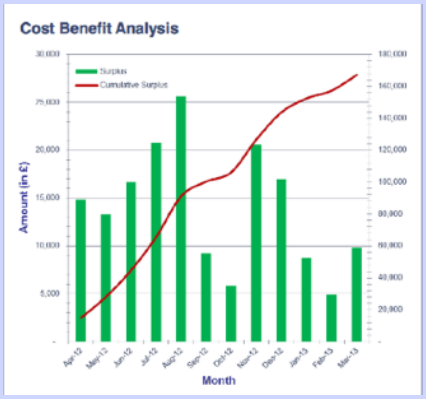
Example is taken from "ECP Referral Guidance", South West Ambulance Service NHS Foundation Trust, 2012



Cost effective, safe & popular with patients: Essex

The Essex Southeast Hospital Admission Avoidance & Referral care Service - SHAARC - shared their performance figures via their publicly available Commissioner's report.

Originally set up to deal with elderly fallers, this scheme achieves a non-conveyance rate of 83% (cf. average in that area of 59%).



Although it costs a little more than a "usual ambulance response" ($403 vs $366), the savings to the health community in that area are substantial and the scheme more than pays for itself as well as keeping 850 patients a year out of the local ED.

As of their 2013 report,

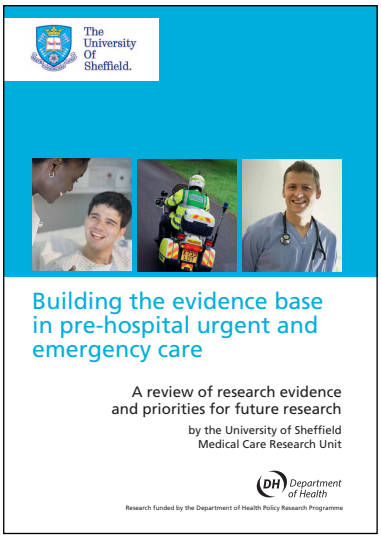
Lessons from those who've done it!

Whilst preparing this talk, I persuaded my informants from various ambulance services to tell me what they'd do differently if doing it again.

- Select paramedics who can survive uncertainty
- Set up a suitable MSc course with university locally
- Consider rotation posts (ambulance, MIU & GP)
- There are problems keeping competencies up (wound closure, catheters)
- Skilled people-management is required: make your community paramedics work up to their skills/training or they will start getting risk-averse, picky, and stagnate.
- Most schemes don't finish where they'd planned to - local adaptation is essential.

The bottom line

- Community paramedic schemes in the UK are useful, cost-effective, and safe. Patients love them.
- There are, however, multiple challenges (appropriate tasking, keeping them off the main shift plot, keeping skills current, and they're not well understood by colleagues and other agencies) - and whilst they save money in the NHS, by definition by reducing conveyances to ED, they may not be so popular in the US health care system!



The summary of evidence presented in the talk was taken from this document, with many thanks to Janette Turner for supplying it to me whilst I was preparing this talk! You can download it here.

The key slides from this talk - which also includes the extensive list of people who kindly help supply me with material for it (massive thanks!) - are available to download here. Or visit www.scribd.com/BangorED

First Hand: reported by the speaker

Teaching critical thinking in a healthcare environment - Rommie Duckworth

Critical Thinking: The process of actively evaluating information as a guide to observing, understanding, decision-making, and action.

Long recognized in the higher levels of healthcare education as crucial for modern, patient centered health care, the inclusion of critical thinking in EMS education programs somehow lags behind.

Even though it is essential to create EMS providers who are *clinicians*, not simply t*echnicians*, critical thinking teaching and testing methods often fall by the wayside as "old school" dogmatic telling of information, not teaching of healthcare take precedent.

A simple test can be used to determine if this is the case. Ask the question, "Is this program focused on verifying that the information was taught, or is it focused on the outcome of patients treated by the students?"

Why is critical thinking so important?

