



# One-Year Savings of Insurance Coverage of Lymphedema Compression Treatment Items

## Summary

The Lymphedema Advocacy Group commissioned Avalere to estimate the one-year savings potential associated with the coverage of lymphedema compression treatment items as proposed in the Lymphedema Treatment Act (LTA) (S. 1315/H.R. 3630 of the 117th Congress). Avalere leveraged Medicare claims data and literature findings to estimate potential annual savings associated with the coverage and utilization of compression treatment items by patients with lymphedema across Medicare, Medicaid, and private insurance markets. Although the LTA relates specifically to Medicare coverage, it may set a precedent for other payers to follow. Avalere developed per person as well as aggregate savings estimates, where feasible.

**Overall, Avalere estimated at least \$126.9 million potential annual savings to Medicare, at least \$3.5 million to Medicaid, and at least \$19.3 million to commercial payers. Notably, all savings estimates could be understated given limitations in data reporting and available research.**

### Potential Annual Savings Associated with the Coverage of Lymphedema Compression Treatment Items, CY 2021\$

Savings Category	Medicare		Medicaid		Private Insurance	
	Aggregate	Per Person*	Aggregate	Per Person*	Aggregate	Per Person*
Hospitalizations	\$81.0m	\$6,800	\$2.7m	\$4,000	\$13.4m	\$10,500
Post-Acute Care (Skilled Nursing Facility and Home)	\$46.0m	\$13,700	\$0.8m	\$8,100	\$5.9m	\$21,200
<b>TOTAL</b>	<b>\$126.9m</b>	<b>\$20,400</b>	<b>\$3.5m</b>	<b>\$12,100</b>	<b>\$19.3m</b>	<b>\$31,700</b>
Treatment of Venous Leg Ulcers (VLUs)	\$18.5m	\$800	Data not available	Data not available	Data not available	Data not available

\* Rounded to the nearest \$100.

Note: The inpatient and post-acute savings estimates can be added together since they are mutually exclusive; savings associated with the treatment of VLUs are across all settings of care and therefore there might be some level of overlap with the first two savings categories.

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## Methodology

Avalere analyzed the 2019 Standard Analytic Files (SAFs)<sup>1</sup> of Medicare fee-for-service (FFS) claims data for a nationally representative sample of 5% beneficiaries to identify persons diagnosed with lymphedema.<sup>2</sup> Avalere then determined the portion of beneficiaries who sought treatment<sup>3</sup>, for lymphedema as a proxy for the future compression treatment items utilization rate. Avalere then extrapolated the 5% sample results to the whole Medicare FFS population, made adjustments to reflect the patients enrolled in Medicare Advantage<sup>4</sup>, and applied the total Medicare enrollment growth rate<sup>5</sup> to arrive at the estimated 175,000 total beneficiaries with diagnosed lymphedema in 2021, who will directly benefit from the coverage of the lymphedema compression treatment items. Notably, the assessments of the state mandates of lymphedema treatment coverage for patients with private insurance indicate potential increase in compression treatment items utilization once coverage is expanded. For example, the analysis of the California mandate estimated overall 2 percent increase in utilization of lymphedema treatment due to increased awareness the mandate would provide; the utilization specific to compression garments was assumed to increase by nearly 6 percent.<sup>6</sup>

Using SAF claims data, Avalere identified lymphedema-related hospitalizations for beneficiaries who currently receive lymphedema treatment for the average Medicare FFS cost of approximately \$11,300 per hospitalization. Avalere also identified average costs of the skilled nursing facility (about \$17,200) and home health (about \$5,600) stays for those patients. Avalere adjusted Medicare FFS costs to reflect MA, Medicaid, and private insurance costs based on rate differences assumptions.<sup>7</sup> Avalere then used the estimated number of lymphedema-related hospitalizations identified for Medicaid and private insurance payers as well as discharge status<sup>8</sup> to estimate inpatient and post-acute care cost savings across payers due to an assumed 46% reduction in hospitalizations for beneficiaries with lymphedema who utilize compression treatment items. The 46% assumption is based on the study that found a 92% reduction in the number of hospitalizations for the management of cellulitis among a cross-payer patient population with lymphedema who undertook compression treatment.<sup>9</sup> Given that the study had a small sample size

<sup>1</sup> <http://www.cms.gov/Research-Statistics-Data-and-Systems/Files-for-Order/IdentifiableDataFiles/StandardAnalyticalFiles.html>

<sup>2</sup> Avalere used the following ICD-10 diagnosis codes to identify lymphedema across physician, durable medical equipment, outpatient and inpatient hospital claims: B74.0, B74.1, B74.8, B74.9, I89.0, I89.8, I89.9, I97.2, N90.7, N90.89, Q82.0.

<sup>3</sup> Defined as claims for physical therapy (PT) and occupational therapy (OT) visits and for compression pumps (currently covered by Medicare) as well as for select compression treatment items (not covered by Medicare except for the compression stocking intended for wound care). Healthcare Common Procedure Coding System (HCPCS) codes for compression pumps: E0650 thru E0676 and for PT and OT therapy services: 97001, 97002, 97003, 97004, 97161, 97162, 97163, 97164, 97165, 97166, 97167, 97186, 97140, 97110, 97535, 97150, 97124, 97530. The HCPCS codes for compression treatment items: A4466, A6530, A6531, A6532, A6533, A6534, A6535, A6536, A6537, A6538, A6539, A6540, A6541, A6544, A6545, A6549, S8010, S8420 thru S8428.

<sup>4</sup> In 2019, Medicare FFS was 63% of the total Medicare population, 2020 Medicare Trustees Report.

