

## Appendix 2

<b>Target, type and description of potential interventions for each subgroup</b>				
<b>Subgroup name Individuals with (or receiving):</b>	<b>Target of intervention</b>	<b>Type of intervention</b>	<b>Potential interventions to be considered</b>	<b>References</b>
Cardiovascular disease	High cost of inpatient care	Reducing reliance on inpatient services	Outpatient-based cardiac function clinics and intensive case management programs such as hospital-at-home services have been proposed for this population, as well as technology-based support to improve self-efficacy and self-management	1, 2, 3
Rehabilitation after, and/or recovering from complications of, surgery	High cost of inpatient rehabilitation	Improving care in the community	Discharge to rehabilitation facilities to reduce reliance on acute care centres. Co-management models of care and community-based treatments have been shown to be cost-effective in treating individuals recovering from hip fracture	4, 5
Severe mental health conditions	High cost of inpatient care	Reducing reliance on inpatient services	Interventions focused on upstream detection and intervention of psychoses, timely access to physician care, adherence to medication, and community-based housing and support – trying to minimize the need for institutionalization and inpatient care	6, 7
Advanced chronic kidney disease	High cost of in-centre hemodialysis	Improving care in the community	Exploration of all options available to patient. Where appropriate, encouraging use of satellite and home hemodialysis could save an estimated \$25,000 per patient, per year, with additional savings from peritoneal dialysis and transplants	8, 9
Biologic therapies for autoimmune conditions	High medication costs	Drug policy	Where biosimilars for biologics are available, promoting their prescription over brand-name alternatives would substantially reduce spending. Where appropriate, care pathways that maximize the use of less costly therapies	10, 11
Dementia and awaiting community placement	Long-term inpatient stays	Improving care in the community	A combination of clinical and non-clinical services aimed at allowing persons living with dementia to age at home, including early and ongoing case management and care navigation, community support services, and home adaptations. Greater number of, and accessibility to, long term care placements	12, 13
Chronic obstructive pulmonary disease or other respiratory conditions	Reducing inpatient stays	Reducing reliance on inpatient services	Improving access to outpatient multidisciplinary clinics, pulmonary rehabilitation and tailored exercise programs	14, 15
Treatment for cancers	High cost of medication	Drug policy	No significant association has been found between clinical benefit and price for cancer drugs, jurisdictions may benefit from more stringent price negotiations and applying value frameworks that identify therapies providing high clinical benefit	16
Unstable housing situations and/or substance abuse disorders	Reducing inpatient stays	Improving care in the community	Improve access to low-income housing options, substance abuse prevention and rehabilitation programs, and programs promoting harm reduction, focused case management and relationship-based care	17, 18

## **References**

1. Wood RL, Migliore LA, Nasshan SJ, Mirghani SR, Contasti AC. Confronting challenges in reducing heart failure 30-day readmissions: lessons learned with implications for evidence-based practice. *Worldviews Evid Based Nurs.* 2019;16(1):43-50.
  2. Shepperd S, Iliffe S, Doll HA, et al. Admission avoidance hospital at home. *Cochrane Database Syst. Rev.* 2016(9).
  3. Wright SP, Walsh H, Ingley KM, et al. Uptake of self-management strategies in a heart failure management programme. *Eur J Heart Fail.* 2003;5:371-80.
  4. Chu CH, Paquin K, Puts M, McGilton KS, Babineau J, van Wyk PM. Community-based hip fracture rehabilitation interventions for older adults with cognitive impairment: a systematic review. *JMIR Rehab Assist Tech.* 2016;3:e3.
  5. Latham NK, Harris BA, Bean JF, et al. Effect of a home-based exercise program on functional recovery following rehabilitation after hip fracture: a randomized clinical trial. *JAMA.* 2014;311(7):700-8.
  6. de Oliveira C, Mason J, Kurdyak P. Characteristics of patients with mental illness and persistent high-cost status: a population-based analysis. *CMAJ.* 2020;192:E1793-801
  7. Rudoler D, de Oliveira C, Jacob B, et al. Cost analysis of a high support housing initiative for persons with severe mental illness and long-term psychiatric hospitalization. *Can J Psychiatry* 2018;63:492-500
  8. Beaudry A, Ferguson TW, Rigatto C, Tangri N, Dumanski S, Komenda P. Cost of dialysis therapy by modality in Manitoba. *Clin J Am Soc Nephrol.* 2018 Aug 7;13(8):1197-203.
  9. Lee H, Manns B, Taub K, et al. Cost analysis of ongoing care of patients with end-stage renal disease: the impact of dialysis modality and dialysis access. *Am J Kidney Dis* 2002 Sep 1;40(3):611-22.
  10. Moura CS, Choquette D, Boire G, et al. Inflectra and Remicade use and cost in Canada under provincial drug plans in 2016 [abstract]. *Arthritis Rheumatol.* 2018;(suppl 10):70. Available: <https://acrabstracts.org/abstract/inflectra-and-remicade-use-and-cost-in-canada-under-provincial-drug-plans-in-2016/> (accessed 2021 Feb. 17).
  11. Gaither CA, Kirking DM, Ascione FJ, Welage LS. Consumers' views on generic medications. *JAMA.* 2001;41(5):729-36.
  12. Clarkson P, Davies L, Jasper R, Loynes N, Challis D, Group PM. A systematic review of the economic evidence for home support interventions in dementia. *Value Health.* 2017;20(8):1198-209.
  13. Willink A, Davis K, Johnston DM, et al. Cost-effective care coordination for people with dementia at home. *Innov Aging.* 2020;4(2):igz051.
- Appendix 2, as supplied by authors. Appendix to: Wick J, Campbell DJT, McAlister FA, et al. Identifying subgroups of adult high-cost health care users: a retrospective analysis. *CMAJ Open* 2022. DOI:10.9778/cmajo.20210265. Copyright © 2022 The Author(s) or their employer(s). To receive this resource in an accessible format, please contact us at [cmajgroup@cmaj.ca](mailto:cmajgroup@cmaj.ca).

14. Benzo R, Wetzstein M, Neuenfeldt P, McEvoy C. Implementation of physical activity programs after COPD hospitalizations: lessons from a randomized study. *Chronic Obstr Pulm Dis*. 2015;12(1):5–10.
15. Sarkies M, Long JC, Pomare C, et al. Avoiding unnecessary hospitalisation for patients with chronic conditions: a systematic review of implementation determinants for hospital avoidance programmes. *Implement Sci*. 2020;15(1):1-7.
16. Vokinger KN, Hwang TJ, Grischott T, et al. Prices and clinical benefit of cancer drugs in the USA and Europe: a cost–benefit analysis. *Lancet Oncol*. 2020;21(5):664-70.
17. Clemenzi-Allen AA, Hickey M, et al. Improving care outcomes for PLWH experiencing homelessness and unstable housing: a synthetic review of clinic-based strategies. *Curr HIV/AIDS Rep*. 2020;17:259-67.
18. Miller TR, Hendrie D. Substance abuse prevention dollars and cents: A cost-benefit analysis. Rockville, MD: US Department of Health and Human Services, Substance Abuse and Mental Health Services Administration