- Critical thinking skills are necessary for the observation, analysis, and decision-making that field EMS care demands, but that straight lecture-test education methods don't provide.
- Lectures and algorithms are great for providing fundamentals and framework as a jumping off point for healthcare education, but it takes the critical thinking skills, developed under guidance in a classroom, to use these fundamentals in the dynamically changing environment that is EMS.
- The rate of change in health care is growing faster than ever. The old-school method of "learn, unlearn, learn new" will not allow providers to keep pace. The critical thinking skills of lifelong learning and evaluation of information are essential

Making The Change

While significant effort may be involved to change teaching methods that are already in place, the actual incorporation of critical thinking methods can be quite simple, straightforward, and fun.

The most basic form of teaching critical thinking skills is the one that's been around the longest: the Socratic Method.

While it can be difficult for an educator who is a subject-matter expert to hold back from sharing what they know about a topic, it is much more important for the students to make the journey of discovery themselves, with the educator acting as the "guide on the side", rather than the "sage on the stage".

The Socratic Method allows the educator to do this by presenting a case where the teaching concept comes into play, and asking the students questions to provoke them to explain how they would use the concept to improve patient outcomes. *These are not simply questions that the educator asks to see if the students know the facts*. These are questions to see if they truly understand and can use these facts in the bigger picture of patient care.

Questions include:

- *What are the issues at play here?*
- *Why have you chosen this option?*
- *Can you provide the evidence to back up your statement? (not allowed to say "you just told us")*
- *How can we evaluate this?*

First Hand: reported by the speaker

Teaching critical thinking in a healthcare environment - Rommie Duckworth

Other critical thinking methods for classroom-based learning

Prioritization & Problem Solving:

- List and prioritize the problems in the scenario.
- List and prioritize the available solutions.
- How can you modify the top three solutions to make them better?
- Take away the top three solutions. Now what?

Love / Hate

- Pick your "go to" solution to this problem.
- Pick your least favorite solution to this problem.
- What is your reasoning for your love / hate?
- What are the cons for your “love”?
- What are the pros for your "hate"?
- What other alternatives are there?

Other critical thinking methods for hands-on practical include:

Purposeful Practice:

- 3 uses for gauze - NOT bleeding control.
- Use any device OTHER than THESE to splint.
- Make a practical scenario. Give to another group to solve.
- Write out an algorithm for care & answer questions.

Identifying Excellence & Errors:

- Reflect during after action reviews.
- Evaluate outcomes compared to best practices (our CPR vs. perfect CPR).
- Compare student vs. expert reasoning.

Life Long Learning

- Is there one “truth” here? Is there a single "right way" of doing things?
- What do we know about this topic?
- How can we use what we know as a guide to decision-making?
- If our understanding about this topic changed, how would it change our practice?

Above: Examples of questions & phrases that can be used to help students develop critical thinking skills

"David - The Death of Socrates" by Jacques-Louis David

First Hand: reported by the speaker

Teaching critical thinking in a healthcare environment - Rommie Duckworth

Educators will find that implementation of critical thinking activities like these are reinforced by the incorporation of critical thinking in the course curriculum, objectives and examinations.

While not all of the options listed (see bow, right) are appropriate for every level of student assessment, if one is to emphasize the use of critical thinking skills as important to field care, does it not stand to reason that we must test students' ability to use these skills?

Many of these methods may be startling to class participants: administrators may ask, "Wow much will it cost?", educators may ask, "What the heck is this?", and students may beg educators to, "Just give me the answer." Challenges arise when we as human beings are confronted with any form of change, even positive change.

