

This is an Open Access document downloaded from ORCA, Cardiff University's institutional repository:<https://orca.cardiff.ac.uk/id/eprint/124987/>

This is the author's version of a work that was submitted to / accepted for publication.

Citation for final published version:

Samuriwo, Raymond and Hannigan, Ben 2019. Wounds and mental health care: System thinking. *Mental Health Review Journal* 24 (4) , pp. 298-305. 10.1108/MHRJ-03-2019-0007

Publishers page: <http://dx.doi.org/10.1108/MHRJ-03-2019-0007>

Please note:

Changes made as a result of publishing processes such as copy-editing, formatting and page numbers may not be reflected in this version. For the definitive version of this publication, please refer to the published source. You are advised to consult the publisher's version if you wish to cite this paper.

This version is being made available in accordance with publisher policies. See <http://orca.cf.ac.uk/policies.html> for usage policies. Copyright and moral rights for publications made available in ORCA are retained by the copyright holders.





Wounds and mental health care: System thinking

Journal:	<i>Mental Health Review Journal</i>
Manuscript ID	MHRJ-03-2019-0007.R1
Manuscript Type:	Discussion Piece Review
Keywords:	Mental Health, Wound care, Systems, Boundary theory, Care Planning, Organisation and administration

SCHOLARONE™
Manuscripts

Wounds and mental health care: System thinking

Introduction

The delivery of high-quality care is integral to improving the health of populations and the sustainable development of nations (Brende and Høie, 2014, United Nations, 2015, Zoghbi et al., 2014). Patient safety is a key consideration in any system-level efforts to deliver care that enhances the health and wellbeing of populations (WHO, 2006). There are international efforts to improve population health through shared learning and interprofessional team working (Mulley, 2013, Washington et al., 2016). These efforts to reduce mortality and improve population health are often referred to as grand convergence (Boyle et al., 2015, Yamey and Morel, 2016).

Improving population health through grand convergence has been considered in relation to many aspects of healthcare including skin health, but is rarely considered in relation to wound care (Samuriwo, 2018). Despite this, there have been considerable efforts to improve wound care related population health through research studies and quality improvement projects. Most of these research studies and quality improvement projects have focused on improving care relating to most common types of wounds such as pressure ulcers, diabetic foot ulcers, surgical wounds and burns (Nurmatov et al., 2017, De Meyer et al., 2017, Roberts et al., 2017, Bakker et al., 2015, Bosanquet et al., 2015). However, there has been less of a focus on the organisation and delivery of wound care to people who are experiencing mental ill health. The wound care of people that are experiencing mental ill health tends to be led by nurses in specialist roles in tissue viability such as specialist or consultant nurses. The overall coordination of care for people living with mental health difficulties is typically led by practitioners working in mental health care-providing organisations, but on a day-to-day basis these mental health practitioners have limited access to specialists with expertise in wound care (Kilroy-

Page 2 of 13

1
2
3 Findley, 2010a, Kilroy-Findley, 2010b). **Nurses with specialist skills in tissue viability and wound healing**
4 **may have a limited insight into mental health care.** This can have important consequences for the
5
6 provision of joined-up care, particularly as people experiencing mental ill health can have difficulties
7
8 (such as poor nutrition, or specific mental health-related experiences such as psychosis, or depression)
9
10 which have a negative impact on wound healing (Kilroy-Findley, 2010a, Kilroy-Findley, 2010b).
11
12
13

14
15 The importance of better integrating care for people with mental health problems and wounds has been
16
17 recognised through individual initiatives. There has been a focus by tissue viability nurses on improving
18
19 the quality of wound care that is delivered to people experiencing mental ill health through measures
20
21 such as wound care education and training for mental health nurses as well as the creation of a wound
22
23 care formulary that can be used by mental health nurses (Day et al., 2007, Kilroy-Findley, 2010a,
24
25 Hemingway et al., 2013). These important efforts led by tissue viability nurses have focused on
26
27 improving the wound care provided to people that access mental health care services by upskilling
28
29 mental health nurses in relation to wound care. In this paper, we consider how the wound care of
30
31 people experiencing mental ill health can be improved at a population level through a different way of
32
33 thinking that is informed by theory.
34
35
36
37
38
39

