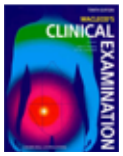



**Knowing your Schirmer's test from your Schober's, p 1149**

# The flu epidemic in Mexico: the challenges for doctors

PERSONAL VIEW **Julio Sotelo, Rogelio Perez-Padilla**

The statistics usually reported in epidemics are morbidity and mortality, together with the economic costs. However, the consequences of epidemics are much wider, affecting the very roots of society and modifying doctors' practice.

Recent widespread reports of severe pneumonia in Mexico could have been the first signs of the much feared flu pandemic. The combination of social and medical circumstances around the initial cases that led to the public announcement of an epidemic was a powerful catalyst for a range of reactions and even economic crisis—in a country whose economy is already in difficulty. There is an old popular saying here, "If the United States sneezes, Mexico gets pneumonia." Now we can say "Mexico gets swine flu": the first cases of swine flu were detected in the United States, but the epidemic has been most severe in Mexico.

Doctors are used to dealing not just with patients' illnesses but also the patients' feelings of vulnerability and related fears, of varying sorts and magnitudes. But in an epidemic there are also community and family worries to contend with, in addition to those of the patient. And doctors' own personal fears may be sensed by the patients, augmenting theirs. Many of the public's fears are justified; some border on panic, as contagious as the flu virus itself. Many valid questions have sprung forth from the popular imagination. Is Mexico prepared to deal with the epidemic? Is the world prepared for a pandemic? Are the poorest countries prepared? How soon will an effective vaccine be ready? How expensive will it be? How dangerous is the situation for me and my family? Some of these questions are the same as those asked at the time of the severe acute respiratory syndrome (SARS) epidemic.

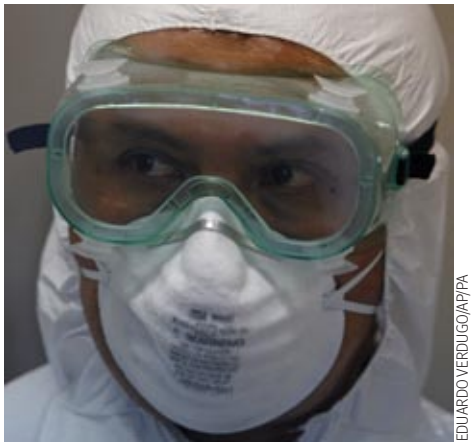
**There is a popular saying here, "If the United States sneezes, Mexico gets pneumonia." Now we can say "Mexico gets swine flu"**

In the early days of the current swine flu epidemic in Mexico the number of young and middle aged patients with severe respiratory disease rose at a time when our mild winter was already over. For example, at the National Institute of Respiratory Diseases in Mexico City the number of emergency consultations for pneumonia was 4-5 times that at the same time in 2007 and 2008. Intensive care units became full, at least half with patients with severe pneumonia consistent with influenza. Emergency departments were crowded with flu patients, half of whom needed mechanical ventilation. This was an unusually high concentration of infectious patients in an institution that started life 73 years ago as a tuberculosis sanatorium. The healthcare staff, though used to treating contagious patients, felt uneasy at this new situation and at risk in the face of the challenges and uncertainty. It became evident that the staff needed as much reassurance as the patients and a constant flow of information, increasing even more the complexity of their workload.

More widely, things changed dramatically at the time of the epidemiological alert. Road traffic now flows in Mexico City, because schools have been closed. Soccer games are watched only on television, and cinemas and other places of public gathering are closed. Many people wear facemasks, as we saw in Vietnam during the SARS epidemic—the pores in the masks are much wider than viruses and salivary droplets, but they calm the user and help to disguise signs of fear. Shaking hands and kissing hello are no longer the done thing.

There is scientific doubt as to whether the 2008-9 vaccine offers some cross protection against this new variety of A/H1N1 swine flu, but many people hope it does. Most patients with severe pneumonia are in the unvaccinated age range. Healthcare workers who were not vaccinated last autumn formed long queues to receive the vaccine in March and April, despite the uncertainties. In Mexico City, with more than 20 million inhabitants in the wider metropolitan area, it has been essential to reduce the millions of potential personal contacts to fight the spread of a highly infectious respiratory virus.