Still, there are methods one may use to ease the transition:

Educators

- *Begin by listening to educators' questions, comments, concerns, and ideas about incorporating critical thinking into the education program.*
- *Identify "champions" of critical thinking among your educators.*
- *Hold critical thinking updates and workshops for your educators.*
- *Have educators assist in developing critical thinking objectives, questions, activities, and exams.*

Students

- *Introduce critical thinking questions, activities, and exams gradually.*
- *Allow students to have the "wait time" to critically think about the response period*
- *Allow students "try it out time" to experiment with different methods.*
- *Keep discussions focused by asking questions to rein in tangents.*
- *"What have we done so far?"*
- *"Why is this so important?"*
- *"How can we use this?"*

No-one wants to be part of a healthcare education program that produces students who choose treatments "because that's the way everybody does it" or "because the book/instructor said so", or who say, "I'm not here to question what my supervisor tells me to do" or, "the nurse might look at me funny".

These critical thinking methods are just the beginning. An EMS Educator's creativity is the only limit once they've begun incorporating students' use of critical thinking skills in EMS education programs.

How to test critical thinking

Written Test Question Examples

- List five reasons why this might be happening.
- Come back with three different ways to accomplish this.

Multiple Choice Test Construction

- Eliminate the "all of the above" answer.
- Eliminate any questions involving negatives such as "Which of the following is NOT…"
- Add "I don't know" as an option. Would you prefer students guess correctly and get points, or not be punished when they tell you they don't know and follow-up to seek the correct answer?
- Make all answers possible, but "one choice best" for the situation presented in the question. *[this is the "single best answer" question type in the UK - Ed]*
- Add extra questions and have students only answer the "priority" questions. "This test has 30 questions, but I only want you to answer 25 of them. Choose five to be the least important and skip over them. These questions have no point value.

Healthy Habits of high performing systems

- Rob Lawrence

First Hand: reported by the speaker

Hello readers!

I'm Rob Lawrence, Chief Operating Officer of the Richmond Ambulance Authority in Virginia, USA, member of the EMS World Editorial Advisory Board and presenter of the EMS Expo presentation "Rob's 10 Top Considerations or Healthy Habits of High Performing Systems."

During my session, I focused on key elements of business practice, organizational performance and clinical excellence required for any high-performing system, EMS or otherwise. Each of my points could be a full essay in their own right, but in summary, my 10 top tips are as follows:

1. Economic Efficiency

From an economic sense, the mission of EMS and any healthcare organization for that matter is to "convert the amount of available budget money into high quality healthcare in order to produce excellent clinical outcomes." Money is too tight to mention right now and the days of well-padded budgets are a thing of the past. Municipal coffers are shrinking for the public sector, collection rates and reimbursements are down for private EMS, and charitable giving and the donation of free time is fast disappearing in the volunteer sector. In other words, no matter the type or style of your organization, it must be run as a business, with an eye on the bottom line and a realization that EVERYTHING costs something.

"You're not high-performing if you are incapable of delivering the clinical goods on arrival at scene..."

2. Data is our Favorite Four Letter Word

In this day and age it's difficult to believe that some EMS organizations think they have little or no management information. The actual situation is quite the contrary and individual data mines are bottomless. Information is freely available from call volume to patient condition to mean times between failures of vehicle components. When collected, collated and analyzed this information becomes a valuable intelligence product that can be acted upon to improve the next cycle of response, care and administration.

3. System Status Management (SSM)

System Status Management (SSM) is the science of being in the right place with the right resource at the right time to meet the patient's need. Some say it is the practice is placing ambulances on street corners, but the crucial thing we must remember is that the patient is having the emergency so we must be poised to respond with minimal delay and maximum impact.

SSM takes the intelligence products of demand analysis of both time and space and matches manpower and availability to deploy a responder as close to the patient as possible. This achieves a minimal response time for the patient and reduces time spent running under emergency conditions for the crew (and distracted pedestrians!).

4. Clinical Excellence

So far all the planning and data crunching has been devoted to the first 10 minutes or approximately 1/6th of the patient response episode. It is ironic that some organizations set their store in, and are judged on, their response times alone. It's not "high performing" if you are good at racing to the scene only to be incapable of delivering the clinical goods on arrival.

A well-trained workforce that has sufficient preception, mentoring and training, and is clinically current, is an absolute requisite for success. To achieve this, the involvement and active engagement of the Operational Medical Medical Director (OMD) must occur (often).

