reviews

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Hospital Infection: From Miasmas to MRSA

Graham A J Ayliffe, Mary P English

Cambridge University Press,
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Rating: ★★★

Next time you wash your hands before or after examining a patient, stop and consider how your action would have been viewed 150 years ago. Your colleagues would have looked at you askance; although a few would have been familiar with the work of various doctors—including John Pringle, James Lind, Alexander Gordon, Oliver Wendell Holmes, and Ignaz Semmelweis—who advocated washing yourself before contact with patients, most would have told you derisively that washing would not affect the miasmas, or air corruption, that brought disease.

This book is a comprehensive history of the major theories and discoveries about hospital acquired infection through the ages. Despite a daunting remit, the authors accomplish their task with panache, incorporating history and science in a book that manages to stay fresh and readable where the nature of the subject matter could have rendered it dry.

As well as outlining the work of seminal figures chronologically, the authors devote separate chapters to important topics in the area of infection, such as puerperal fever, sterilisation and disinfection, the emergence of resistance to antibiotics, and infection surveillance. A potentially huge and straggling subject is therefore divided into manageable sections.

The book is full of fascinating snippets of information, such as the fact that as early as the 13th century some workers recognised the need for cleanliness and good bed spacing, with the Hotel Dieu in Paris (which became notoriously dirty and overcrowded in later centuries) using 1300 brooms a year and washing and storing the clothes of patients when they were admitted. Similarly, in 1795 J M Good, a physician who carried out a painstaking examination of diseases of prisons and poorhouses, wrote, "No medicine is much more advantageous than the

daily changing of linen." The book has numerous humorous touches, such as the insight that the French pathologist Davaine (1812-82) kept his study animals that were infected with anthrax in a friend's garden.

The only minor quibble I have with the book is that in describing the soaring numbers of hospital acquired infections in the United Kingdom at present the authors have not mentioned the political angle. Thus, although it was recognised as far back as the 13th century that overcrowding contributed to the spread of disease, many major London teaching hospitals still cram five beds in every ward designed for four. Furthermore, although the authors note understaffing as a factor they don't analyse the fact that chronic understaffing of nurses and contracting out of cleaning and laundry services to the cheapest provider have led to major deficiencies in standards of ward hygiene and availability of clean bedding. Nurses regularly travel to work on public transport in their uniforms because of the lack of laundry facilities in hospitals.

Nevertheless, the book is a valuable history of an extremely important subject, one that is often neglected in medical schools.

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Stories from the Wards

BBC Radio 4, 13, 14, and
21 December at 7 45pm

Rating: ★★★

Medicine has always provided a rich seam for fiction, ranging from Chekhov's sublime short stories, to the ridiculous romances of Mills and Boon. To the public what happens in hospitals is a permanent source of intrigue and fantasy, serviced by a huge production of medical fiction in all possible formats. The ancient human need to hear or watch a story unfold remains undiminished and medicine is a compelling subject. But how often do we get an opportunity to hear, truthfully, from

healthcare workers themselves, what really happens?

Stories from the Wards tells six extraordinary stories of NHS workers, as they talk about their most unforgettable moments during the course of their working lives. Do healthcare employees share this human need to tell their stories and, if so, what, in turn, does this tell us?

The stories cover a broad range of medical scenarios, but all contain a surprising, even miraculous denouement, which delivers a valuable message. Julie, a matron at Birmingham City Hospital, talks about a young man whom she nursed in intensive care, following a hit and run road incident. Left in a coma, he was not expected to recover. His mother suggested a gathering of his friends (from his snooker club) around his hospital bed, as a way of saying goodbye. The consultant denied the request, but Julie persisted in asking him to reconsider and, in view of the miraculous outcome, learnt a valuable lesson: "that the rules are there to be broken . . . and if we never question and never challenge, then how do we know what the possible outcomes could have been?"

The other stories are equally memorable, though less dramatic. One stands out

in particular, for different reasons. Stephen, a theatre nurse manager, describes his first experience, 20 years earlier, of taking part in an organ harvesting procedure on a brain-dead patient. For Stephen, the shock of seeing the normal process of an operation going in reverse—leading, as he put it, to the deliberate "killing" of the patient—left him with a swarm of unresolved feelings. This is an experience with which many will be able to empathise.

