Table 2: Summary of key findings relating to psychosocial aspects of incident management for mass casualty decontamination.

Issue	Author	Key findings
Likely public behaviour	Carter et al (2012), Carter et al (2013a), Carter et al (2013b), Carter et al (2013c), Carter et al (2014a), Carter et al (2014b), Carter et al (2015), Vogt & Sorensen (2002), Tateno & Yokoyama (2013), Horton et al (2003), Stevens et al (2006), Spencer et al (2012), Ruggiero & Vos (2013), Monteith (2013), Quinn et al (2005), Curado (1996), Mason & Lyons (2003), Cornett et al (2009), Henderson et al (2004), Wray & Jupka (2004), Pangi (2002), Meredith et al (2007), North et al (2005), Rubin et al (2007), Bleich et al (1992), Robertson et al (2004).	- Expect people to react reasonably and rationally, and not to panic; existing norms of behaviour will be maintained. - Understand that members of the public can act as first responders, and are a potential source of help to those affected. - Expect people to take action to try to protect themselves and others. - Expect people to want to be with their families, and understand that this may affect their willingness to comply with certain actions (e.g. people may not want to undergo decontamination if it means being separated from family members). - Public should be seen as a potential partner in meeting challenges posed by CBRN. - People may self-report to hospitals, without undergoing decontamination. - Anxiety will be proportional to the incident; those worst affected will experience highest anxiety. - Potential for 'worried well' to report to healthcare facilities. - Understand that the way an incident is managed will affect likely public behaviour. - Understand that people may be more concerned about undergoing decontamination than about the incident itself. - Understand that people may be less likely than imagined to comply with the need for decontamination, particularly if the need for decontamination is not communicate effectively. - People provide social support to others affected, working together to overcome negative effects and avoid disruption. - People may experience increased stress, in the immediate and longer-term.
Management strategy (control vs. respect)	Carter et al (2012), Carter et al (2013a), Carter et al (2013b), Carter et al (2013c), Carter et al (2014a), Carter et al (2014b), Carter et al (2015), Edwards et al (2006), Monteith (2013), Blanchard et al (2005), Taylor et al (2009)	- Show respect for casualties (through effective communication, addressing privacy concerns): this will increase perceptions of responder legitimacy, and increase public compliance. - Acknowledge individuality (do not treat the crowd as homogenous) and treat each person as an expert on his or her strengths and needs. - Communicate effectively in order to promote cooperation and compliance, and enable effective management of the situation.
Importance of communication	Carter et al (2012), Carter et al (2013a), Carter et al (2013b), Carter et al (2013c), Carter et al (2014a), Carter et al (2014b), Carter et al (2015), Egan & Amlôt (2012), Tateno & Yokoyama (2013), Rubin et al (2012), Rogers et al (2013), Follows et al (2008), Monteith (2013), Lee & Lemyre (2009), Quinn et al (2005), Curado (1996), Cornett et al (2009), Henderson et al (2004), Wray & Jupka (2004), Pangi (2002), Blanchard et al (2005), Meredith et al (2007),	Increased trust/ legitimacy: - Effective communication results in increased trust in authorities/ responders and the information they provide, and increased perceptions of responder legitimacy. Increased public compliance: - Perceptions of responder legitimacy (as a result of effective communication) result in increased public compliance with decontamination. Reduced anxiety - Effective communication creates a sense of control over the situation, and helps to reduce anxiety.