First Hand: reported by the speaker

Healthy Habits of high performing systems - Rob Lawrence

5. Lean Systems

EMS is not only response, treatment and transport- the back office and support functions are the "power behind the punch" of service delivery. The creation of lean, efficient and measurable systems is the key to success. An example of this is a high functioning fleet service. If your vehicles fail on the way to calls, then so does the mission. Keeping your organization well serviced and maintained is an arterial function and performance could hemorrhage if you can't get to where you need to go.

The swift conversion of treatment, to bill, to income is also an essential function. Remembering the economic requirement that we turn the amount of available funds into quality healthcare requires the generation of said funds to keep the EMS circle of life turning. While those in support functions are not delivering lifesaving and patient care, they keep the organization alive and healthy.

6. Culture of Safety

The Culture of Safety is perhaps surprisingly a new concept to some quarters of U.S. EMS. This is nationally apparent by a stream of Line of Duty Deaths (LODD) and devastating vehicle accidents that result in well publicized photos of ambulances splayed like bananas after impacts with both moving and static objects.

An environment of cultured safety seeks to establish the root cause of these issues then put techniques, practices, procedures and philosophy in place to create a safe environment for all.

7. We Are Public Health As Well

When I go out and speak, I often ask the audience if they know who their Public Health Director is. Many do not, which is shameful. EMS enjoys its role in public safety and recognizes its place in the house of medicine, but fails to realize it is an essential member of the public health camp. Prevention is better than cure every time so understanding the aims and objectives of the public health system is essential.

The current Ebola crisis has reinforced the point that we are joined solidly to public health and we must interact often and well

8. Innovation and Research

To continue to push the boundaries of the EMS world, we require evidence-based practice, outcomes and data to trump industry anecdote and tradition. To progress, we can't simply hide behind the mantra that "We have always done it that way."

Organizations should consider researching, collaborating, capturing and presenting studies and good practices. It doesn't have to be major projects or massive patient studies, but perhaps a series of "small cycle testing" that relies on a "Plan, Do, Study, Act" (PDSA) cycle. Large change can occur from small tests. Writing these up, complete with supporting evidence, can effect change not only in the researchers' organizations, but in the wider industry.

9. Community-Based Programs

The evolution of community-based programs here is almost anthropological in nature. Community paramedicine (or “mobile integrated healthcare”) is evolving and forming according to local environmental and political conditions.

No two programs are the same, which is technically good, as they are shaped to meet the needs of the population for which they are intended to serve. The bottom line for many of these programs to be successful and attain longevity is to be actuarially sound and generate income to be self sustaining.

Sadly many programs to date have operated on a loss-leading footing and, unless sustainable income is forthcoming via legislative changes, some could fade as quickly as they initially shone. That said, some community-based activity is already part of normal daily EMS practice and could rightly be classed as "paramedic in the community" activity.

Understanding who your "frequent service users" are and managing their whole system use and creating case conferences is a great community activity.

First Hand: reported by the speaker

Healthy Habits of high performing systems - Rob Lawrence

Fostering relationships with other local care organizations such as behavioral health, social services, faith-based groups and both the primary and secondary care sectors may lead to the creation of cost-effective and sustainable programs. This level of liaison also assists in the breaking of barriers and removal of care silos.

*"If no-one is following, then **you are not leading**"*

time. Good news stories inform the public as to the quality of your agency and instills a sense of pride within the service.

In the social media age, it is now relatively easy to place news. A photograph and a descriptive paragraph can quickly be crafted and posted on your organization's social media sites or sent to the editor of a national trade magazine for both national and international coverage.

10. Communicate, Communicate, Communicate...

Internally, "If no one is following, then you are not leading."

Externally, if you don't broadcast your message, then no one will hear it!