40 **Systems thinking**

41
42 People with mental ill health and wound-related needs receive services through two care systems which
43
44 are organised and structured in different ways. These systems are populated by professionals with
45
46 differing educational backgrounds and sets of skill and knowledge and differing working practices.
47
48 Mental health and wound care professionals are most often located in different geographical settings
49
50 and may be employed by entirely different organisations. A starting point in any consideration of how
51
52 professionals in these two systems might better collaborate to achieve the best possible outcomes is to
53
54 think, explicitly, about the implications of the observation that healthcare at a national or population
55
56
57

Page 3 of 13

1
2
3 level is delivered in complex systems in which different multiple factors, agents and actors interact in
4 multifaceted ways (Haffeld, 2013, De Savigny and Adam, 2009, Timmins, 2015). Complex health systems
5 are full of interconnections, are unpredictable and often evolve in ways which are quite different from
6 those expected by policymakers and managers (Braithwaite et al., 2017). In the face of complexity,
7 expectations are placed on staff to promote patient safety, in which people receiving care are spared
8 avoidable harm and to practice in a manner that optimises care quality irrespective of the manner in
9 which healthcare is organised and structured (European Patients' Forum, 2016, WHO, 2005). The
10 adoption of a systems approach is fundamental to ascertaining what can be done to improve the health
11 and wellbeing of populations (De Savigny and Adam, 2009, Hill et al., 2014, Rutter et al., 2017).
12 Improvement initiatives and interventions underpinned by systems thinking and pertinent theory have
13 been shown to improve population health and well-being in different settings (Barker et al., 2015,
14 Davidoff et al., 2015, Dixon-Woods et al., 2011). We consider how system thinking informed by
15 boundary theory can be used to improve wound care for people experiencing mental ill health at a
16 population level.

Boundary theory

17
18
19 In health care systems quality and safety are influenced by the boundaries that exist between the
20 different professionals that deliver care (Dixon-Woods, 2010, Powell and Davies, 2012). These
21 boundaries arise from the fact that each of the professions involved in the delivery of healthcare has its
22 own culture and identity, fostered by people in that profession (Gieryn, 1983, Salhani and Coulter, 2009)
23 and characterised by shared learning and understanding (Mackintosh and Sandall, 2010). Learning and
24 shared understanding that transcends professional boundaries between two communities can be
25 generated through the use of boundary objects (Akkerman and Bakker, 2011, Mackintosh and Sandall,
26 2010). Boundary objects such as care pathways and models transcend professional boundaries because

Page 4 of 13

1
2
3 they can be understood and used in different ways by each community (Allen, 2009, Bakker et al., 2011,
4
5 Fox, 2011, Jensen and Kushniruk, 2016).
6
7

8 The care trajectories of people with wounds that are also experiencing mental ill-health traverse the
9
10 professional boundaries between two groups of nurses. Professionals working in tissue viability and
11
12 mental health care have their own identities and cultures which relate to the type of care that they
13
14 deliver. It may be argued that professional boundaries that affect the care of mental health service users
15
16 would be best overcome by training some mental health nurses to become tissue viability specialist
17
18 nurses in order to ensure that each organisation which provides mental health care has at least one
19
20 expert in this area. However, it would be challenging to achieve this objective given the difficulties that
21
22 exist with regards to the recruitment and retention of nurses especially in mental healthcare coupled to
23
24 a context where there is an increasing demand for mental healthcare services (Buchan et al., 2019, CQC,
25
26 2018, Redknap et al., 2015, WHO, 2013).
27
28
29
30

