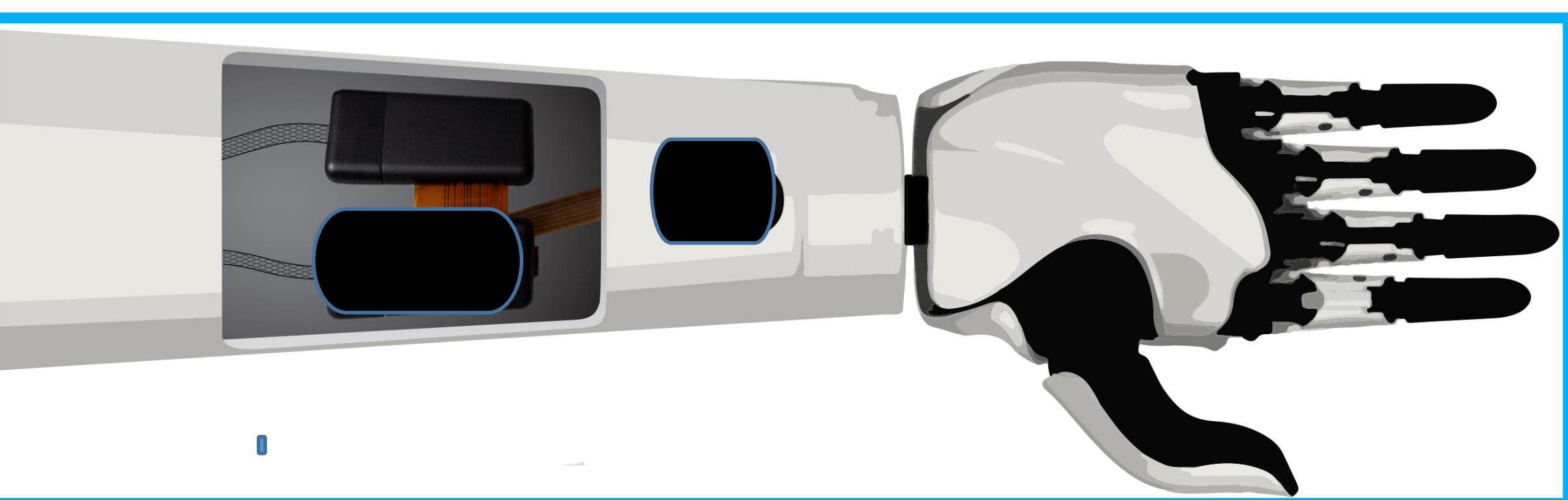


# THE ECONOMICS OF INNOVATION IN UPPER LIMB PROSTHETICS

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## INTRODUCTION



Innovation in upper limb myoelectric controlled prostheses has advanced significantly over the past 15 years. As a result, the overall cost of a prosthesis has increased significantly. This has created concerns to the overall economic value an externally powered prosthesis brings to the payer, the clinician and the end-user.

This presentation uses the multiarticulating hand as an example of the challenges faced by the payer, manufacturer, clinician and end-user.

In **July 2007**, The first multiarticulating hand was introduced to the market. In the US, The Centers for Medicare & Medicaid Services' (CMS) Healthcare Common Procedure Coding System (HCPCS) establishes specific L-codes and associated rates that prosthetists and payers use as a guide for payment of the prosthesis. When an established L-code does not describe innovation appropriately, a **L-7499** not-otherwise-specified (NOS) has become a method to describe and obtain reimbursement for innovation.

From **2008-2022**, industry experienced an overall average reimbursement **increase of 18.3%** to the L-code payment system. During this same timeframe, a single-DoF myoelectric gripper hand (**L-7007**) experienced a **23% overall decreased reimbursement** due to CMS' discontinuing code **L-7274** for proportional control. New innovations rarely fit entirely into the existing CMS coding system.

In **2012**, CMS issued a new L-code for multiarticulating hands (**L-6880**) providing a descriptor and reimbursement that some feel is no longer appropriate in 2022. CMS' Pricing, Data Analysis and Coding (**PDAC**) think otherwise.

## OBJECTIVES

- Show** the reimbursement trends in the US from **2008-2022** of conventional single-DoF myoelectric hands and new multiarticulating hand innovations.
- Review** the recent Joint DME MAC (Durable Medical Equipment Medicare Administrative Contractor) and PDAC (Pricing, Data Analysis and Coding) Publication.
- Summarize** the overall challenges of introducing prosthetic and orthotic innovation and obtaining acceptable payment in the US.