This delicate, confessional series is an admirable example of why we need to change medical culture, to help carers consider themselves, as well as their patients. For example, medical humanities is an inchoate, but growing academic specialty (*BMJ* 2003;327:s65-6), which aims to access the often profound experiences that healthcare workers carry around with them. Concepts such as creative writing groups for staff may seem like self-indulgent frippery in our hard-pressed health services. But quiet periods of reflection about what we do may add to, not diminish, the care and the cure.

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Items reviewed are rated on a 4 star scale
(4=excellent)

Hear the Silence

A forthcoming drama about the MMR controversy has angered many doctors. A general practitioner and two child health experts, who have all seen a preview, explain why

Channel 5, 15 December at 9 pm

Hear the Silence is Channel 5's dramatisation of the case that the measles, mumps, and rubella (MMR) vaccine causes autism. Gastroenterologist Andrew Wakefield, whose 1998 paper (*Lancet* 1998; 351:637) first led to claims of a link between MMR and autism, is played by actor Hugh Bonneville. We see him introduce himself as the caring, listening doctor to Nicky (Jamie Martin), a little boy with autism, and his mother, Christine (Juliet Stevenson). "Hello, I'm Andy," he says. At his positive response to Christine's conviction that MMR caused her son's bowel problems and his autism, she bursts into tears. "You believe me?" she says between sobs of joy and incredulity that she has at last found a doctor who endorses her claims. "Why wouldn't I believe you?" asks Dr Wakefield.

This film presents the gospel according to St Andrew that is now familiar from numerous newspaper and television accounts. In this crudely propagandist drama, there is little scope for character development. In her fight for justice, heroic Christine loses her high-flying banking job and her aloof businessman husband, but not—after all, this is Channel 5—her sultry good looks. The medical professionals she encounters (apart from Andy) are unsympathetic, pompous, and patronising. Dr Wakefield's critics at the Royal Free Hospital, London, and the Department of Health are cynical and scheming, concerned about their own careers or influenced by the vaccine manufacturers. Dr Wakefield is a crusader for truth, a committed scientist, a conscientious physician, and a devoted family man.

At the preview earlier this year, writer Tim Prager indicated that Dr Wakefield had collaborated on the script. It appears that the creators of this drama have listened exclusively to Dr Wakefield and his anti-MMR campaign supporters. As the parent of an autistic child, I wish they would all look at the evidence and listen to the opinions of numerous serious scientific and medical authorities, and not compound the burdens of autism parents with the unwarranted fear that by giving their children MMR they rendered them autistic. As a general practitioner, I wish they would consider the consequences in death and disease that is likely to result from the return of measles, mumps, and rubella if this drama contributes to a further decline in the uptake of MMR.

Anticipating criticism of the decision to broadcast such a grossly one-sided account of the MMR controversy, Channel 5 organised a debate to follow on after *Hear the Silence* (MMR: *The Debate*, Channel 5, 15 December at 11 05 pm). However, in the days leading up to the debate (pre-recorded on 3 December) it became clear that viewers, after seeing more than an hour of anti-MMR propaganda, would then see a discussion giving equal weight to arguments for and against the MMR-autism link, when the division of medical and scientific opinion approximates to 99% for and 1% against. Outraged that the Wakefield campaign was going to get even more publicity, a number of leading authorities, who had been invited to participate, decided to boycott the debate.

Although the debate is introduced with the statement that the discussion included experts in child and public health, not a single paediatrician, epidemiologist, microbiologist, or autism specialist appeared. However, I agreed to take part because I believe that the stakes are too high to allow the anti-MMR campaign to go unchallenged.

The debate was not even-tempered. Dr Wakefield made the same extravagant claims for his researches that have failed to impress numerous expert bodies in Europe and North America over the past five years. We did our best, within the difficult framework imposed by the organisers, to challenge some of the arguments and to expose some of the absurdities of the anti-MMR campaign.

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Hear the Silence attempts to be to the measles, mumps, and rubella (MMR) vaccine what the campaigning film *Cathy Come Home* was to homelessness. However, it fails in that it takes a blatantly one sided approach to the issue.