31 Training mental health nurses to become expert in tissue viability care would require clarity at a system
32
33 level about the nature and amount of training required, well as consideration being given to how the
34
35 removal of nurses from the mental health nursing workforce to complete training would be managed
36
37 given the reports (CQC, 2018, WHO, 2013) of an increased demand for mental health services. There is
38
39 also the prospect that training mental health nurses to become tissue viability specialist nurses could
40
41 inadvertently create additional professional boundaries that impinge on the wound care delivered to
42
43 mental health service users as they would in effect be a third professional group of nurses with their
44
45 own culture and identity. The rising demand for mental health care services coupled with the challenges
46
47 of recruitment and retention of mental health nurses underscore the imperative to explore alternative
48
49 system-level approaches that can be adopted to improve the wound related care of mental health care
50
51 service users.
52
53
54
55
56
57

Page 5 of 13

1
2
3 In order to ensure that people living with mental ill-health and wound-related needs receive the best
4 possible care, it is worth appraising how boundary objects can be used to span the interface between
5
6 possible care, it is worth appraising how boundary objects can be used to span the interface between
7
8 tissue viability and mental health services. Professionals in both fields use care plans to inform and
9
10 underpin the organisation and delivery of care. Care plans are a common currency, and it is possible that
11
12 integrated care plans which address all needs can act as boundary objects that facilitate the delivery of
13
14 high-quality wound care to people that use mental health services. Therefore, it is worth considering
15
16 how integrated care plans can be devised and utilised, as well as how barriers to their creation and use
17
18 can be overcome.
19
20
21
22

Integrated care plans

23
24
25 Care plans which are tailored to the person receiving care, have value and are meaningful to them, and
26
27 which bridge the gaps between practitioners working in different parts of the larger health and social
28
29 care system are challenging to produce. Research (Coffey et al., 2017, Drummond and Simpson, 2017,
30
31 Simpson et al., 2016) into care planning and coordination in community mental health settings reveals
32
33 that people using services are not always involved in care planning processes, with practitioners
34
35 describing their work in this area as being administratively burdensome and largely focused on risk
36
37 management. This contrasts with the aspiration that care plans for people receiving mental health care
38
39 contain clear recovery focused goals with genuinely individualised ideas for their achievement (Coffey et
40
41 al., 2017, Cranwell et al., 2017, Doody et al., 2017, Faulkner, 2017, Simpson et al., 2016). Dedicated
42
43 training run over two days to prepare practitioners to produce care plans which reflect the principles of
44
45 shared decision-making has been shown to be acceptable to staff but not to improve outcomes for
46
47 people using services (Lovell et al., 2018). **Current evidence (Coffey et al., 2017, Cranwell et al., 2017,
48
49 Simpson et al., 2016) suggests that co-produced care plans involving professionals and people using
50
51 services are not being routinely produced, and that training on its own has limited impact.** No clear
52
53
54
55
56
57

Page 6 of 13

1
2
3 evidence base therefore exists to support interventions to improve collaboration between people
4 providing, and people using, mental health services. In wound care services, well-designed and co-
5 produced care plans are held to improve the quality of care as they provide an integrated and
6
7 synchronous approach to improve the care process and the outcomes for the person receiving care
8
9 (Downie et al., 2013, Heywood et al., 2015). Although it may be unclear how to improve the co-
10
11 production of care plans between service users and professionals an immediate, and achievable, goal
12
13 may be for practitioners in mental health and tissue viability services to use care planning to improve
14
15 the way they communicate and integrate their activities.
16
17
18
19

20
21
22 It is important to consider what integrated wound care planning for people that utilise mental health
23
24 care services might look like in practice and how integrated wound care plans might work effectively as
25
26 boundary objects to deliver the best possible outcomes. In order to overcome the professional
27
28 boundaries as well as other contextual factors that exist with regards to wound care for people that
29
30 access mental health services, integrated care plans would have to be developed, maintained and used
31
32 to underpin the delivery of care in a well thought out way.
33
34
35