<sup>5</sup> 2020 Medicare Trustees Report. <https://www.cms.gov/files/document/2020-medicare-trustees-report.pdf>

<sup>6</sup> California Health Benefits Review Program (CHBRP). (2005). *Analysis of Assembly Bill 213: Health Care Coverage for Lymphedema*. Report to Calif. State Legislature. Oakland, CA: CHBRP. 05-03. [http://chbrp.org/documents/ab\\_213final.pdf](http://chbrp.org/documents/ab_213final.pdf)

<sup>7</sup> MA plans are assumed to reimburse in line with Medicare FFS rates and private payers are assumed to reimburse at 189% of Medicare FFS rates: <https://www.cbo.gov/system/files/115th-congress-2017-2018/presentation/52819-presentation.pdf>; Medicaid is assumed to reimburse at 72% of Medicare FFS: <https://www.kff.org/medicaid/state-indicator/medicaid-to-medicare-fee-index/?currentTimeframe=0&sortModel=%7B%22colld%22:%22Location%22,%22sort%22:%22asc%22%7D>.

<sup>8</sup> Epidemiology of Lymphedema-Related Admissions in the United States: 2012-2017, *Surgical Oncology*, 2020.

<https://www.sciencedirect.com/science/article/abs/pii/S0960740420303868>

<sup>9</sup> Kathryn Arsenault, Lee Rielly, Helen Wise. "Effects of Complete Decongestive Therapy on the Incidence Rate of Hospitalization for the Management of Recurrent Cellulitis in Adults with Lymphedema". *Rehabilitation Oncology*, Vol. 29. No.3, 2011.

<https://journals.lww.com/rehabonc/pages/articleviewer.aspx?year=2011&issue=29030&article=00003&type=abstract>



and therefore the findings may be inconclusive, Avalere estimated that the real impact on hospitalizations for patients with lymphedema who use compression treatment items could be smaller and have conservatively reduced the study findings by half. This assumption aligns with the recent evidence on compression treatment being associated with the reduction in hospitalizations, where the study found that in the control group not receiving compression therapy the rate of hospitalization for cellulitis infection was double.<sup>10</sup>

Finally, Avalere used the SAF claims data to estimate reduction in Medicare costs for beneficiaries with lymphedema who develop venous leg ulcers (VLUs).<sup>11</sup> About 10% of beneficiaries with lymphedema are also diagnosed with VLUs costing Medicare over \$3,000 annually per person in VLU-related treatment costs. A study found close to 25% decrease in reoccurrence of VLU due to the use of the compression treatment items<sup>12</sup>, which would result in direct savings to Medicare.

## Discussion

Expert opinion and considerable clinical evidence support the expectation that proper compression therapy slows disease progression and reduces complications.<sup>13 14</sup> Further, the analysis in California concluded that the lymphedema treatment mandate could have a favorable impact on patients' health via improved lymphedema control.<sup>15</sup> As such, the improvement in access to compression items due to the Medicare coverage may result in additional reductions in healthcare spending such as disability payments and outpatient therapy, emergency department and physician visits costs, which Avalere did not estimate. In 2019, the estimated Medicare FFS costs for beneficiaries diagnosed with lymphedema were:

- **\$50.7 million** for evaluation and management services at a physician's office
- **\$19.8 million** for physical and occupational therapy services
- **\$20.7 million** for emergency department services
- **\$49.9 million** for compression pump use

Overall healthcare savings resulting from the treatment with lymphedema compression items are likely underestimated since people with lymphedema experience complications and comorbidities associated with healthcare costs, which could be alleviated due to compression treatment. In addition, patients with lymphedema may not be comprehensively captured in the observational studies and/or claims data due to lack of reported diagnosis, misdiagnosis, or because they are not accessing care, thereby not allowing for more accurate estimates and resulting in an underestimation of the actual savings potential.

<sup>10</sup> Compression Therapy to Prevent Recurrent Cellulitis of the Leg, New England Journal of Medicine, 2020. <https://www.nejm.org/doi/full/10.1056/NEJMoa1917197>

<sup>11</sup> Avalere used the following ICD-10 diagnosis codes to identify VLU: Varicose veins of lower extremities I83.xxx, Other disorders of veins I87.xxx, Pressure ulcer L89.xxx, Non-pressure chronic ulcer of lower limb, not elsewhere classified L97.xxx

<sup>12</sup> Nelson, E Andrea, and Sally E M Bell-Syer. "Compression for preventing recurrence of venous ulcers." The Cochrane database of systematic reviews vol. 2014,9 CD002303. 9 Sep. 2014. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7138196/>

<sup>13</sup> N.L. Stout, R. Weiss, J.L. Feldman, B.R. Stewart, J.M. Armer, J.N. Cormier, Y.- C.T. Shih. "A systematic review of care delivery models and economic analyses in lymphedema: health policy impact (2004-2011)". *Lymphology*. 2013 Mar ;46(1):27-41. [https://www.alfp.org/docs/27-41\\_Mar%202013.STOUT.PDF](https://www.alfp.org/docs/27-41_Mar%202013.STOUT.PDF)

<sup>14</sup> Nicole L. Stout, Lucinda A. Pflazer, Barbara Springer, Ellen Levy, Charles L. McGarvey, Jerome V. Danoff, Lynn H. Gerber, Peter W. Soballe. "Breast Cancer-Related Lymphedema: Comparing Direct Costs of a Prospective Surveillance Model and a Traditional Model of Care". *Phys Ther*. January 2012; 92(1): 152-163.

<sup>15</sup> [http://chbrp.org/documents/ab\\_213final.pdf](http://chbrp.org/documents/ab_213final.pdf)