	North et al (2005), Rubin et al (2009), Robertson et al (2004), Taylor et al (2009), Pearce et al (2013a)	Reduced confusion - Provision of sufficient information reduces public confusion, and enables those affected to successfully undergo decontamination. Reduced risk of rumours/ conspiracy theories - Lack of information contributes to rumours and conspiracy theories, and can undermine later attempts to communicate with the public. - In the absence of information about protective actions to take (e.g. undergoing decontamination), people will take any actions they deem to be appropriate (even if these action will not be effective, or will be counterproductive). - Effective communication and engagement with the public from the start of an incident can reduce the potential for rumours to develop.
What to communicate	Carter et al (2012), Carter et al (2013a), Carter et al (2013b), Carter et al (2013c), Carter et al (2014a), Carter et al (2014b), Carter et al (2015), Vogt & Sorensen (2002), Gouweloos et al (2014), Tateno & Yokoyama (2013), Rubin et al (2012), Rubin et al (2012), Rogers et al (2013), Spencer et al (2012), Ruggiero & Vos (2013), Follows et al (2008), Monteith (2013), Quinn et al (2005), Curado (1996), Henderson et al (2004), Wray & Jupka (2004), Pangi (2002), Blanchard et al (2005), Meredith et al (2007), Rubin et al (2007), Robertson et al (2004), Taylor et al (2008), Taylor et al (2009), Pearce et al (2013a).	- Communicate in a health-focused way about the importance of decontamination, explaining why decontamination is effective, and how it can protect someone and their loved ones (e.g. explain that disrobing removes 80-90% of contaminant, and that a quick shower should remove the rest). - Give specific information about the need for decontamination, and explain why this is effective; this is likely to increase public compliance. - Ensure that communication is clear and consistent, and is delivered in a timely manner; failure to deliver consistent and timely information can result in increased uncertainty and anxiety, and reduced trust in authorities. - Do not wait until all the facts are known before initiating communication – the public will expect communication from responders/ authorities throughout an incident. - If information is not known, or is uncertain, communicate this uncertainty to the public; information should not be withheld until all facts are known. - State that further information will be provided when it is known, and ensure to follow that through; waiting until all information is known before communicating with the public can result in perceptions that authorities are withholding information, which can result in reduced perceptions of responder legitimacy, and may reduce public compliance. - Provide sufficient information to enable people to determine their own risk; simply saying that people are not at risk is not enough. - Continue to communicate with the public after decontamination, explain that decontamination effectively removes contaminant from the skin, and describe any ongoing risk (if applicable); consider providing information about potential physical and psychological symptoms which people might experience. - Avoid unsubstantiated reassurance, especially if this is going to be undermined by actions (e.g. saying that people are not at risk from contamination, and then having emergency responders wear PPE); provision of false reassurance can undermine trust in authorities.

		- Be honest, explain the risks, and state how undergoing decontamination will reduce risk. - Provide practical information about how to undergo decontamination; this will enable people to effectively undergo decontamination, and help others to do the same. - Empowering people to effectively undergo decontamination will promote a sense of control, which should increase public compliance and reduce public anxiety. - Providing people with sufficient practical information about actions to take during decontamination should encourage them to stay at the scene, rather than self-reporting to local hospitals.
How to communicate	Amlôt et al (2010), Vogt & Sorensen (2002), Gouweloos et al (2014), Rubin et al (2012), Spencer et al (2012), Follows et al (2008), Monteith (2013), Curado (1996), Henderson et al (2004), Wray & Jupka (2004), Blanchard et al (2005), Taylor et al (2008), Taylor et al (2009), Pearce et al (2013a)	- Provide pictorial instructions outside and inside the decontamination showers; ensure that pictorial instructions are brightly coloured and prominently placed. - Consider engaging another casualty to act as a spokesperson, and help instruct and guide people through the process; shared identity between spokesperson and other casualties should increase perceived legitimacy, and hence compliance. - Ensure equipment (e.g. bullhorn, radio amplifier etc) is available for communicating verbally with casualties. - PPE makes it difficult for emergency responders to communicate verbally with casualties; if this is not possible, mime and physical demonstration of necessary actions should be used. - Use simple and comprehensible language; avoid using technical language and jargon. - Provide pre-printed information sheets which can be given to people after undergoing decontamination; these should include information on effectiveness of decontamination and symptoms to look out for (if appropriate).
Privacy concerns	Carter et al (2012), Carter et al (2013c), Carter et al (2014), Vogt & Sorensen (2002), Crawford et al (2004), Follows et al (2008), Monteith (2013)	- Emergency responders should recognise that decontamination may be a humiliating and degrading experience for members of the public. - Efforts should be made to protect dignity and modesty at all times. - Provide facilities which preserve privacy while casualties undress, and throughout the decontamination process. - Lack of privacy may result in embarrassment, and unwillingness to undress and undergo decontamination. - Failure to protect casualties' privacy can result in a perception that responder are behaving illegitimately, and can reduce public compliance.
Vulnerable groups	Monteith (2013), Blanchard et al (2005), Taylor et al (2009), Egan & Amlôt (2012), Follows et al (2008), Wray & Jupka (2004), Taylor et al (2008), Freyberg et al (2008), Turner et al (2007), Amlôt et al (2010), Waller (2010), Vogt & Sorensen (2002), Cornett et al (2009), Fertel et al (2009), Timm & Reeves (2007), Rubin et al (2012), Henderson et al (2004)	- Ask whether a person has a disability, as some disabilities are not immediately obvious. - Treat each individual as an expert on his or her own strengths and needs. - Ask how people prefer to be assisted, rather than simply trying to help them. - Ensure staff are trained to understand how those with different needs might experience decontamination, and how any difficulties can be overcome. - Treat people with disabilities with respect, and remember that a physical disability