It is not all grim. Lessons learnt in the past 30 years have had to be revisited. The information we will gather from the current epidemic—whether sociological, psychological, economic, scientific, or ethical—will be valuable for future action. The HIV epidemic taught us all the best measures for universal protection and is still the model for cost effective prevention. Universal measures for respiratory protection are well known but unfortunately have not been applied consistently, despite the lessons from the SARS epidemic. Now and in the future we cannot afford such inconsistency. But the crisis has also brought out the best of people, particularly in terms of solidarity and social organisation.



EDUARDO VERDUGO/AP/PA

**A doctor at a Mexico City hospital wears protective gear to check people with flu-like symptoms**

Doctors and other healthcare professionals are not, of course, immune from human frailties in the face of a novel form of virus. We have had to learn rapidly: not just how to prevent and treat swine flu but also how to deal with the public's concerns, how to deal with patients' perceptions of the disease and their fears, which are volatile in the context of potential widespread panic, and, finally, how to deal with our own anxiety.

All of this has had to happen rapidly and the resulting measures brought in with the maximum possible efficiency. That is the burden of influenza; society as a whole is relying on us, and we have had to respond to the challenge as effectively as in previous health emergencies.

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REVIEW OF THE WEEK

# Hospitals within hospitals

A proposal for healthcare reform that values the potential of disruptive innovation is unlikely to succeed in the US fee for service system but may well work elsewhere, thinks **Chris Ham**


**The Innovator's Prescription: A Disruptive Solution for Health Care**
Clayton M Christensen, Jerome H Grossman, Jason Hwang
McGraw-Hill, £18.99, pp 496
ISBN 978-0071592086
Rating: ★★★☆

With healthcare reform back on the agenda in the United States, *The Innovator's Prescription* offers a timely critique of the travails of the country's health services. It also has some provocative ideas that will interest healthcare reformers everywhere. At the core is the notion that disruptive innovations have the potential to transform health care in the same way that personal computers and budget airlines have revolutionised those sectors.

Christensen and his coauthors argue that hospitals and doctors' clinics combine three very different functions: solution shops that diagnose patients' problems; value adding processes that provide effective treatments after diagnosis; and facilitated networks that manage chronic diseases. Advances in medicine make it imperative that these functions be separated for high quality care to be delivered at an affordable cost.

The authors contend that this is most likely to happen by creating "hospitals within hospitals." By this they mean that the diagnostic capabilities of solution shops should be carved out from the value adding processes of treatment to enable each to be organised as efficiently as possible. In turn this will enable the management of chronic conditions in facilitated disease management networks. The electronic patient care record—one of the principal disruptive innovations they identify—will underpin these developments and ensure that care does not become more fragmented as new models emerge.

The changes the authors argue for will create opportunities for care to shift from complex settings to simpler and cheaper ones. Examples include the use of telemedicine to support the movement of care into people's homes, the substitution of nurses for doctors in managing many well defined medical conditions, and the transfer of some forms of diagnosis and treatment from hospitals into walk-in clinics. These opportunities arise because medicine will become more precise and based on rules and less reliant on doctors' intuition and judgment.

One consequence is that demand for hospital services will fall as the forces of innovation transform healthcare delivery. At the heart of this transformation will be the emergence of more hospitals that achieve excellent outcomes by specialising in treating specific conditions. These hospitals will evolve alongside those institutions, such as the Mayo Clinic, that exemplify the model of "hospitals within hospitals" advocated by the authors.

The main obstacle to the implementation of these ideas in the United States is the dominance of outmoded business models and the perverse incentives of fee for service medicine. These incentives reward activities rather than outcomes and mean that interventions directed at prevention receive low priority. The principal exceptions are found in integrated systems such as Kaiser Permanente and Intermountain Health Care that combine funding and service delivery in the same organisation.