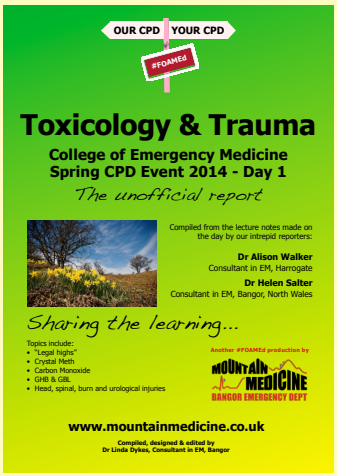
A key communication strategy should be a major corporate activity. Some say that it takes 10 good news stories to trump the one bad one. Having an active communication plan that involves providing your local media with positive stories (to get your 10 good ones in the bank) is a good investment in

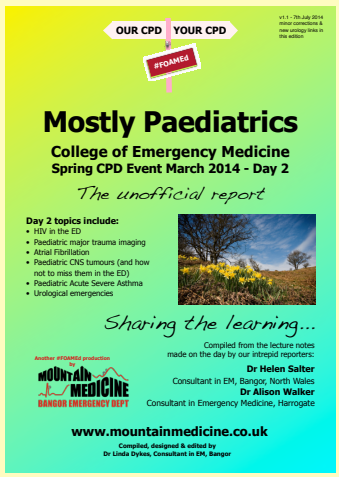
11. A Bonus 11th Point: The Four Words That Count Most

EMS organizations are usually one degree of separation away from politics. Public sector organizations are governed by Councils or Boards of Supervisors, private sector companies have shareholders and executive boards.

If those who lead our EMS organizations are not politically aware and astute at navigating the rocky waters of achievement and funding then no matter how good or efficient and organization they can be overturned by four political words: *"All Those In Favor."*

Leading Emergency Medicine Conferences - reported for you. Free.





Catch up with the Bangor ED conference reports: **full coverage of all three days of the Cardiff CPD event** - plus others - at our Scribd Conference Collection site.

Your conference reporting team

Dr Linda Dykes

(@mmbangor) came up with the idea of reporting conferences like this, and compiles, edits, & designs the Bangor ED Conference reports, plus squirrelling out stuff for the magic green boxes.

Linda graduated from Newcastle Medical School in 1996. She trained in Emergency Medicine in the Northern & Mersey Deaneries, and in General Practice in Wales. She has been a Consultant in Emergency Medicine since 2005 in Bangor & still does occasional GP (family practice) locums to keep her hand in!

Linda is seconded to Welsh Ambulance Service Trust as an Honorary Assistant Medicine Director one day a week, bringing her a small step closer to her ideal portfolio career combining EM plus EMS/primary care interface, and teaching.

Her research interest is Mountain Medicine (she maintains a database of all mountain casualties from Snowdonia brought to her hospital) & she particularly enjoys teaching medical students & paramedics.

Alison Woodyatt

(@alisonwoodyatt) makes her conference reporting debut with this EMS World Expo 2014 report.

Ali trained as a paramedic at Worcester University/West Mids Ambulance, and now works for Welsh Ambulance Service Trust from beautiful Monmouth, close to the English border.

Ali's particular area of clinical interest is domestic violence, and she is also developing a passion for service improvement and improving employee engagement.

First Hand: reported by the speaker

Plus our special "first hand" contributor:

Rommie L. Duckworth, LP

(@romduck)

A career Fire Captain / Paramedic, EMS Coordinator and past volunteer chief officer, Rom is a dedicated emergency responder and award-winning educator with more than twenty-five years of experience working in career and volunteer fire departments, public and private emergency services and hospital healthcare systems.

Rom is a frequent speaker at national conferences and a contributor to research, magazines, and textbooks on topics of operations, leadership, and emergency services education.

Acknowledgements

We would like to thank the many friends & colleagues who also helped prepare this report: we have pestered people relentlessly to supply photos (special thanks to Fiona Moore!), proof-read (Alison Walker with the demon eyes!), help us with some unfamiliar US-terminology & in some cases, explain unfamiliar concepts.