36
37 The principle of identifying a single professional to assume responsibility for the assessment, planning
38
39 review and coordination of care is well-established in the mental health system (Hannigan et al., 2018).
40
41 The care coordinator role often falls to mental health nurses, placing them in a good position to take the
42
43 lead in making sure that integrated care plans are produced which include detail on how to respond to
44
45 wound-related needs. Mental health nurses acting as care coordinators means actively brokering
46
47 working relationships with staff in other parts of the larger system, in this case tissue viability services.
48
49 Elements of the mental health care that is delivered may contradict the principles of what is considered
50
51 to be best practice in wound care. Mental health care harm reduction strategies such as 'safe self-
52
53 harming' are considered in some contexts to be an appropriate way of promoting recovery from mental
54
55
56
57

Page 7 of 13

1
2
3 illness (NICE, 2018, Sullivan, 2017), but they are contradictory to what is considered to be best practice
4
5 in wound healing. Joint care planning and review meetings offer the opportunity to lay bare differences
6
7 in working practices and cultures across different teams and services, and to agree – optimally with
8
9 service user involvement – plans which are agreed by all.
10

11
12 The experience of mental illness can directly impact on the provision of care necessary for the
13
14 promotion of wound healing. It may be challenging for a person experiencing mental ill health to adhere
15
16 to what is considered, in a tissue viability context, to be the best course of action. For example,
17
18 adequate nutrition and hydration is integral to preventing wounds and promoting wound healing (Guest
19
20 et al., 2015, SIGN, 2010, NPUAP et al., 2014, NICE, 2014) but a person living with an eating-related
21
22 problem such as anorexia, or a person living with dementia, may find it difficult to maintain an adequate
23
24 level of nutrition. Mental health nurses can take the lead role in negotiating the parameters in which
25
26 wound care can be delivered, in a manner that helps to facilitate both mental health and physical health
27
28 recovery. This will involve the sharing of tissue viability expertise, so that principles and practices of
29
30 wound care can be incorporated into single, integrated, care plans with value for all practitioners
31
32 involved and for service users. Active patient/service user engagement in wound care planning is
33
34 recognised as integral to delivering care that facilitates wound healing (Grothier and Pardoe, 2013). For
35
36 integrated wound care plans to be effective, they need to be accessible to both mental health and tissue
37
38 viability nurses throughout the patient's care trajectory. One approach would be for the integrated
39
40 wound care plans to be devised, developed and maintained on electronic systems that both
41
42 mental health nurses and tissue viability nurses can access so that they keep track of how the patient's
43
44 recovery from mental illness and wound healing is progressing.
45
46
47
48
49
50

51
52 Given the reported gaps in mental health nurses' wound related knowledge, and tissue viability nurses'
53
54 mental healthcare knowledge, there is an imperative for a more integrated approach to wound care
55
56
57

Page 8 of 13

1
2
3 planning for people that access mental healthcare services. In other words, it would be best at a
4
5 population level to move towards a system level approach in which mental health care nurses and tissue
6
7 viability nurses work collaboratively to plan and deliver wound care to people experiencing mental ill
8
9 health in line with their care trajectory. Perhaps, then a prudent first step in addressing some of the
10
11 prevailing challenges that exist with regards to the wound care of people experiencing mental ill health
12
13 is to put in place policies and measures at a system level that facilitate integrated care planning such as
14
15 shared patient documentation or electronic records.
16
17
18
19
20

21 **Conclusion**

22
23 It is important for tissue viability nurses and others with an interest in wound healing to adopt a
24
25 different approach with regards to the wound care of people experiencing mental ill health. Instead of
26
27 focusing on educating and training mental health nurses about wound care, an alternative is to adopt a
28
29 system approach and informed by boundary theory which makes best use of the knowledge and skills of
30
31 tissue viability nurses and mental health nurses to deliver integrated care for individuals.
32
33
34