These systems are best placed to make the innovations that will ensure the sustainability of health care because they profit from the wellness of the people they serve rather than their sickness. Recognising that these ideas may be seen as anticompetitive, Christensen and his coauthors note that integration is needed at points of fundamental change because costs are driven down and value is increased not by competition itself but by disruptive competition. The urgency of moving away from outmoded models stems from the insight that hospitals comprise "some of the most managerially intractable institutions in the annals of capitalism."

Yet with integrated systems covering only 5% of the insured population in the United States, it may be unrealistic to expect them to do all the heavy lifting needed to make healthcare reform a reality this time round. The ideas set out in *The Innovator's Prescription* may therefore gain greater traction in other countries, especially those in which governments rather than markets lead healthcare reform. If this is the case, then three of the arguments that the authors put forward deserve particular attention.

Firstly, the problems of healthcare delivery will not be tackled simply by doing more of the same. These problems demand that things are done differently by embracing the potential of disruptive innovations that have transformed other sectors. Often, such innovations emerge from new entrants to established markets, leaving incumbent providers struggling to compete, as in the emergence of retail clinics in primary care.

Secondly, the importance of separating solution shops, value adding processes, and facilitated networks needs to be acknowledged, alongside the difficulty of so doing in a world where legacy systems and historical investments retain huge influence. A glimmer of hope in this regard can be found in the experience of Central Middlesex Hospital in west London, which has developed a new model of care similar to that advocated here.

Thirdly, and most importantly, the potential of integrated systems to be the engine of disruptive innovation must be recognised. In the language of *The Innovator's Prescription*, it is through these disruptive value networks that the future of health care can best be secured. Seeing the hospital as a cost centre rather than a profit centre is a simple notion whose implications could have profound effects if these were recognised by reformers.

**Seeing the hospital as a cost centre rather than a profit centre is a simple notion whose implications could have profound effects if these were recognised by reformers**

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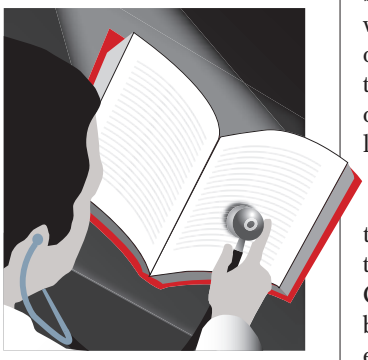
# An impossible woman

BETWEEN THE LINES
**Theodore Dalrymple**



**Graham Greene says admiringly of her: "As a doctor she had no liking for the police who were the enemies of her poor and she had no respect for the letter of the law"**

Books can sometimes ambush your deeply buried memories (pleasant, unpleasant, or neutral, as the case may be) suddenly and unexpectedly, jolting them to the forefront of your mind. This happened to me when I read *An Impossible Woman: The Memories of Dottoressa Moor*, edited by Graham Greene and published in 1975.

The grandson of the protagonist of the memories was with her in a shoe shop in Zurich when he was electrocuted to death by an x ray machine into which he had put his feet to see how they fitted into his new shoes. I remember putting my feet into those machines too as a child. No doubt they were installed to give shoe selling a patina of modern science: no one wanted their child's toes squeezed out of shape by ill fitting shoes.

The dottoressa was Elisabeth Moor, who lived and worked as a doctor on Capri for 40 years, until she was about 80. Greene, who had a house on Capri and spent part of every year there, knew her well. He edited her memories, dictated in eccentric but expressive English; and this made her the second most famous literary doctor of the island, after Axel Munthe (see *BMJ* 2007;334:751).

Why is the title *An Impossible Woman*? From the very first it is clear that Elisabeth Moor was extremely self willed and headstrong. Born the only daughter of successful hairdressers in belle epoque Vienna, she defied her parents and convention in almost everything, including in her decision to become a doctor.

Her memories are largely a record of her numerous love affairs before, during, and after marriage, the tempo of which seems to have declined after her arrival on Capri. She presents herself as almost entirely self obsessed, although by all accounts she was much beloved of her patients, particularly the poor ones, for her selflessness towards them.