Kayte Lloyd-Hughes kindly allowed us to poke around her farm for the photos about the dangerous bits on tractors, and Dr Christine Clark (Consultant in O&G, Ysbyty Gwynedd) supplied the information on cervical sutures/ circlage in the obstetric emergencies lecture.

Finally, we must mentioned Rommie & Betsy Duckworth (right) who have been especially obliging, despite this project coinciding with them bringing home their first child - congratulations!

Have you read the Bog Blog?

Designed for the back of the toilet door...

EMS
Lavatory Learning
CPD whilst having a wee!

No. 1 - July 2014

Welcome to the first "Lavatory Learning".

We've collected some "things we didn't know last month" on one-page: designed for the back of the loo door.

This is intended as a WAST community production - please send us something you've learned this month that you'd like to share.

Paediatric vomiting - what does it really mean?

This is a much-shortened version of Dr Natalie May's post on "emesemantics and vomiting in kids" at the fabulous St Emlyn's Blog - www.stemlynsblog.org - and is used with Natalie's kind permission. Thank you!

	"Bile"	"Projectile"	"Coffee Grounds"
What parents mean	Usually, yellow vomit, or any vomitus that isn't recognisable food - "*it was just bile*..." There's a lay perception that "bile" = "stomach contents".	Parents generally mean "vomit which comes out with any force, rather than just dribbling from the baby's mouth"	Brown vomit, or sometimes vomit with bits in
What we mean	Bile is the cooked-green-**spinach coloured** substance produced by the gallbladder. Or it can be **avocado**-coloured. But definitely **deep green** in colour.	Vomiting that is unusually forceful and the vomitus travels a significant distance (e.g. further than the child is tall).	Vomit which looks like the black or *very* dark brown granular substance you tip out of a cafetiere.
What does it actually mean?	In newborns and infants, bilious vomiting indicates intestinal obstruction. After the neonatal period, bilious vomiting *may* be due to volvulus or malrotation, but can be due to viral gastroenteritis.	Projectile vomiting can be a sign of congenital pyloric stenosis - seen in weeks 4-8 of life, presenting as a skinny hungry vomiting alert baby, often male. In older children, it's probably just normal vomiting.	It is blood that has been in the upper GI tract for long enough to have had contact with gastric secretions. True upper GI bleeding is rare in children - consider button battery ingestion if you see it.

Two Top Tips from the CoP CPD Day

1. Airways
When siting any airway - including OPAs and iGels - use a laryngoscope, especially in under-1s.

2. Breech deliveries
When manoeuvring a breech-presenting baby, use your thumb/forefinger over the baby's pelvis: by grasping only "bony" parts you'll avoid pressing on the internal organs.

FOAMed & Twitter

Not yet on Twitter? You're missing out on an excellent source of Free Open Access Medical Education ("FOAMed"). By "following" some of the leading Twitter names in Emergency Medicine & EMS you will very quickly hear of breaking news in research, get real-time reports from conferences & watch (or participate in) debates. Search for #FOAMed and #FOAMems to get started (and do follow @stemlyns - we first found the Paediatric vomiting information via a St Emlyn's tweet!).

What's a molar pregnancy?

Molar pregnancies - correctly termed "gestational trophoblastic disease" - are a group of disorders arising from a pregnancy that is genetically seriously abnormal.

A highly abnormal placenta develops, which can invade the uterine wall or even - very rarely - become malignant. Molar pregnancies are usually detected by early pregnancy scans these days and the molar tissue surgically removed (once upon a time this was called "evacuation of retained products of conception" but that term has fallen out of favour).

The main relevance to EMS practice is that if any molar tissue remains, these patients can present with very heavy PV bleeding.

Learned something you'd like to share? Help us compile the next issue by emailing your contribution to Alison.Woodyatt@wales.nhs.uk

An informal technical update produced by Powys & Monmouthshire WAST crews with a little help from Bangor (Ysbyty Gwynedd) Emergency Department - @mmbangor

We produce a new "Bog Blog" as often as we have material to share: "something I didn't know last week" being the main criteria for inclusion.