35
36 In this paper we have set out how a pragmatic approach to the wound care of people experiencing
37
38 mental ill health can be improved through a system thinking approach informed by boundary theory. For
39
40 this approach to be effective, it is important that tissue viability nurses and others with an interest in
41
42 improving wound healing care for people experiencing mental ill health adopt a different approach in
43
44 which there is greater interprofessional collaboration. Effective, joined-up, care for people with mental
45
46 health problems and wounds requires collaboration between nurses with different educational
47
48 backgrounds employed in different parts of the health and social care system. Integrated care plans are
49
50 one way of promoting joint working of this type and have the potential to bridge the gaps. The goal of
51
52 person-centred care planning in the case of people with mental health difficulties and wounds requires
53
54 active boundary-spanning on the part of practitioners. Care planning processes and templates which
55
56
57

Page 9 of 13

1
2
3 minimise the administrative burden, and which place a premium on values of co-production and
4
5 collaboration, are also needed. Further research and quality improvement initiatives must explore how
6
7 integrated wound care plans can be implemented in practice in a manner that transcends professional
8
9 boundaries but brings about the best possible outcomes for people experiencing mental ill health that
10
11 require wound care.
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57

References

- AKKERMAN, S. F. & BAKKER, A. 2011. Learning at the boundary: An introduction. *International Journal of Educational Research*, 50, 1-5.
- ALLEN, D. 2009. From boundary concept to boundary object: The practice and politics of care pathway development. *Social Science & Medicine*, 69, 354-361.
- BAKKER, A., KENT, P., HOYLES, C. & NOSS, R. 2011. Designing for communication at work: A case for technology-enhanced boundary objects. *International Journal of Educational Research*, 50, 26-32.
- BAKKER, K., APELQVIST, J., LIPSKY, B. A., VAN NETTEN, J. J. & SCHAPER, N. C. 2015. The 2015 IWGDF guidance documents on prevention and management of foot problems in diabetes: development of an evidence-based global consensus. *Diabetes Metab Res Rev*.
- BARKER, P. M., REID, A. & SCHALL, M. W. 2015. A framework for scaling up health interventions: lessons from large-scale improvement initiatives in Africa. *Implementation Science : IS*, 11, 12.