Before it became the object of day trips from Naples, Capri had a large bohemian and literary colony, most of whom she knew and treated, though she does not mention Gorky, who survived Mussolini's rule for years but not Stalin's when he returned to Russia.

Mussolini hardly figures in the memories. Indeed, when she visited Germany for the sake of her health in 1937 she hardly seemed to notice Nazism either. Perhaps this was because she thought that her condemnation would, by the time she dictated her memories, have been supererogatory; perhaps, however, it was because she had too good a time to take much notice of what was going on. That is certainly the impression she gives.

In his epilogue to her memories Graham Greene says admiringly of her: "As a doctor she had no liking for the police who were the enemies of her poor and she had no respect for the letter of the law."

Unfortunately I suspect that this was more a temperamental trait—the consequence of an ungovernable temper—than the result of critical thought.

Greene continues: "When my maid's little boy was raped by a young man who had been deprived of sex by one of those interminable southern betrothals, she left food for the criminal among the rocks of Monte Solaro where for days he hid from the carabinieri."

Theodore Dalrymple is a writer and retired doctor

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# MEDICAL CLASSICS

**Clinical Examination** By John Macleod

## First published 1964

John Macleod is to the human body what John Hayne is to the automobile: both developed a manual dedicated to diagnosis first published back in 1964. The difference is that Macleod covers all makes and models in one book, while Hayne needed more than 200; and medicine is not DIY, nor should it be practised in a garage.

Despite the book's title its first mandate is the spoken art of history taking: the importance of an accurate one, the perils of a poor one, and the inexcusable "poor historian." Macleod warns that "rushing into the examination without careful history taking is misleading" and that on examination "it is common to focus too quickly on the detail and neglect to make general observations." The most inspiring doctors have breathtaking vision, one moment passively surveying the patient's entire human condition, the next seamlessly zooming in to the minutiae of their pathology. That is what places this book among the greats, as it trains the reader's eye to share the same vision.

We should aim to be holistic in our care, says Macleod, focusing not just on the paroxysmal but also on the persisting and permanent complaints. The systems review is of great importance, allowing us to elucidate what other variables may be contributing to this presentation, on this day, in this patient. He gives a comprehensive list of cardinal symptoms that, if present, should trigger further inquiry.

The book also makes an important contribution to defensive yet sensible medicine. It suggests making entries in patients' notes that are "accurate, legible, and signed" and to avoid acronyms, especially if they are context dependent: ACS could mean acute confusional state, anterior cord syndrome, or acute coronary syndrome, depending on whether you are a gerontologist, neurologist, or cardiologist.


The most important advice to doctors is to revise their original findings. "A change in the pattern of symptoms should alert the clinician to the possibility that the initial diagnosis was wrong or that complications have developed," Macleod writes.

Several nuances of clinical examination can be unearthed in this book. For example, when using an ophthalmoscope, use your right hand and right eye to look in the patient's right eye, thus avoiding any Inuit intimacy. Macleod gives four principles for differentiating the spleen from the kidney: the spleen has a notch, you can't palpate above it, it is dull to percuss, and it moves with respiration. Jugular venous pressure takes years to identify even when accompanied by a twitching earlobe (never mind the individual wave forms), and yet clinical reputations are won and lost on the recognition of this rare and elusive beast.

If you wish to pass clinical exams, excel in the teaching of examination skills, and know your Schirmer's test from your Schober's, I would strongly recommend this book.

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# Mexican standoff

FROM THE FRONTLINE
**Des Spence**

I dread introductions, for names are lost to me. I never buy cards, and every July I discover unopened Christmas cards. Don't ask me my children's dates of birth. But I do remember the B sides of singles and historical facts and dates. I arrive on time (always early), and in 20 years I have missed three days of work to sickness. I believe in a very old fashioned idea, formed in a childhood of Sunday matinee war movies and westerns, where men and women were asked to make the ultimate sacrifice: duty. What will happen if we have a pandemic?