## METHODS

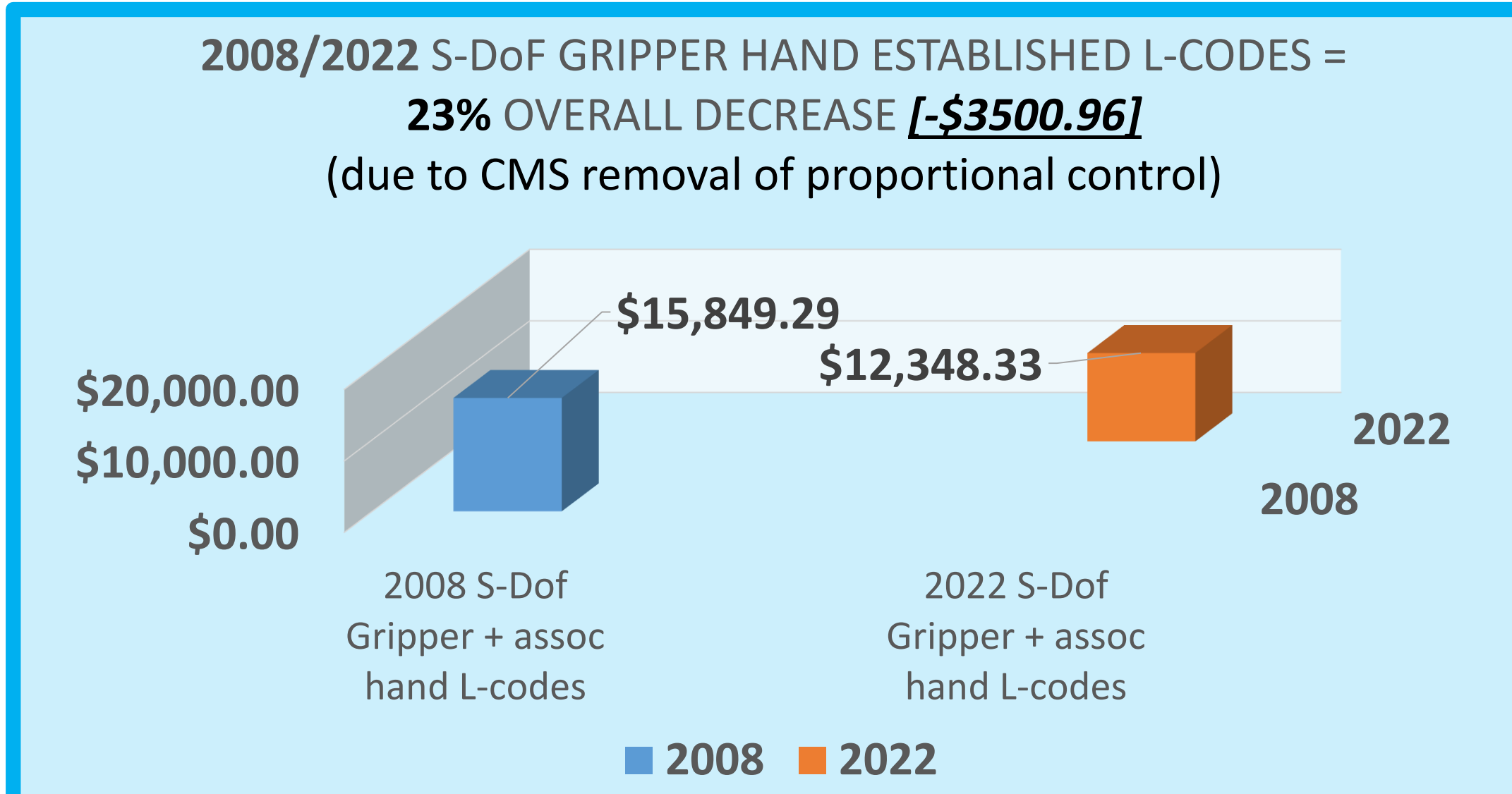
- Compare and contrast** the **2008-2022** CMS L-code descriptors and fee schedules with manufacturer recommended descriptors and reimbursement rates utilizing L-7499 not-otherwise-specified(NOS) L-code combinations.
- Compare** the recent **3-31-22** PDAC Correct Coding mandate to previous CMS utilized coding combinations.