- BOSANQUET, D. C., ANSELL, J., ABDELRAHMAN, T., CORNISH, J., HARRIES, R., STIMPSON, A., DAVIES, L., GLASBEY, J. C. D., FREWER, K. A., FREWER, N. C., RUSSELL, D., RUSSELL, I. & TORKINGTON, J. 2015. Systematic Review and Meta-Regression of Factors Affecting Midline Incisional Hernia Rates: Analysis of 14 618 Patients. *PLoS ONE*, 10, e0138745.
- BOYLE, C. F., LEVIN, C., HATEFI, A., MADRIZ, S. & SANTOS, N. 2015. Achieving a "Grand Convergence" in Global Health: Modeling the Technical Inputs, Costs, and Impacts from 2016 to 2030. *PLOS ONE*, 10, e0140092.
- BRAITHWAITE, J., CHURRUCA, K., ELLIS, L. A., LONG, J., CLAY-WILLIAMS, R., DAMEN, N., HERKES, J., POMARE, C. & LUDLOW, K. 2017. Complexity Science in Healthcare. Aspirations, approaches and accomplishments. A white paper. Sydney, Australia: Australian Institute of Health Innovation, Macquarie University, Sydney, Australia.
- BRENDE, B. & HØIE, B. 2014. Towards evidence-based, quantitative Sustainable Development Goals for 2030. *The Lancet*, 385, 206-208.
- BUCHAN, J., CHARLESWORTH, A., GERSHLICK, B. & SECCOMBE, I. 2019. A critical moment: NHS staffing trends, retention and attrition. London: The Health Foundation.
- COFFEY, M., HANNIGAN, B. & SIMPSON, A. 2017. Care planning and coordination: Imperfect solutions in a complex world. *Journal of Psychiatric and Mental Health Nursing*, 24, 333-334.
- CQC 2018. The state of care in mental health services 2014 to 2017. Findings from CQC's programme of comprehensive inspections of specialist mental health services. Newcastle: Care Quality Commission.
- CRANWELL, K., POLACSEK, M. & MCCANN, T. V. 2017. Improving care planning and coordination for service users with medical co-morbidity transitioning between tertiary medical and primary care services. *Journal of Psychiatric and Mental Health Nursing*, 24, 337-347.
- DAVIDOFF, F., DIXON-WOODS, M., LEVITON, L. & MICHIE, S. 2015. Demystifying theory and its use in improvement. *BMJ Quality & Safety*, 24, 228-238.
- DAY, J., MORIARTY, A. & TREMAYNE, P. 2007. Addressing a deficit: wound care and mental health nursing. *British Journal of Nursing*, 16, S32-7.
- DE MEYER, D., VAN DAMME, N., VAN DEN BUSSCHE, K., BEECKMAN, D., VAN HECKE, A. & VERHAEGHE, S. 2017. PROTECT - trial: a multicentre prospective pragmatic RCT and health economic analysis of the effect of tailored repositioning to prevent pressure ulcers - study protocol. *Journal of Advanced Nursing*, 73, 495-503.
- DE SAVIGNY, D. & ADAM, T. 2009. Systems thinking for health systems strengthening. Geneva, Switzerland: Alliance for Health Policy and Systems Research, World Health Organisation.

