A&E ON TV

Casualty: the BBC series – the role of the medical adviser

Geoff Hughes

The BBC *Casualty* programme, based at Holby General Hospital in the fictional city of Holby, has been popular for several years, averaging 14–15 million viewers per episode. At the time of writing this article (December 1995), series 11 (for screening in the winter of 1996–97) is in the early stages of production. I have been a medical adviser to the series since 1991. In this article I will describe how the programme is made and my contribution to it.

General background

Holby DGH is an average sized hospital serving a metropolitan area of 500 000. It has few regional specialties. The A&E department sees 40 000 patients per annum. For dramatic reasons the only medical staff with dialogue are one consultant, a senior registrar, and one SHO.

Recent series have consisted of 24 fifty minute episodes which are transmitted through the autumn and winter. Planning and writing of the series starts nine to ten months before transmission. Filming of each episode is completed several weeks in advance and takes 10–12 days per episode.

Production of the series is a complex but well organised affair with units based in London and Bristol. The two sites have separate but overlapping roles. The former is the office base and is home to the producer, script editors, researchers, and the production teams responsible for each episode. Bristol is the base for filming, technical support, special effects, props, and editing, as well as the office for routine administration. Some personnel live in or around Bristol but many commute between the two sites.

The storyline

Planning the storyline begins months ahead of filming. The script editors, producer, the nursing adviser, and myself meet regularly to develop ideas which are increasingly fine tuned. There are several stories running through each series, which are sketched in at this early stage. They include political issues, individual character stories (the soap element), and specific medical topics. Once general themes are agreed individual writers are then commissioned for different episodes. Each episode matures with several written drafts. Frequent evening telephone calls and brain storming conversations help produce the final rehearsal script. In addition to myself, advice

is sought from a nursing and ambulance adviser, and others specialists as appropriate (for example, the police, fire service, and special interest groups.)

Obviously each episode is different. Stories may include a big stunt (for example, the train crash at the start of series 8 or arson at the end of series 7), a specific “hot” topic (that is, incest, rape or male rape, TB in the homeless, Jehovah’s witnesses, etc), or personal and emotional problems in a variety of domestic settings. Political topics related to NHS reforms are included from time to time (for example, trusts, budgets, contracts, closure of services, the development of triage, nurse practising, etc). Intertwined with the big stories are one or more smaller – and often amusing – topics (for example, a tramp with smelly feet or an “elf” from a store’s “Santa’s Christmas Grotto” who was unable to get his plastic ears off). Each incident which appears in the final script is based on a real event.

Many medics ask me “why is there only ever one SHO?” This is a deliberate decision. I’m told it helps the writers and script editors keep a tight control of each theme of the story and causes less technical difficulties for a weekly programme. It is also a deliberate decision not to include too much black humour or the typical conversations of the staff rest room and doctor’s mess. It has to be remembered that the programme is an entertainment and not a documentary.

Making an episode

Once the script is completed the final production phase begins. A team led by the director (the person who plans camera and actor positions and decides what you will see on the screen) and including various assistants, make-up, and special effects experts meets with the advisers and goes through the script in detail. The director makes decisions about camera positions at this stage. Special effects, stunts, and make-up options are also planned. It is during these discussions that any limitations arising for medical and technical reasons are defined (for example, is it possible to make a model to simulate an emergency thoracotomy or escharotomy?) If the story is too “gory” to be screened, the special effects will be toned down (the philosophy for this does vary from director to director and from special effect to special effect).

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After this meeting final plans regarding locations, casting of specific characters, and scheduling of filming are completed. The special effects team are given photographs of real injuries to help them plan make-up and construct their prostheses (which can take days or weeks to make). Before filming, the actors meet the director for a read-through, where ideas and themes are openly discussed.

Filming of an episode takes 10–12 days. The medical scenes are completed over a weekend (rehearsals on Saturday, filming on Sunday). Occasionally visits to location shoots are required (for example, the Forest of Dean for a mining accident or the Brecon Beacons for an anaphylactic bee sting).

The “Casualty department” itself is located in a warehouse on a trading estate near Temple Meads railway station in central Bristol. The outside (or ambulance entrance) of the department is located at a local polytechnic (or university as it is now called) next door to Gloucester County Cricket ground. Most outside scenes are filmed in and around Bristol, while the Bristol Royal Infirmary is used (at weekends) for theatre and ITU interiors. At rehearsal, advice is given to the actors on methods of patient examination, practical procedures, pronunciation of medical terms, and use of props (stethoscope, ophthalmoscope, etc). Each scene or incident is filmed from different angles and the same angle often reshot several times. A 10 hour day of recording results in only a few minutes of usable film. Although the advisers are present at these times, we do not contribute to the final editing process which determines what will or will not be transmitted.

