**Managing an outbreak of cryptosporidiosis**

Article by Helen Clay-Chapman, a Director at YOULEARNWATER LTD, August 2016

*It was 16:00 hours on a Friday afternoon in mid-August when the phone call came in reporting four confirmed cases of cryptosporidiosis. I had a decision to make. Do I press the button and instigate an immediate response or ignore it? Was four sufficient to warrant a response? Well I pressed the button and the rest is history… Devon, England 1995.*

*For more information and useful guidance, read on*

It was 16:00 hours on a Friday afternoon in mid-August when the phone call came in. The admin assistant who routinely recorded the daily cryptosporidiosis reports advised that four cases had been reported compared to the normal one or two. She thought we should know.

I had a decision to make. Do I press the button and instigate an immediate response or ignore it? Was four sufficient to warrant a response? Well I pressed the button and the rest is history; forever ingrained in my memory. It became a weekend of late nights and early mornings for myself, my colleagues and members of the multiagency response team. We worked tirelessly to co-ordinate all the known information, set actions in place to fill the missing gaps and made working hypotheses for those areas where there was uncertainty. By 04:00 GMT on the Monday morning, it was transparently clear that we needed to implement a boil water notice. Over 100,000 properties received the advice which was lifted six weeks later. There were 575 confirmed cases of cryptosporidiosis.

Moving time forward to today, if you asked me would have done anything different on that Friday afternoon, my answer would be NO. However, the systems and processes which were available at the time have improved significantly. The large outbreaks of illness experienced in the 1990’s are now few and far between, with precautionary boil water notices being applied at the first indication of cryptosporidium in the water supply. We know so much more about the risks and mitigation measures that can be applied. With continuous on-line monitoring, we can identify when our processes are under challenge or are operating sub-optimally. The recovery rates from our sampling and laboratory analysis have improved considerably and we have much more confidence in responding and implementing a boil water notice on an individual result. We also know the rates of illness within communities and we can now genotype the oocysts to confirm the source of infection.

So, 21 years on, here are my top ten tips:

* Know you source and have triggers in place to alert to a challenge scenario.
* Understand your processes and have triggers in place to alert to when it is operating sub-optimally.
* Ensure your triggers reflect the normal operation for each process and that the frequency of monitoring will allow you to make an intervention before the water has left the water treatment plant.
* Manage the rate of change of flow through the process, particularly for the solids removal and disinfection phases.
* Produce a method statement for all planned work with pull-out points that will allow you to stop the activity if it is not going to plan leaving sufficient time to recover the situation.
* Have the confidence to delay a planned outage if you are struggling with a challenge situation.
* Take time to understand the sampling and analytical processes, confidence in these results is critical.
* Encourage senior managers to allocate time to understand the complexities of the water supply arrangements. Also to rehearse possible incident scenarios so they will understand their role and provide timely endorsement of the required actions if precautionary measures have to be applied.
* Engage and build your working relationships with multiagency colleagues. Give them confidence in your ability to identify and respond to challenge scenarios and atypical performance. It will pay dividends in outbreak situation.
* Finally, never underestimate the risk from cryptosporidium. It will invariably appear when you least expect it. If you have any vulnerabilities, it will seek them out and find its' way into your water supply system.

21 years of knowledge and experience has been collated in our specialist on-line training course; Preventing Cryptosporidium in Drinking Water. It is available from <http://www.youlearnwater.com/> The Water Network members are entitled to a 20% discount (code TWN20).

Learn more at <http://www.youlearnwater.com/products/cryptosporidium-in-drinking-water>

About the Author: Helen Clay-Chapman has had a long career in the UK Water Industry. She has been involved in many incident response scenarios working closely within other agencies to secure a satisfactory and timely outcome.

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