- 1
2
3 DIXON-WOODS, M. 2010. Why is patient safety so hard? A selective review of ethnographic studies.
4 *Journal of Health Services Research & Policy* 15, 11-16.
- 5 DIXON-WOODS, M., BOSK, C. L., AVELING, E. L., GOESCHEL, C. A. & PRONOVOST, P. J. 2011. Explaining
6 Michigan: Developing an Ex Post Theory of a Quality Improvement Program. *Milbank Quarterly*,
7 89, 167-205.
- 8 DOODY, O., BUTLER, M. P., LYONS, R. & NEWMAN, D. 2017. Families' experiences of involvement in care
9 planning in mental health services: an integrative literature review. *Journal of Psychiatric and*
10 *Mental Health Nursing*, 24, 412-430.
- 11 DOWNIE, F., PERRIN, A.-M. & KIERNAN, M. 2013. Implementing a pressure ulcer prevention bundle into
12 practice. *British Journal of Nursing*, S4-s10.
- 13 DRUMMOND, C. & SIMPSON, A. 2017. 'Who's actually gonna read this?' An evaluation of staff
14 experiences of the value of information contained in written care plans in supporting care in
15 three different dementia care settings. *Journal of Psychiatric and Mental Health Nursing*, 24,
16 377-386.
- 17 EUROPEAN PATIENTS' FORUM 2016. Briefing Paper on Patient Safety with a focus on the role of patients
18 and families. Brussels, Belgium: European Patients' Forum
- 19 FAULKNER, A. C. 2017. The importance of relationships: Care planning and care coordination in mental
20 health. *Journal of Psychiatric and Mental Health Nursing*, 24, 335-336.
- 21 FOX, N. J. 2011. Boundary Objects, Social Meanings and the Success of New Technologies. *Sociology*, 45,
22 70-85.
- 23 GIERYN, T. F. 1983. Boundary-Work and the Demarcation of Science from Non-Science: Strains and
24 Interests in Professional Ideologies of Scientists. *American Sociological Review*, 48, 781-795.
- 25 GROTHIER, L. & PARDOE, A. 2013. Chronic wounds: management of healing and wellbeing. *British*
26 *Journal of Nursing*, S24-30.
- 27 GUEST, J. F., AYOUB, N., MCILWRAITH, T., UCHEGBU, I., GERRISH, A., WEIDLICH, D., VOWDEN, K. &
28 VOWDEN, P. 2015. Health economic burden that wounds impose on the National Health Service
29 in the UK. *BMJ Open*, 5.
- 30 HAFFELD, J. 2013. Sustainable development goals for global health: facilitating good governance in a
31 complex environment. *Reproductive Health Matters*, 21, 43-49.
- 32 HANNIGAN, B., SIMPSON, A., COFFEY, M., BARLOW, S. & JONES, A. 2018. Care Coordination as Imagined,
33 Care Coordination as Done: Findings from a Cross-national Mental Health Systems Study.
34 *International Journal of Integrated Care*, 18, 12.
- 35 HEMINGWAY, S., ATKIN, L. & STEPHENSON, J. 2013. Assessing and managing wounds in mental health
36 settings. *Wounds UK*, 9, 34-40.
- 37 HEYWOOD, N., ARROWSMITH, M. & POPPLESTON, A. 2015. Using Rapid Spread methodology to reduce
38 the incidence of hospital-acquired pressure ulcers. *Wounds UK*, 11, 42-50.
- 39 HILL, P. S., BUSE, K., BROLAN, C. E. & OOMS, G. 2014. How can health remain central post-2015 in a
40 sustainable development paradigm? *Globalization and Health*, 10, 18-18.
- 41 JENSEN, S. & KUSHNIRUK, A. 2016. Boundary objects in clinical simulation and design of eHealth. *Health*
42 *Informatics Journal*, 22, 248-264.
- 43 KILROY-FINDLEY, A. 2010a. Creating a wound care formulary for RMNs. *Wounds UK* 2, 14-26.
- 44 KILROY-FINDLEY, A. 2010b. Tissue viability in mental health. *Nursing Standard* 24, 60-67.
- 45 LOVELL, K., BEE, P., BROOKS, H., CAHOON, P., CALLAGHAN, P., CARTER, L.-A., CREE, L., DAVIES, L., DRAKE,
46 R., FRASER, C., GIBBONS, C., GRUNDY, A., HINSLIFF-SMITH, K., MEADE, O., ROBERTS, C., ROGERS,
47 A., RUSHTON, K., SANDERS, C., SHIELDS, G., WALKER, L. & BOWER, P. 2018. Embedding shared
48 decision-making in the care of patients with severe and enduring mental health problems: The
49 EQUIP pragmatic cluster randomised trial. *PLOS ONE*, 13, e0201533.
- 50
51
52
53
54
55
56
57