Normally I am proudly sceptical of the media hysteria surrounding health scares such as bird flu, severe acute respiratory syndrome, and variant Creutzfeldt-Jakob disease—all seemingly unlikely risks in my concrete inner city bunker. Indeed I am surprised that advice not to eat nachos and to avoid chihuahuas has not appeared in the newspaper columns. But, as the local primary care trust starts to deliver stocks of masks and gowns, I feel unusually uneasy. Mexican swine flu feels different, the real deal. At best it may not be virulent; but a pandemic might still see 25% to 50% of the population infected over the next year. At worst it might be highly virulent with a significant mortality. Then this global panic will go local.

What will happen to the NHS? There may be little that modern health care can do. Tamiflu, Relenza and vaccination programmes have never truly been tested and offer amelioration only. And, should large numbers of patients present with acute respiratory failure, the country has only a fraction of the ventilators needed to cope. Also, with a high proportion of staff ill, the NHS will struggle to maintain the ventilators we have. But despite this pragmatic fatalism, doctors do have an important role in reassuring and assessing patients. Without doctors and nurses, there is potential for national chaos.

The nation needs us, but we will be most at risk from infection. Understandably some staff members will stay at home, unwilling to put their families at risk. I may not be able to remember their dates of birth, but there is nothing I would not do to protect my family—however, should the need arise I hope I will have the courage to come to work, because I gave my word to do my professional duty.

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# Of rabbit and humble pie

PAST CARING
**Wendy Moore**

COLIN CRISFORD

In a world where health scares and medical uncertainty can so easily spiral into kneejerk reactions and blind panic, it is useful to maintain a sense of reality. Or so Sir Richard Manningham, physician to George I, had to remind himself when faced with the unlikely tale of a woman who had given birth to 17 rabbits.

Young Mary Toft had become a "must see" on the Georgian tourist trail in her home town of Godalming, south of London, in 1726. After watching two rabbits bounding in a field, the mother of three had given birth to an entire litter of bunnies—albeit in mangled parts—with the help of a local male midwife, John Howard. Diligently pickling the various heads, paws, and ears, Howard wrote excitedly to inform colleagues in London of the extraordinary phenomenon.

While the crowds flocking to the scene debated whether the "rabbet breeder" was a witch or the concubine of some supernatural buck, George I dispatched two royal surgeons to settle the mystery.

Cyriacus Ahlers later testified that he saw Toft give birth to the hind part of a rabbit, but his suspicions were aroused by the fact that before this miraculous delivery Howard kept Toft's knees clamped together between his own.

The royal anatomist, Nathaniel St André, was more easily impressed. He examined Toft and to his astonishment "delivered her of the entire Trunk, stripped of its skin, of a Rabbet of about four Months Growth." As further parts issued, St André joined the sections to form one "perfect rabbet," which he brought back to show the king, informing colleagues that "had he not actually deliver'd the Woman of part of a Rabbet from the very *uterus* itself" he might have suspected a fraud. Unconvinced, the king urged Manningham to investigate. Examining Toft, Manningham felt "sudden Jerks and Risings" but remained sceptical when these produced merely a piece of membrane similar to pig's bladder.

After bringing Toft to London, where she continued her contractions before craning spectators, Manningham confirmed that delivery was imminent—until a porter revealed that he had been asked to smuggle rabbits into the labour room. When Toft insisted that she was "still big with a Rabbet" the doughty physician threatened her with "a very painful Experiment" unless she confessed the truth. Thus cowed she admitted the whole hoax, testifying that she had secreted rabbit parts in a special pocket in her skirt to feign birth.

After a brief spell in prison Toft returned home, where she gave birth again—to a daughter. But her rabbit children lived on in the popular imagination, fuelled by bawdy caricatures and songs lampooning the illiterate peasant who had made fools of medics. St André was shunned and vilified. He reportedly never ate rabbit again—but presumably much humble pie.

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Sources are on bmj.com