**Supplementary Figure S1:** BCSN program activities

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| **Colour Code** | **Activity Type** | **Examples** |
|  | Engagement Campaigns and Pilot Projects | *World Sepsis Day engagement campaigns- promotion of local presentations and education (annually, 2012-2018)*  *Sepsis Call to Action Video – video of health care practitioners around the province calling for action and quality improvement for sepsis (2013)*  *150 Lives Campaign (2013-14)[[1]](#footnote-1)*   * Gamification-based campaign to improve sepsis care in participating BCSN care centres from October 2013 to March 2014. Goal of saving 150 lives in 150 days. * 32 Emergency Departments in British Columbia, from all 5 Health Authorities, actively participated and submitted data. * Average mortality for severe sepsis was significantly reduced during campaign to 6.4% when compared to 21.1% in prior periods. * Significant improvement in lactate measurement by time goal during the period of the campaign (an average of 16.0% when compared to the average in prior periods of 5.5%).   *In-Patient Sepsis Pilot Project (2014)*  *In-Patient Sepsis Call to Action and provincial implementation of In-Patient Sepsis programs (2015)*  *Social Medial Blitz around importance of In-Patient sepsis management (National and International (2015)*  *Official In-Patient Sepsis Toolkit Launch (2016)*  *WSD – In-Patient Toolkit promotion provincially (2016)* |
|  | Presentations (Oral and Poster) | *Provincial Sepsis Clinical Expert Group formation – clinicians that evaluate new sepsis literature/publications and how they should be incorporated into practice. (2012)*  *IHI Storyboard – Presentation at IHI Orlando on the BC experience (2013)*  *150 Lives – how gamification changed sepsis practice in BC. (2013, 2014, 2015)*  *Quality Forum Storyboard (2015)*  *Critical Care Working Group Presentation – Sepsis in BC. (2015, 2019)*  *Quality Council Presentation – Sepsis in BC. (2015)*  *Emergency Services Advisory Council Presentation – Sepsis in BC (2015)*  *Canadian Patient Safety Institute Presentation – National presentation on the BC experience with Sepsis QI. (2015)*  *Sepsis Education with Fraser Health (2016)*  *Sepsis quality improvement in British Columbia – Pacific North West Sepsis Conference.*  *In-Patient Sepsis Toolkit Presentation with Vancouver Island Health Authority (2017)*  *Fraser Health Authority Screening Tool Launch (2017)*  *BC Sepsis Network Webinar – what’s new in sepsis care (2018)*  *Provincial ICU Database Sepsis Dashboard – real-time tracking of ED sepsis metrics for QI (2019)* |
|  | Media Releases | *Sepsis Website Development and Launch (2013)*  *World Sepsis Day BC MoH Proclamation – official acceptance of World Sepsis Day within BC. (annually 2013-2017, 2019)*  *Sepsis Website Update (2015)*  *Fraser Health Screening Tool Online Module Development (2017)*  *Press Release FABLED Blood Culture Study – supported by the BC Sepsis Network (2019)* |
|  | International Meetings | *Australian Sepsis (NSW) Meeting – discussing large scale sepsis quality improvement (2012)*  *Wales Sepsis Meeting – discussing large scale sepsis quality improvement (2012)*  *Scotland Sepsis Trust Meeting – discussing large scale sepsis quality improvement (2012)*  *International Sepsis Group Meetings – attendance of above quality improvement teams together (2014)*  *World Sepsis Day BC MoH Proclamation at Global Sepsis Alliance meeting (2018)* |
|  | Sepsis Network Meetings | *Sepsis Working Group Workshop (2012)*  *In-Patient Sepsis Meetings (2014)*  *World Sepsis Day (2018)* |
|  | Publications and Reports | *Social Network Analysis Publication (2015)*  *Definition Update BN (2016)*  *In-Patient Sepsis Report (2016)* |
|  | Public Launch of Guidelines and Pre-Printed Orders | *Pre-Printed Order Set for Island Health (2013, 2017)*  *Pre-Printed Order Set for Lions Gate Hospital (2014)*  *Pre-Printed Order Set for Vancouver Coastal Health (2014)*  *Pre-Printed Order Set for SGH (2015)*  *Pre-Printed Order Set for Fraser Health (2016)*  *NRGH Sepsis Project (2017)*  *ED Guidelines (2017)*  *Pre-Printed Order Set for Vancouver General Hospital (2017)* |
|  | Print Production and Release of Materials | *ED Lanyards (2012, 2017)*  *ED Sepsis Guidelines (2012,2017)*  *In-patient Sepsis Guidelines (2016)*  *In-Patient Lanyard Design and Print (2012, 2017)*  *Patient Education Brochure and Infographic (2019)* |
|  | Network Webinars | *Virtual Learning Series Webinar – various sepsis topics (2013, 2014, 2015)*  *Driver Diagram Development Presentation (2013)* |
|  | Workshops, Module Development, and Development of Resources, Guidelines, and Toolkits | *Development of ED Guidelines (2012)*  *Online Sepsis Module Development (2013)*  *In-Patient Sepsis Algorithm Development (2014)*  *In-Patient Sepsis Screening Tool Development (2014)*  *In-Patient Sepsis Provincial Toolkit and Strategy Working Day (2015)*  *In-Patient Sepsis Toolkit, Specific Tools Development (2015)*  *In-Patient Sepsis Driver Diagram Development (2015)*  *In-Patient Toolkit Final Production (2016)*  *Update For Driver Diagrams (2017)*  *Vitamin C Webinar (2018)* |
|  | Surveys | *Exploring Distributed Leadership Survey (Dec 2013 – Oct 2014)[[2]](#footnote-2)*   * Optional survey to leadership within BCSN to gauge enablers and barriers within network, the importance of relationships and trust, and the need for meaningful and timely data. * Findings discovered what members thought were most effective and least effective or harmful aspects of the BCSN, and suggested strategies to improve network efficacy at achieving large-scale change. * *Lions Gate Hospital Sepsis Knowledge Survey (2017)* |