## RESULTS

In **2008**, a single-DoF gripper hand utilizing **(4)** established L-codes had a CMS avg reimbursement of **\$15,849.29**.

In **2011**, CMS eliminated of L-code **L-7274**, proportional control, reduced the total avg reimbursement of a single-DoF hand by approximately **\$5800.00**.

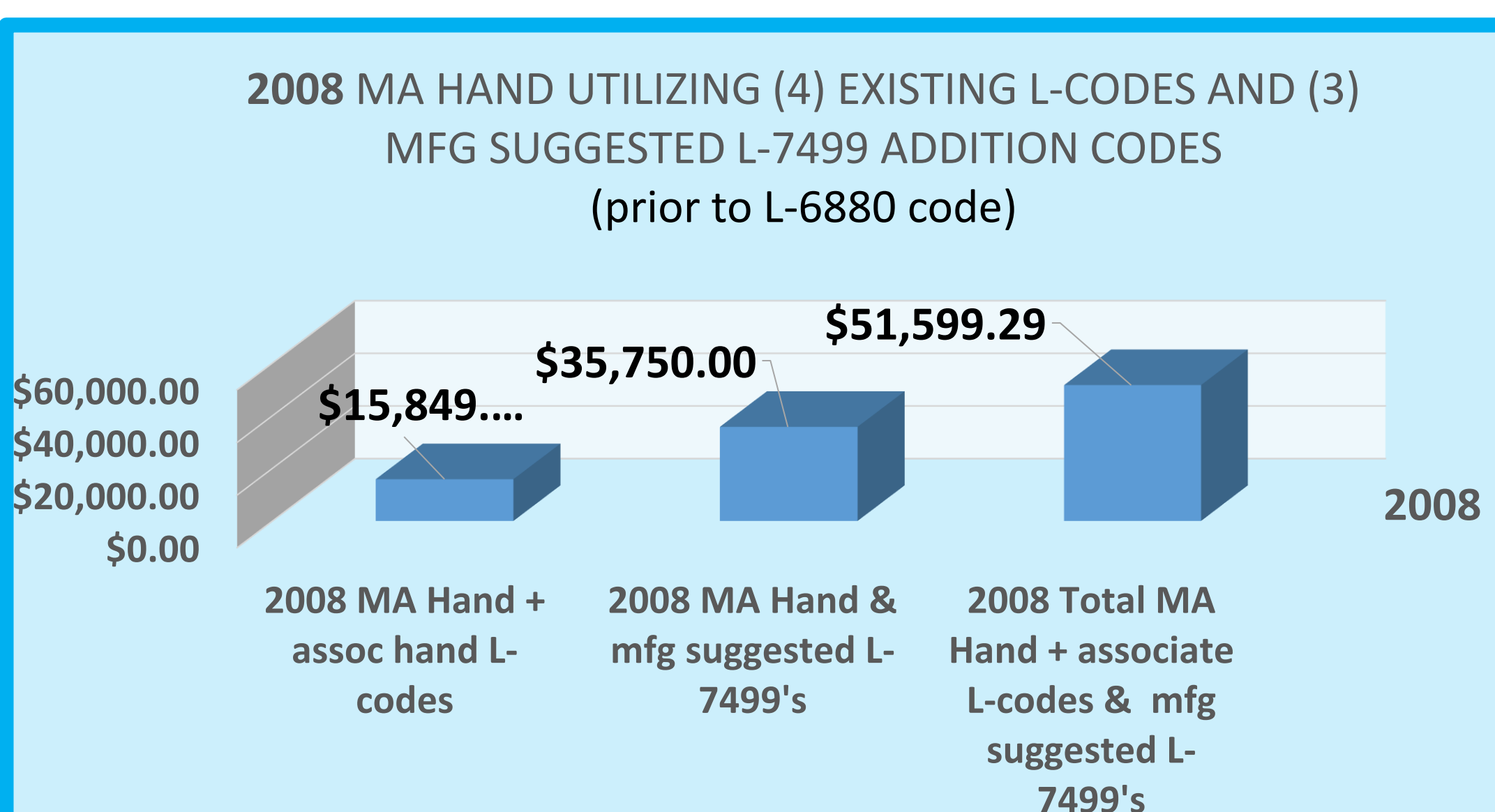
By **2022**, a single-DoF gripper hand would experience an overall decrease of **23%** in reimbursement over the 14-year period, bringing the CMS avg reimbursement for a single-DoF hand to **\$12,348.33**. An **[-\$3,500.96]** overall reduction in payment during this time period.



