



Sea SICKNESS

William Gibbons of the PSA and Steve Williams of Carnival Cruise Lines talk to Rebecca Burgess about what is being done to prevent and contain outbreaks of illness on cruise ships.

37

A sharp increase in outbreaks of the highly infectious norovirus during 2006 and 2007 has thrown prevention and containment procedures onboard ships back into the spotlight.

Norovirus gastroenteritis, which causes vomiting and diarrhoea for 48 hours, is common in environments such as hospitals, schools, nursing homes and cruise ships. The illness is spread through contaminated food and surfaces, and usually lasts one to two days without long-term effects. But when the illness strikes on a cruise, it invariably makes national headlines. And with cruise ships the only sector in the hospitality industry obliged to report outbreaks, this is likely to continue.

New guidelines published in the UK by the Health Protection Agency this year advise cruise companies, ports and health officials on how to manage an outbreak. They have been welcomed by William Gibbons, director of the Passenger Shipping Association (PSA). 'With norovirus, unless somebody comes up with a cure, it's always going to reoccur and it's something we all have to manage,' he says. 'Now, if there is an outbreak, everyone can follow these protocols and react in a rational way.'

While he notes that cruise ships often have their own guidelines, a universal code for what to do during an outbreak should

simplify matters. 'I think the cruise industry is already well advanced in its protocol,' says Gibbons. 'But for the first time, this provides a guide for everyone. We see this as an industry bible for the future.'

Gibbons believes that sharing information is crucial to avoiding and containing outbreaks. 'Norovirus is always on our agenda, so we share a lot of information,' he says. 'If there is an outbreak near a port and it's endemic in the population, clearly it is more likely to be brought on board ship. We need an early warning system, and ask all the ports to inform cruise companies. Currently, that is happening.'

The industry saw a spike in outbreaks in May and June 2006. 'One thing last year's outbreaks did was to increase the sharing of best practice in the industry,' says Gibbons. 'Each time we learn from experience, so sharing best practice is very important.'

Managing the press

The other area the PSA manages is publicity, which is vital in the high-profile cruise industry. Cruise lines come under exaggerated scrutiny, says Gibbons: 'An outbreak ashore in a school or hospital may make the local newspaper, but an outbreak on a ship will generate national coverage.'

Celebrity Cruises hit the headlines last year when more than 380 passengers and crew onboard Royal Caribbean's *Freedom of the Seas* were struck down while cruising in the Caribbean.

Manny Rivas, public health assurance manager for Celebrity Cruises, works to prevent and manage such outbreaks. According to Rivas, the norovirus is the second most prevalent infection on cruises behind the common cold. 'We have 8.5 to 9 million people take cruises out of America each year, and less than 1% of those people will experience the norovirus,' he says. 'Cruise ships get so much interest because nowhere else in the US public health system is there the same reporting requirement. We have to report every case of gastro illness to the US Center for Disease Control [CDC].'

Colour code system

Celebrity Cruises compiled an outbreak prevention plan in 2002, following a review of procedures after a series of outbreaks. 'It was put together based on our best practice and recommendations from medical experts and the CDC,' says Rivas. 'It has now become a bit of an industry manual.'

Under the plan, the company's ships work to three colour codes. Green requires standard operational procedures, during

which frequently touched areas, such as handrails and lift buttons, are cleaned twice daily. If there is more illness, up to 0.5% of guests, the ship goes to code yellow. This entails cleaning three or four times daily, increasing announcements and delivering letters with advice on hand washing and medical services.

Rivas says a further increase, up to 1.5% of guests, would trigger a code red. 'Then everything changes,' he says. 'We stop the self-service food, sanitation teams clean between sittings and we aim to clean the public areas every half hour.' The ships also play a ten-minute video on medical facilities in a closed loop, the captain makes a daily announcement and hand shaking is discouraged.

'Basically, everybody from the captain to the housekeeper has a responsibility,' says Rivas. 'Our plan is designed to address the issues before the level of illness meets the CDC threshold for an official outbreak.'

An official outbreak of norovirus is 3%. The cruise industry is required to notify the CDC when the illness affects 2% of guests, but Carnival reports at 1%. Like

Guests diagnosed with the virus are given the option of 48-hour isolation or leaving the ship. They are offered incentives such as credit for their time in isolation.