		does not imply a cognitive disability. - Allow people to keep functional aids (e.g. walking sticks, glasses, hearing aids etc) wherever possible; this will help people to successfully undergo decontamination, and will help them to retain a sense of independence and control, which should reduce anxiety. - Initiate a buddy system for all undergoing self-decontamination; this may promote cooperation and compliance, and reduce anxiety, and will be especially important for assisting those with special needs. - Family groups should be kept together wherever possible, since this will reduce anxiety; if this is not possible (e.g. one family member needs urgent treatment), ensure that family members are reunited as soon as possible. - Include additional rerobe section, with the first rerobe section being used for casualties to dry themselves, and the second for casualties to redress. This will reduce the time pressure on casualties, and should be particularly beneficial for this with special needs. - Be aware of the increased potential for hypothermia when decontaminating children; ensure that warm water is used wherever possible, and pay special attention to keeping children warm throughout the process. - Consider prioritising children during decontamination; they will be more at risk due to lower body mass, and so may need to undergo decontamination more urgently. - Be aware that parents may not be able to decontaminate their children and themselves; hot zone staff should be available to assist. - Ensure that signage is available which can be easily understood by people with a range of cognitive and language abilities. Suggestions include: ➢ Signs with pictorial instructions, in a simple (possibly cartoon-type) format ➢ Ensure signage is large and brightly coloured, and placed in a prominent position ➢ Signage should be provided before, during, and after decontamination. ➢ Use simple straightforward language when giving instructions; avoid technical terms and jargon. ➢ Provide instructions in a range of languages, if possible - Use body language and non-verbal communication (e.g. basic sign language) to overcome issues with hearing or understanding written or pictorial instructions. - Use of wristbands or waterproof paint to identify children. - Understand and respect that people from different cultural backgrounds may have different needs during decontamination; failure to do so may result in perceived disrespect and mistrust. - Keep groups of same language speakers together - Ask casualties to go through the decontamination process in a line, and follow the person in front, so that they know where to go.

Psychological first aid	Gouweloos et al (2014), Monteith (2013), Pangi (2002), North et al (2005), Robertson et al (2004)	- Following decontamination, identify those at risk of adverse mental health outcomes. - Employ disaster psychosocial support (including the provision of easily accessible, practical advice on actions to take, coping strategies and stress management); this may help to reduce anxiety. - Avoid early interventions such as immediate grief counselling or psychological debriefing, as they may not be effective. - Psychological first aid delivered by professionals may not be effective for incidents involving CBRN agents; those involved may find it more helpful to speak to others who have been similarly affected. - Consider organising a support group for those affected, and ensure that those at risk are informed how to access this.
Psychosocial training	Carter et al (2012), Carter et al (2013a), Carter et al (2013b), Carter et al (2013c), Carter et al (2014a), Carter et al (2014b), Carter et al (2015), Monteith (2013), Taylor et al (2008), Taylor et al (2009)	- Training for incidents involving decontamination has traditionally focused on technical aspects, but training on psychosocial aspects is essential. - Because decontamination training has focused on technical issues, emergency responders may not recognise the importance of considering psychosocial aspects of the process. - Failure to consider psychosocial aspects may result in increased public anxiety, reduced public compliance, and reduced public cooperation. - Training should emphasise that decontamination is an unfamiliar and frightening process for members of the public, and help responders to understand that the way in which they engage with members of the public is likely to have a big impact on the outcome of the incident. - Training should include: likely public behaviour during decontamination, why effective communication is important, what information the public will need, how best to communicate this information, and the importance of respecting public concerns, particularly in relation to protecting privacy and modesty. - Decontamination training should include exercises in which casualty volunteers actually go through the decontamination process; this has been shown to promote a greater understanding of public needs during the decontamination process, and therefore facilitate a move away from technical and procedural concerns, and towards compassion and empathy.