Please email us your suggestions!

You can view and download the EMS Lavatory Learner at our scribd.com site: www.scribd.com/EMSLavatoryLearning

EMS
Lavatory Learning
CPD whilst having a wee!

No. 2 - Nov/Dec 2014

Welcome to the 2nd "Lavatory Learning".

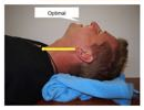
We've collected some "things we didn't know last month" on one-page: designed for the back of the loo door.

This is intended as a WAST community production - please send us something you've learned this month that you'd like to share.

Better ventilation: the latest thinking...

The most effective hand position for BVM ventilation is now known - and it probably isn't what you learned in your operating department placements. Scott Snyder highlighted some changes during his talk at EMS Expo in Nashville in November.

The "Thenar eminence" technique has been shown to be the best for "novice" operators (Gerstein *et al*, 2013) - which probably includes anyone who isn't an anaesthetist.



Whilst thinking about airway management, the best position for any airway manipulation (BLS or ALS) is with the earlobe lined up with the sternal notch (see right). This can take a *lot* of "ramping" behind the neck and shoulder in an obese patient.

Top tips about IV analgesia

1. Morphine
Morphine causes localised histamine release in some people - an itchy red line can appear along the vein it's injected into. It's *not* an "allergy".

2. IV paracetamol
- By now, you've probably discovered it's marvellous stuff. But you should only use it IV for treating moderate/severe pain: if it's just as an anti-pyretic, oral is a lot cheaper!
- JRCALC states 1g as the dose for all adults, but in-hospital, prescribers are reminded to reduce to 750mg the dose administered to patients under 50kg: so if you've given the full 1g to a very frail tiny person, be sure to specify this on handover.

FOAMed & Twitter

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An informal technical update produced by Powys & Monmouthshire WAST crews with a little help from Bangor (Ysbyty Gwynedd) Emergency Department - @mmbangor

Has she been strangled?

Did you know at least 25% of domestic violence incidents involve strangulation (US data)? The problem is that neither you - nor the survivor/victim - may realise it. 35% have nothing to see on examination. Only 3% seek medical attention.

Strangulation takes only seconds and needn't involve very much pressure - it's due to great vessel occlusion, not hypoxia. The victim passes out in seconds and can recover remarkable quickly, albeit transiently confused and sometimes euphoric.

Look for clues in the history - incontinence, unexplained injury, gaps in the timeline - and on your secondary survey (e.g. petechiae in the face/check sclera and behind the ears) - because you won't find them on a primary survey. And ask. Specifically - "has anyone put their hands round your neck and squeezed?". They won't tell you otherwise.

Other "silent signs" include coughing/ vomiting (may mimic asthma), voice change, and painful swallowing.

Peri-mortem Caesarian section

Being called to an obviously pregnant woman in cardiac arrest is always going to be distressing and, sadly, outcomes are dismal for both mothers and babies in this situation.

Peri-mortem caesarian section is indicated to help save the *mother* (by improving her venous return) *if* it can be performed within a few minutes of cardiac arrest. The baby is almost certain to be doomed, although Manchester and USA (?New York) have both had a mum/baby pair survive.

If a mother fulfils criteria for ROLE at scene, there is absolutely no hope for the fetus.

Learned something you'd like to share? Help us compile the next issue: email contributions to Alison.Woodyatt@wales.nhs.uk

Snowdonia's ER

Photo: Joss Images

Bangor, North Wales: *Where EM is still fun!*

Clinical Fellows - unique middle-grade posts, 6-12 months

Our acclaimed **Clinical Fellow** posts, primarily designed for post-ACCS trainees wanting a productive "year out" from formal training posts, were the first to offer **20% Pre-Hospital Emergency Medicine** in the job plan.

- The perfect "prep school" for PHEM sub-specialty training, we welcome PHEM beginners
- PHEM shifts are undertaken with Welsh Ambulance (ground assets & Helimed) plus experience of SAR
- 6 to 12 months posts available, flexible start dates between now & August 2015

NEW: two new variants of our popular Clinical Fellow posts: **20% Medical Education/Simulation** *or* **Quality Improvement/Medical Management (QIMM)**.