'As an industry we are very good at dealing with the issue, but it's when guests don't come forward that it becomes more difficult,' says Sheehan.

Simple solutions

Even the best procedures can fail if passengers do not take care of their personal hygiene. 'You can fix it so easily,' says Sheehan. 'Washing your hands is the key – it's the gold standard in preventing norovirus. You simply need to wash with soap and hot water, and if people followed this advice it would be a non-issue.'

Recent research has shown that hand wipes are more effective than alcohol-based gels because they have a longer contact time to remove the virus. The move from gels to hand wipes is one that Steve Williams, director of medical operations for Carnival Cruises, fully advocates. 'We know norovirus is very resistant, and the gels only have a 30-second contact and you don't get viral kill. Guests also see it as an easy option and an alternative to washing their hands, so it creates a false sense of sanitisation. The physical wiping action of hand wipes is more effective, and I'm pushing for these because they offer the next best solution to hand washing.'

While this may have cost implications, Williams says this is not an issue for the company when weighed against the cost of bad publicity. In the long term, Williams believes new ships can be designed in a more viral-resistant manner. 'Ships are not designed with hand washing in mind, so I'm pushing for things like a fountain where guests can wash their hands near the restaurant,' he says.

Monitoring of guests

Williams says Carnival employs staff at embarkation specifically to look for signs of illness in passengers, rather than asking guests to sign declarations. 'Every month we have to deny boarding to one or two people because of illness, but we give them a 100% refund on their cruise,' says Williams. It's a sacrifice worth making: Carnival's ship *Liberty* was hit by the virus in 2006, and nearly 700 passengers and crew became ill during an Atlantic crossing after infected guests boarded in Rome.

Onboard, the company uses the Standard Automated Retrieval Documentation System (StarDocs) to monitor cases. The system generates a daily report outlining which cabins or areas to target. If guests are diagnosed with the illness, they are kept in isolation and are not allowed to leave the ship. 'We put an alert on our boarding system, so if an ill guest tries to leave, a buzzer sounds,' says Williams.

As with *Celebrity*, the company employs an increasingly aggressive housekeeping policy. As illness numbers escalate, the buffet service is suspended and children's play areas are monitored.

Williams says there is no golden solution but believes that cruise lines are leading the hospitality sector in preventing and containing outbreaks. Jon Schnoor, director of public health for Norwegian Cruise Lines, agrees. 'The cruise industry continues to lead the hospitality industry in procedures to identify and control viral illnesses,' he says. 'We have procedures in place to gain control of outbreaks without suspending operations for a week at a time.'

Schnoor agrees that one of the biggest challenges is identifying ill people as early as possible. 'The best way to do this is by isolating the guest and crew until they are symptom-free for at least 24 hours, and for crew who handle food to be isolated until they are symptom-free for at least 48 hours,' he says. 'Like other cruise lines, we have seen an increase in normal background GI activity onboard, but have been successful at controlling it. We cannot prevent these viruses from being introduced, but a quick, decisive response can control it. We have learned that everyone's involvement, guests and crew, is needed to gain control quickly.'

The disproportionate attention paid to cruise ships when an outbreak of norovirus occurs onboard may be a result of the international movements of ships and their potentially contagious passengers. The threat of an invasion of sickly visitors will always make good news, while the fact that outbreaks on land regularly lead to higher rates of infection among greater numbers of people gets lost. Cruise lines' reputations are damaged as a result.'

We can take heart, however, that the industry as a whole is now better prepared for outbreaks and, thanks to new guidelines, better equipped to deal with emergencies when they take place. [wc](#)



Illnesses can spread quickly in the enclosed environment of a cruise ship.

many companies, Carnival saw an increase in outbreaks in 2006, when there was an especially large amount of norovirus on land and the strains were stronger than in previous years. In a bid to reduce instances, Carnival issued pre-embarkation questionnaires to guests, asking them to declare symptoms. Michael Sheehan, vice-president for corporate relations, explains: 'When people who are ill get on they touch things and begin to spread the illness. Even if they self-medicate, they are still spreading the illness.'