New actors and members of the production team visit the A&E department at the Bristol Royal Infirmary to familiarise themselves with the “real world” and speak to members of staff (although some writers and actors also visit their own local departments). Apart from this, virtually all of the advice is given “out of hours”, occupying an average of 7–10 hours a week, mainly in alternate weekend slots and evening phone calls.

More background to the series

Involvement with the series has been a fascinating and privileged experience, exposing me to the world of television programme making. Inevitably a variety of humorous and interesting incidents occurs, some of which will not translate well onto the page.

Letters of complaint from both medical and non-medical viewers have to be dealt with. Many viewers wrongly interpret a story or do not listen to the dialogue. For example, a director of a regional social services department became extremely hot under the collar regarding a story of father-daughter incest and the way in which social services were involved. Careful review of the transmitted dialogue and videotape showed that he had misheard the sequence of events. He was told this but he did not accept our reply and continued to complain.

We received many letters from psychiatrists and psychiatric nurses about an episode which portrayed a psychotic patient killing someone. Their concern was that the episode portrayed mental patients in an adverse light and would have given the public the impression that all mental patients are violent. Although this latter point is undoubtedly a true concern, the programme does not always aim to be politically correct. There later followed the well publicised true case of a schizophrenic killing a young married man.

Probably the commonest comment received is about the quality of cardiac arrest management and failure to follow standard protocols. The response to this is that cardiac massage is performed on live actors and thus has to be modified to prevent injury to them; also the editing of scenes means that only snippets of an arrest sequence are shown and they can thus appear to be out of context. Another point is that not all true cardiac arrests are textbook in application at all times. There will always be a conflict between showing a medical scene in a strictly perfect manner (and thus providing some medical education) and showing treatment in the incorrect and sometimes sloppy ways we have all witnessed (which would also be an accurate portrayal of life in an A&E department). A viewer from South Wales who criticised the performance of a “peritoneal thump” in a cardiac arrest scene did throw me, however!

A consultant anaesthetist once accused me of negligence in an episode about carbon monoxide poisoning. The story showed the patient receiving 100% oxygen with a Mapleson circuit (one which could be used as a high flow or low flow system). He assumed that it was the low flow system in use and thus I was negligent. When I contacted him to discuss it he admitted that it was an assumption and nothing else. He did eventually retract his written comment of negligence.

The vast majority of letters, however, are positive and complimentary of the way in which sensitive issues are portrayed. Viewers comment that the stories mirror crises in their own lives and have found them helpful and supportive. Some state that they have been given insight into their own problems and others that it has stopped them feeling isolated as they realise they are not the only ones to have experienced the problem.

The programme is an important medium for medical education for both the general and the medical audience; the public pick up many first aid and basic medical facts with surprising ease and will write in to relate an incident in which they provided treatment to somebody based on something seen in an episode.

I try to persuade the writers to include some specific lines for the medical audience (for example, the use of methylprednisolone in spinal cord injury, the investigation of a widened mediastinum in blunt chest trauma, the use of thrombolysis in acute infarction). The writers can also be persuaded to include lines about the correct or incorrect use of the A&E department

and the general practitioner (I'm sure that many readers will believe this is the most important message of all to portray). In each episode there may actually be several messages, each targeting a different type of viewer.

Conclusion

The programme is not perfect as there are limitations which define how it is made. It

is popular for many reasons. It is part soap opera, part education, and it appeals to the public fascination with all things medical. It portrays life in an "average" A&E department, warts and all. I have been fortunate to be involved with it and in Clive Mantle (who plays the consultant Mike Barret) I have found one of the few people I can beat at golf.

LETTERS TO THE EDITOR

Fluid resuscitation in traumatic haemorrhage

EDITOR,—The article "Fluid resuscitation in traumatic haemorrhage" by R Cutress¹ contains a significant error (or perhaps a misprint). The author states "...ATLS as a package has been shown to be more effective in prehospital treatment than Basic Life Support", citing references 22 and 23. Neither of the articles referenced looked at ATLS. They compared ALS (Advanced Life Support) for ambulancemen (the equivalent of extended training) to basic ambulance training and found it produced better results. However, this conclusion must be regarded with caution as the methodology in both studies was weak.

The author states that "ATLS has been shown to make a substantial contribution to the management of trauma". As an ATLS enthusiast I agree with the spirit of this statement. However, I am unaware of any trial showing that ATLS has a significant impact on morbidity or mortality. Perhaps it is not necessary to prove that it does. But then, as the author has demonstrated, when you examine the conventional wisdom, as he does with intravenous fluid, the results can be surprising.