On one level the film is an accurate portrayal of the extreme difficulties of looking after a child with autism and the obstacles in the way of getting appropriate educational provision. It shows the unbearable strain that having a disabled child can put on a family. Those of us who have not been through it can barely begin to understand the enormous stresses encountered, even in simple everyday activities such as shopping. If it had stopped here it might have been a worthy, moving, and possibly successful film. However, its aim is much more ambitious—to show that the "truth" about a supposed link between the MMR vaccine and autism has been suppressed.

We see how, when the mother of an autistic child tries to seek first a diagnosis and then an explanation for his problems, she encounters totally unsympathetic doctors. That is until she meets an adult gastroenterologist, Dr Andrew Wakefield. She describes to him, as she did to previous doctors, how her son appeared to regress after his first dose of MMR and then again after the second. At last someone takes notice of

Hear the Silence: "grossly one-sided"

her and believes her when she says her son's problems are caused by the vaccine. To say this is a blatant caricature worthy of Hogarth or Rowlandson at the peak of their careers would be an understatement. Short of giving most of the doctors horns and tails and Dr Wakefield a halo, little more could have been done to distinguish the supposed goodies from the baddies.

The gastroenterologist then tries to establish whether a link really does exist between "autistic enterocolitis" and the MMR vaccine. All those who disagree are portrayed as either uncaring and heartless or establishment lackeys.

This docudrama is much more drama than documentary, but to have put both sides of the argument would have spoiled the crusading effect of the film. There is no mention of a commentary alongside Wakefield's original *Lancet* paper highlighting numerous flaws in it or a letter from some members of Wakefield's team restating that they had not proven a causal link between the vaccine and autism and bowel problems. Nor is there any mention of the fact that at one time Dr Wakefield believed he had proven a link between the single measles vaccine and adult Crohn's disease (subsequently disproven by a number of researchers, including himself). The latter would have made a mockery of his suggestion that the single measles vaccine should have been used instead of MMR. Also absent are the numerous epidemiological studies showing no link.

All this film can do is raise anxieties. If this film results in a further fall in uptake of the vaccine, will the producers consider that a success? And if children are avoidably damaged by measles or mumps, will they also take credit for that?

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Angels in America

An epic tale of the early years of AIDS is making many Americans realise how far they have come in the fight for healing and tolerance, and how far they still have to go

Rating: ★★★★★

You won't see many masterpieces in your lifetime. *Angels in America* is one. This six hour film, broadcast in two three-hour parts on the premium cable channel HBO in the United States on 7 and 14 December and due to be shown in the United Kingdom next year, tells the story of AIDS in the Reagan era. Adapted from two award winning stage plays, it is an arresting portrayal of the fight against AIDS and for tolerance, shown through the loves and losses of all-too-human characters, in a climate of national hysteria. But it is also far more, setting the story of the early years of AIDS in the much larger context of American culture itself.

Angels in America begins in 1985 on the West Side of New York with the funeral of an elderly Jewish woman. As a young girl she bravely fled pogroms, travelling by steerage for a chance at a better life in the United States. Among the prosperous mourners is her grandson, Louis, an openly gay young man, who feels guilty because he never visited her in the nursing home.

After the funeral, Louis sits with his lover, Prior, on a bench by Central Park. Prior shows him Kaposi's sarcoma, a disease in which malignant skin tumours form purple lumps. It was previously rare in Western patients, but came to be seen as one of the early characteristic symptoms of AIDS, particularly in gay men. Prior is a descendant of Mayflower immigrants, who also fled religious persecution to come to America.

Louis will abandon him in his illness, as he abandoned his grandmother.

Cut to Roy Cohn, a sleazy power player. As a young lawyer, Cohn was on the team of Senator Joe McCarthy and helped prosecute Julius and Ethel Rosenberg, who were executed in the electric chair as Communist spies in 1953. Now, in Reagan times, Cohn, who has always concealed his homosexuality, has Washington contacts at his fingertips. Framed on his office wall is a photo of himself between President Ronald Reagan and Vice President George Bush (the elder).

Cohn is trying to sweet-talk a handsome young lawyer into moving to the Justice Department in Washington, where he can help Cohn. The lawyer, a Mormon, is starting to realise that he is gay and his marriage is in trouble. His wife, who suspects, is popping tranquillisers in Brooklyn. His straight-laced Mormon mother comes from Utah to New York to sort things out and finds herself sympathetic to a city quite unlike home.