Both options include relevant courses (e.g. PGCertMedEd) and unusual opportunities. For example, MedEd options include paramedic training, and QIMM posts provide insights into the very heart of NHS Wales, at regional & national level. Call us, or visit our website, to learn more.

Consultant - Locum or Substantive

Come and join Team Bangor ED!
We are seeking a new colleague, and happy to consider locum-with-a-view.

Or why not come to us and try rural EM on sabbatical from your own ED like a colleague from NZ did this summer?

- Civilised 1-in-7 rota, 4-day week if full time... or work LTFT and enjoy the playground of Snowdonia even more!
- We have a track record of supporting new consultants in their first post
- Fantastic friendly department
- Plenty of major trauma (minimal bypass from scene) & high-acuity medicine
- ENPs handle much of the Minor Injury stream, and we are co-located with our GP OOH service
- Plus the satisfaction & challenges of working 100-miles away from our tertiary referral centres

Advertising this autumn on NHS Jobs, but to find our more, visit mountainmedicine.co.uk, email Linda.Dykes@wales.nhs.uk or Rob.Perry@wales.nhs.uk (ED Consultants) tweet us @mmbangor, or call our secretary on 01248 384003 and ask her to track one of us down!

Specialty doctor? Sessional work? ST4-6 interested in OOPT/OOPE?

Please contact us if interested in any of the above. We can offer OOPT in rural EM, OOPE in the Clinical Fellow posts, and well-supported middle grade posts for Specialty Doctors and sessional doctors. We also enjoy supporting returners to medicine.

Where is Bangor?

Sandwiched between the outdoor playground of Snowdonia National Park and the beautiful coastline of Anglesey in North West Wales, this is the place to live and work if you like the outdoors, with everything from rock-climbing to kite-surfing on the doorstep. We are one hour by road to Chester/M6, 3 hours from London by train, or a quick ferry ride to Dublin.

www.mountainmedicine.co.uk

The last page...

THE END

That's it folks - the end of our Part 1 report of the 2014 EMS World Expo. Please tell us what you thought of what we've produced: firstly, it's all good fodder for our appraisal/ revalidation/CPD folders but much more importantly, we also need to know if we have any corrections to make!

if you have any feedback/suggestions please email Linda.Dykes@wales.nhs.uk or contact us via Twitter to @mmbangor.

We have tried to acknowledge sources of images, but if we have missed anything - we apologise. There are several tables & concept diagrams in this report that were shown by speakers on their slides and we have adapted to show clearly here: if you are aware these should be credited to someone other than the speaker, please alert us.

And if you are on Twitter or Facebook and enjoyed the report, please, please help to disseminate the link to it... this is an all-volunteer production, and many dozens of hours of our precious and very scarce free time have been donated by the reporting team and designer/editor to bring this to you... seeing the number of hits rack up makes it all worth it.

And finally, do bear in mind that the team who produced this are all healthcare workers, not professional journalists and designers!

Please feel free to share this document widely, in the spirit of #FOAMEd, but it may not be used for commercial purposes without our express consent.

PS - Please make a donation to Tusk Trust! We'd love to fundraise for them but these reports take so much time and energy we haven't any time available to raise money the conventional way. Go on, even if it's just £1/$1... this report has saved you a fortune on the cost of attending the conference itself!

Please help us fundraise for the Tusk Trust

This report hasn't cost you anything. If you have found it useful, please could you make a donation to the Tusk Trust, a wonderful charity dedicated to protecting rhino and elephant populations endangered by poaching and the greed for rhino horn and ivory? We have donated many hours of our time to preparing this report and this is a way of enabling us to fund-raise whilst helping you.

If everyone who reads this report donates even £1/$1 we could raise a substantial amount of money.

You can visit our Just Giving page by clicking here.