- 1
2
3 MACKINTOSH, N. & SANDALL, J. 2010. Overcoming gendered and professional hierarchies in order to
4 facilitate escalation of care in emergency situations: The role of standardised communication
5 protocols. *Social Science & Medicine*, 71, 1683-1686.
- 6 MULLEY, A. G., JR. 2013. The global role of health care delivery science: learning from variation to build
7 health systems that avoid waste and harm. *J Gen Intern Med*, 28 Suppl 3, S646-53.
- 8 NICE 2014. Pressure ulcers: prevention and management of pressure ulcers. London: National Institute
9 for Health and Clinical Excellence.
- 10 NICE 2018. Self-harm in over 8s: long-term management. London: National Institute for Health and Care
11 Excellence.
- 12 NPUAP, EPUAP & PPPA 2014. Prevention and treatment of pressure ulcers: clinical practice guideline.
13 *In: HAESLER, E. (ed.). Osborne Park, Western Australia: Cambridge Media.*
- 14 NURMATOV, U. B., MULLEN, S., QUINN-SCOGGINS, H., MANN, M. & KEMP, A. 2017. The effectiveness
15 and cost-effectiveness of first aid interventions for burns given to caregivers of children: A
16 systematic review. *Burns*.
- 17 POWELL, A. E. & DAVIES, H. T. O. 2012. The struggle to improve patient care in the face of professional
18 boundaries. *Social Science & Medicine*, 75, 807-814.
- 19 REDKNAP, R., TWIGG, D., ROCK, D. & TOWELL, A. 2015. Nursing practice environment: A strategy for
20 mental health nurse retention? *International Journal of Mental Health Nursing*, 24, 262-271.
- 21 ROBERTS, S., MCINNES, E., BUCKNALL, T., WALLIS, M., BANKS, M. & CHABOYER, W. 2017. Process
22 evaluation of a cluster-randomised trial testing a pressure ulcer prevention care bundle: a
23 mixed-methods study. *Implementation Science*, 12, 1-9.
- 24 RUTTER, H., SAVONA, N., GLONTI, K., BIBBY, J., CUMMINS, S., FINEGOOD, D. T., GREAVES, F., HARPER, L.,
25 HAWES, P., MOORE, L., PETTICREW, M., REHFUESS, E., SHIELL, A., THOMAS, J. & WHITE, M. 2017.
26 The need for a complex systems model of evidence for public health. *The Lancet*, 390, 2602-
27 2604.
- 28 SALHANI, D. & COULTER, I. 2009. The politics of interprofessional working and the struggle for
29 professional autonomy in nursing. *Social Science & Medicine*, 68, 1221-1228.
- 30 SAMURIWO, R. 2018. Grand convergence in wound healing - The imperative for collaboration in
31 research, innovation and quality improvement. *Journal of Tissue Viability*, 27, 80-81.
- 32 SIGN 2010. Management of chronic venous leg ulcers. A national clinical guideline. Edinburgh: Scottish
33 Intercollegiate Guidelines Network.
- 34 SIMPSON, A., HANNIGAN, B., COFFEY, M., BARLOW, S., COHEN, R., JONES, A., VŠETEČKOVÁ, J.,
35 FAULKNER, A., THORNTON, A. & CARTWRIGHT, M. 2016. Recovery-focused care planning and
36 coordination in England and Wales: a cross-national mixed methods comparative case study.
37 *BMC Psychiatry*, 16, 1-18.
- 38 SULLIVAN, P. J. 2017. Should healthcare professionals sometimes allow harm? The case of self-injury.
39 *Journal of Medical Ethics*, 43, 319-323.
- 40 TIMMINS, N. 2015. The practice of system leadership. Being comfortable with chaos. London: The Kings
41 Fund.
- 42 UNITED NATIONS 2015. Transforming our world: the 2030 agenda for sustainable development. New
43 York: United Nations.
- 44 WASHINGTON, A., COYE, M. J. & BOULWARE, L. 2016. Academic health systems' third curve: Population
45 health improvement. *JAMA*, 315, 459-460.
- 46 WHO 2005. World alliance for patient safety. WHO draft guidelines for adverse event reporting and
47 learning systems : from information to action. Geneva, Switzerland: World Health Organization
- 48 WHO 2006. Quality of care. A process for making strategic choices in health systems. Geneva,
49 Switzerland: World Health Organization
- 50 WHO 2013. Mental Health Action Plan 2013-2020. Geneva, Switzerland: World Health Organization.

1
2
3 YAMEY, G. & MOREL, C. 2016. Investing in Health Innovation: A Cornerstone to Achieving Global Health
4 Convergence. *PLoS Biol*, 14, e1002389.

5 ZOGHBI, W. A., DUNCAN, T., ANTMAN, E., BARBOSA, M., CHAMPAGNE, B., CHEN, D., GAMRA, H.,
6 HAROLD, J. G., JOSEPHSON, S., KOMAJDA, M., LOGSTRUP, S., MAYOSI, B. M., MWANGI, J.,
7 RALSTON, J., SACCO, R. L., SIM, K. H., SMITH JR, S. C., VARDAS, P. E. & WOOD, D. A. 2014.
8 Sustainable Development Goals and the Future of Cardiovascular Health: A Statement From the
9 Global Cardiovascular Disease Taskforce. *Journal of the American College of Cardiology*, 64,
10 1385-1387.
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60