Description of activities:

The BCSN is based upon a model of inclusive membership, reflecting the full team involved in improving sepsis care including administrative, clinical and quality leaders. The Network focused on a number of key activities and premises to accomplish its work:

1. Distributed leadership – leaders at each participating hospital were identified early in the network formation. These leaders were not positional in nature, but rather those who self-identified as having an interest in sepsis. They ranged from physicians, nurses, pharmacists, quality leaders and administrative staff. The role of the network was to support these individuals to lead change at their local site, rather than the network trying to be the one reaching into each site themselves.
2. Development of resources – resources were developed and provided to the distributed leaders to help facilitate the success of the work they were leading at their site. This included the development and publication of clinical guidelines, flow sheets, sample protocols, and educational posters.
3. Opportunities for shared learning and dialogue – in the initial formation of the network there were in person meetings to develop resources and create a shared purpose for the network itself. Following this the focus shifted to online connections through educational webinars on a monthly basis.
4. Engagement strategies – we used a number of strategies to engage individuals in the network and its goals including lanyards, lanyard cards with sepsis guidelines, posters and a campaign based upon gamification theory to engage staff in practice change.

The BC Patient Safety & Quality Council provided leadership to the network and its activities ensuring and planning effective change management, quality improvement and engagement strategies were in place in addition to support measurement across sites. The active engagement of members through diverse activities strengthens its efficacy and success in achieving the network’s overall goal of reducing BC sepsis-related mortality and associated costs. These models and activities illustrate characteristics of an evidence-based network as published by the IHI in their evaluation of characteristics that are ubiquitous throughout their most successful large-scale health networks.[[3]](#footnote-3)

1. McKeown s, Krause C, Shergill M, Siu A, Sweet D. Gamification as a strategy to engage and motivate clinicians to improve care. Healthcare Management Forum. 2016. [↑](#footnote-ref-1)
2. Gorley C, Lindstrom RR, McKeown S, Krause C, Pamplin C, Sweet D, Marsden J, Kennedy C. Exploring distributed leadership in the BC Sepsis Network. Healthc Manage Forum. 2016 Mar;29(2):63-6. doi: 10.1177/0840470415606451. Epub 2016 Feb 12. PMID: 26872797. [↑](#footnote-ref-2)
3. McCannon CJ, Perla RJ. Learning networks for sustainable, large-scale improvement. Jt Comm J Qual Patient Saf. 2009 May;35(5):286-91. doi: 10.1016/s1553-7250(09)35041-2. PMID: 19480384. [↑](#footnote-ref-3)