Cohn, dying from AIDS, forces his doctor to call it liver cancer—or he'll trash the doctor's career. To keep his power in the establishment Cohn must pretend he's straight, but he can pull strings to get the new drug azathioprine (AZT).

The film is spectacularly shot. In the opening credits, the camera soars over angel-high views of San Francisco's Golden Gate Bridge, the Mormon Tabernacle in Salt Lake City, the Gateway Arch in St Louis, the skyline of Chicago, to the island of Manhattan. Then it glides down from New York skyscrapers through Central Park to face the Angel of the Waters, the famous statue at the centre of the pool of the Bethesda Fountain. *Angels in America* has layers and nuances beyond counting. The Biblical Bethesda fountain was a pool in Jerusalem. When an angel stirred its waters, it healed anyone—ill, blind, or disabled—who stepped in. Bethesda means "house of mercy" in Hebrew.

The cast is equally spectacular. Meryl Streep plays an elderly rabbi, the middle-aged Mormon mother of a gay son, and Ethel Rosenberg come back as a ghost. Emma Thompson is a nurse, a homeless woman, and a gorgeous angel. Viewers can

Sleazy: Roy Cohn, played by Al Pacino

pull over these ambiguities. Al Pacino captures Cohn's sleaziness, power, and fear.

In the United States, controversy and publicity for *Angels in America* began when the CBS television network cancelled a "docudrama" about President Reagan because of a Reagan line about AIDS, "They that live in sin shall die in sin." Reagan didn't say exactly those words, but they reflected his administration's attitude to AIDS. The line was taken out and the programme was later shown elsewhere—a kind, soft story about the president who wasn't there when his people were dying.

Angels in America is far more powerful. And so much has changed since 1985, the year in which it is set. In 1985, when I reported on AIDS, *New York* magazine and *American Health* (and the *BMJ*) would print words that many publications wouldn't. I argued bitterly with a *Reader's Digest* editor, but he still cut my description of how people got AIDS and how they could prevent it. Back then there was little mercy, except among a few doctors, nurses, and epidemiologists who took their chances while trying to fight a mysterious disease.

Now we speak openly about things that our parents would blush to see in print. We hand out condoms—the nation's capital, Washington, DC, is giving them out free at the place where you renew your driver's licence. Many think it's OK for gay people to adopt children. Massachusetts, where the pilgrims and puritans landed, has just ruled that gay people can marry.

Reviewers have unanimously praised *Angels*, but no one knows the reactions of millions of viewers from middle America. "Family values" reign in the Bush administration, where abstinence is preached rather than "safe sex" and AIDS researchers complain that National Institutes of Health grants are scrutinised for terms such as "anal sex."

Angels in America broadcasts a message of love and loss, hope, healing, and tolerance—not only for those affected by AIDS, but for all of us. As Prior says at the end, "We aren't going away. We won't die secret deaths anymore. The world only spins forward. We will be citizens. The time has come."

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Emma Thompson in *Angels in America*: the film broadcasts a message of hope

PERSONAL VIEW

Who should take care of children with epilepsy?

One important question in the current debate in the United Kingdom about the care of children with epilepsy is who should take the lead role: the neurologist, the general paediatrician, or the paediatrician who has a special interest in epilepsy? The diagnosis of epilepsy in children is often difficult. About 30% of cases are misdiagnosed. In a similar proportion of cases children receive inappropriate drugs. About 42% of all sudden unexpected deaths among young people with epilepsy are reported to be avoidable. This is attributed to the lack of specialists. Currently the United Kingdom has fewer than 75 child neurologists, all of whom are based in tertiary centres. In 2002 the British Paediatric Neurology Association recommended that neurologists should carry out all paediatric neurology work. This goal remains unachievable at present.

Epilepsy is common in children with special needs. General paediatricians in peripheral districts care for most children with epilepsy, and each paediatrician may be familiar with only a few patients. This is inappropriate. Recent cases of misdiagnosis (*BMJ* 2002;324:495-6) and the requirements of clinical governance raise serious issues. Children and their families need better care that is well coordinated and provided by experts in the field. Proposals to achieve this care also include nursing support, training for schoolteachers, and active involvement of parents and children. Child psychologists and other professionals make vital contributions to the overall management when epilepsy and special needs coexist.