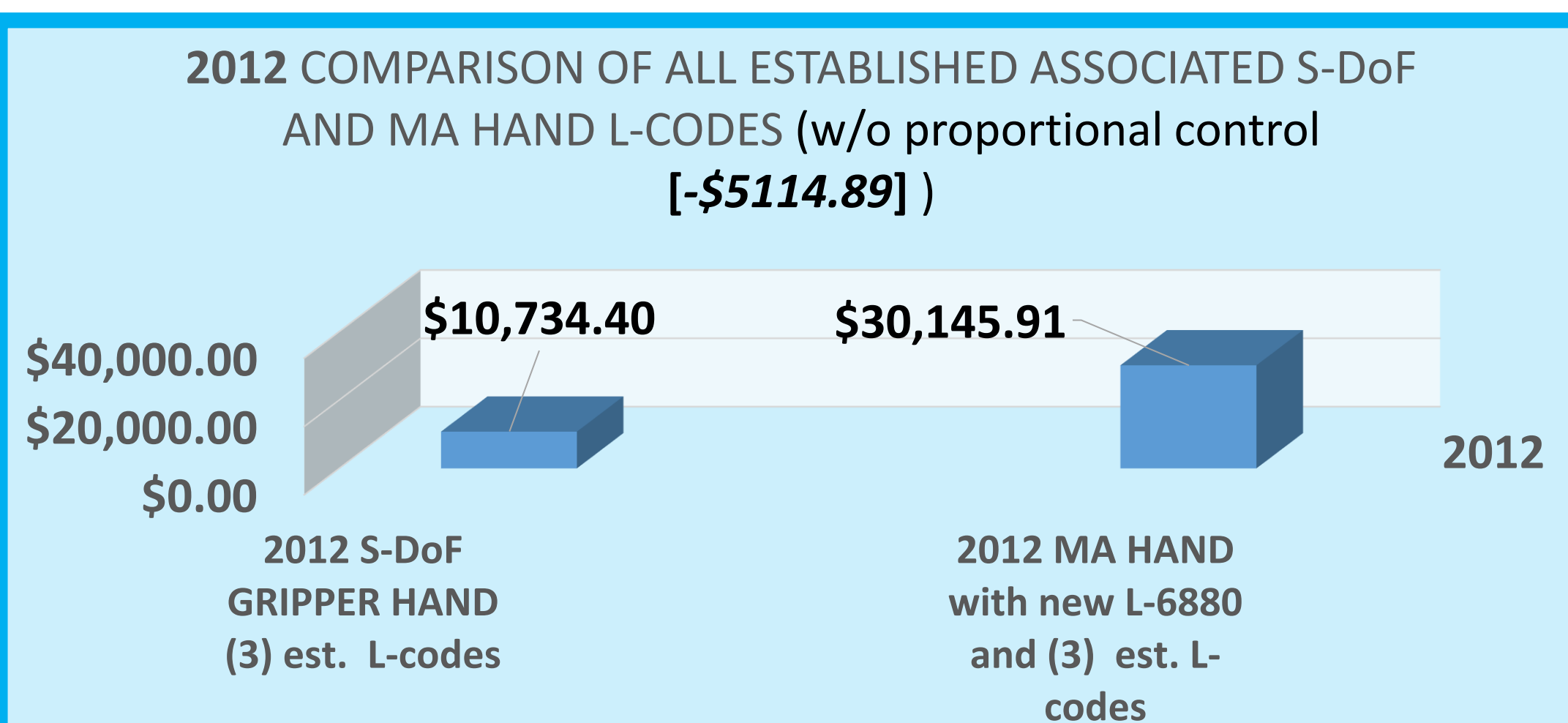
In **2007**, the first multiarticulating myoelectric hand was introduced to the market. An application for a new code was submitted to the CMS, HCPCS Public Meeting Agenda for Orthotics & Prosthetics on May 22, 2007.

The preliminary decision by CMS was that the reported sales volume was insufficient to support the request for a revision to the national code set. In accordance with HCPCS coding criteria as published on CMS' HCPCS website, **there must be sufficient claims activity or volume, as evidenced by 3 months of marketing activity, so that adding a new code enhances the efficiency of the system and justifies the administrative burden of adding the code.**

From **2007-2012**, the use of existing CMS established L-codes was necessary along with L-7499 codes to obtain reimbursement.