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- 1 Cutress R. Fluid resuscitation in traumatic haemorrhage. *J Accid Emerg Med* 1995; 12:165.

The author replies

I would like to thank Brian McNicholl for pointing out an error in my article "Fluid resuscitation in traumatic haemorrhage". As he correctly states the sentence should read "There has been no evidence to date suggesting that prehospital administration of intravenous fluids is of benefit to trauma patients (reference 21), although ALS (Advanced Life Support) as a package has been shown to be more effective in pre-hospital treatment than Basic Life Support (references 22, 23)."

The effect of ATLS has been studied by comparing patient outcome before and after the introduction of ATLS. In this way ATLS has been shown to improve patient outcome.¹ Such studies however, do not always show significant improvement.² I am sure that there would be inherent difficulties in the design and methodology of an "ideal" trial

that directly compared ATLS with some other control. It is for this reason that I suggested in the article, that components of ATLS, for example the fluid resuscitation regime, be individually taken and put to test.

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- 1 Ali J, Adam R, Butler AK, Chang H, Howard M, Gonsalves D, *et al.* Trauma outcome improves following the Advanced Trauma Life Support program in a developing country. *J Trauma* 1993;34:890-8.
- 2 Vestrup JA, Stormorken A, Wood V. Impact of Advanced Trauma Life Support training on early trauma management. *Am J Surg* 1988;155:704-7.

Management of poisoning

EDITOR,—The recent paper from Greaves *et al*¹ suggests the management of poisoning is likely to be variable and that the existing literature is interpreted in different ways by different people. The staff in Glasgow deserve credit for diagnosing acute carbon monoxide poisoning and for the satisfactory outcome of the patients they report.² Despite the certainty with which they recommend hyperbaric oxygen (HBO) for acute carbon monoxide poisoning, the data they cite are limited.³ Some clinicians hold a contrary view. Authors of a review of controlled trials comparing normobaric and hyperbaric oxygen concluded that further trials were needed to establish the role of HBO.⁴ Until these have been carried out, the risks of transferring critically ill patients must be balanced against possible benefits of HBO.

Further studies are needed in other areas of poisoning but, to avoid unnecessary duplication of previous work, systematic review of current evidence is needed. A group is currently trying to establish (with the support of the UK and Australasian Cochrane Centres) a Cochrane Collaborative Review Group on poisoning and envenomation. Anyone wishing to contribute to this can contact the following: R D Hardern, Accident and Emergency, St James's University Hospital, Beckett Street, Leeds LS9 7TF, United Kingdom, or Dr N Buckley, Discipline of Clinical Pharmacology, Mater Misericordiae Hospital, Watarah, NSW 2298, Australia.

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- 1 Greaves I, Goodacre S, Grout P. Management of drug overdose in accident and emergency departments in the United Kingdom. *J Accid Emerg Med* 1996;13:46-8.
- 2 Roy B, Crawford R. Pitfalls in diagnosis and management of carbon monoxide poisoning. *J Accid Emerg Med* 1996;13:62-3.
- 3 Smith JS, Brandon S. Morbidity from acute carbon monoxide poisoning at 3 year follow up. *BMJ* 1973;i:318-21.
- 4 Tibbles PM, Perrotta PL. Treatment of carbon monoxide poisoning: a critical review of human outcome studies comparing normobaric oxygen with hyperbaric oxygen. *Ann Emerg Med* 1994;24:269-76.

Paracetamol overdose

EDITOR,—The treatment of paracetamol overdose has been and remains a contentious issue among both toxicologists and A&E doctors. The opinions expressed in the recent review of the management of drug overdoses in A&E departments in the United Kingdom,¹ however, were misleading and failed to indicate the currently accepted guidelines for the management of acute paracetamol overdosage.² In both scenario 1 and 2 it was implied that gastric lavage was an inappropriate measure, but from the history in both cases gastric lavage with charcoal was the treatment of choice. I find the assertion regarding the patient in scenario 1 particularly alarming as the only early diagnostic aid in cases of paracetamol overdose is the history taken from the patient. It should be of little relevance how frequently the patient attends or how many previous overdoses the patient has taken; patients should be treated according to accepted guidelines until proof exists that the history is inaccurate. Gastric lavage is rapidly losing favour in the treatment of paracetamol overdose but gastric lavage alone has been shown to lower plasma paracetamol levels by up to 39.3%³ and in combination with charcoal is still regarded as the optimum treatment of paracetamol overdose within two hours of ingestion.

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- 1 Greaves I, Goodacre S, Grout P. Management of drug overdoses in accident and emergency departments in the United Kingdom. *J Accid Emerg Med* 1996;13:46-8.
- 2 Management of acute paracetamol overdosage. Guidelines from the Paracetamol Information