Good care of children with epilepsy begins with a detailed clinical history, taken from a parent or carer who has witnessed the child's seizures, and thorough clinical examination. Supportive measures would include video recordings of the events, expert electroencephalography interpretation, and access to tertiary neuroradiology and paediatric neurology services. The clinicians should have an adequate knowledge of all available epilepsy drugs and be familiar with non-epileptic paroxysmal syndromes. Nursing support and close liaison with the general practitioner and education and social services are necessary.

A paediatrician in each district should take lead responsibility for all children with long standing (more than two years) epilepsy, severe epilepsy, or epilepsy associated with special needs. This paediatrician should coordinate the multidisciplinary

professional input for the best educational, social, and behavioural management of these children.

In my district paediatric epilepsy clinics were set up in 1998. A general paediatrician who has responsibility for the child development assessment centre runs them. Two clinics are held each month, one of which is held jointly with a consultant child psychiatrist. The paediatrician also does 12 joint clinic sessions a year with the visiting paediatric neurologist and does a quarterly epilepsy clinic for young adults (aged 16-24 years) with the neurology physician.

We have two part time paediatric epilepsy nurses. One also works as an epilepsy nurse in the tertiary paediatric epilepsy clinic; the other is a learning disabilities nurse with a diploma in epilepsy care. They attend clinics and arrange follow up consultations, either by telephone or a home visit. They visit the children's schools to train staff in epilepsy care and use of emergency drugs.

They communicate with social services on behalf of parents and patients.

We liaise extensively with a paediatric neurophysiologist and a neuroradiologist in the tertiary centre. They report all of the electroencephalograms and most of the magnetic resonance images. The paediatric neurologist offers expert opinion in refractory cases and in cases where surgery, vagal stimulation, or a ketogenic diet is required. The published data are used to audit the clinics' procedures, and improvements are regularly made. Surveys have shown a high degree of satisfaction among parents.

Minimum training requirements have been proposed for consultants who are appointed to a formal role. However, existing consultants should also be assessed. If they are found deficient the British Paediatric Neurology Association should arrange further training and subsequent accreditation. All neurologists working in districts have formal work commitments in tertiary centres. A similar model for paediatricians would be ideal and would avoid professional isolation. Periodic audit of services in the districts by the association would be valuable. The Royal College of Paediatrics and Child Health and the Royal College of Nursing could set minimum standards for such a service to ensure that resources are adequate and that nurses across the country participate.

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SOUNDINGS

A gift for Thanksgiving

Passed in November just before Thanksgiving, the US Medicare reform act is so complicated that it is still unclear who should be giving thanks and who should not (*bmj.com* 29 Nov 2003, News Extra). At first sight it is a victory for the president, who fulfilled his election pledge to provide affordable prescription drugs to people over 65 and who should have enhanced his re-election prospects. Future taxpayers may give no thanks, because the estimated \$400bn (£231bn; €328bn) cost over 10 years may well lead to higher taxes. Insurance companies and employers receiving subsidies to continue employees in their plans are momentarily pleased, and so are the drug companies, which may however end up with price controls some day. At present the Republicans can claim credit for passing a bill after six years of debate and wrangling, but there could be a backlash if senior citizens discover they have to pay for something they now get for free.

Many of the bill's provisions do not become effective until 2006, leaving future administrations to pick up the pieces. In 2004 senior citizens will get a 15% discount card for prescription drugs. In 2006 there comes a complicated system in which seniors pay the first \$250 in drug costs, then only 25% until they spend \$2250 (insurance pays the rest); coverage ceases until \$3600 is spent out of pocket, and then the government takes over and pays 95%. People on high incomes (more than \$80 000 a year) will pay higher premiums, while those on low incomes (less than \$12 000) will have no deductions and pay less than \$5 a prescription. There are numerous subsidies, generic drugs will be promoted, and—to the delight of drug companies—the government will not be allowed to negotiate prices.

The bill passed by 220 to 215 in the House of Representatives and by 54 to 44 in the Senate, after much horse trading and arm twisting and crossing of party lines. It has been characterised as a historic achievement; a tour de force; a red-letter day for seniors; a grand political compromise; a deeply flawed bill; a historic sellout; a financial disaster; a giveaway to special interests; and the beginning of the end for the Great Society.

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