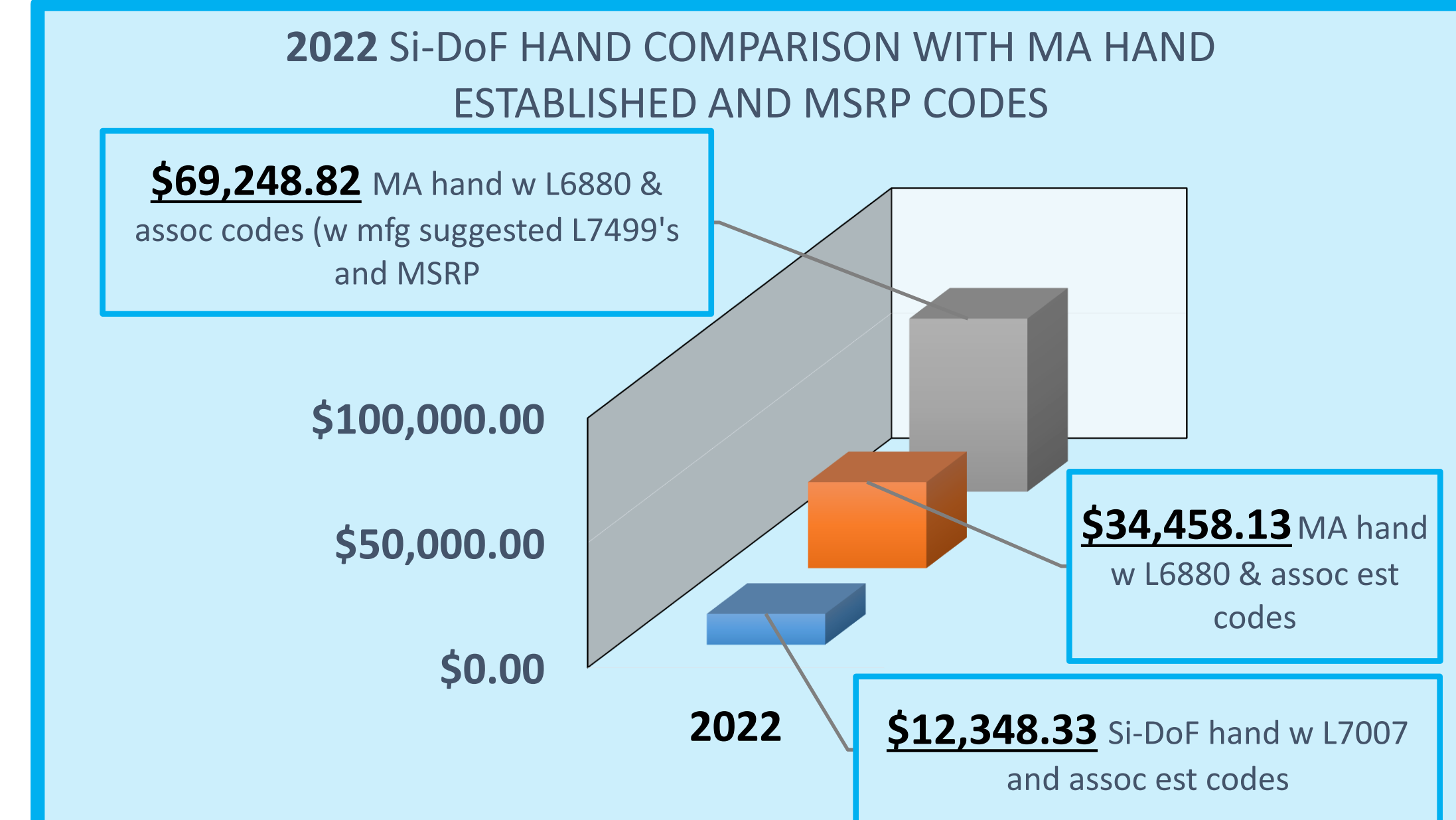
In **2008**, the manufacturer's anticipated reimbursement utilizing established L-codes and L-7499 codes totaled **\$51,599.29**, a **69.3%** increase over the single-DoF hand.



By **2012**, CMS had discontinued the **L-7274** proportional control code which reduced the Single-DoF hand rate by **32.3%** **[-\$5,114.89]**.

**L6880** multiarticulating hand code was awarded with a combined rate of hand codes totaling **\$30,145.91**, an **18.6%** decrease over the manufacturer's anticipated reimbursement rate.

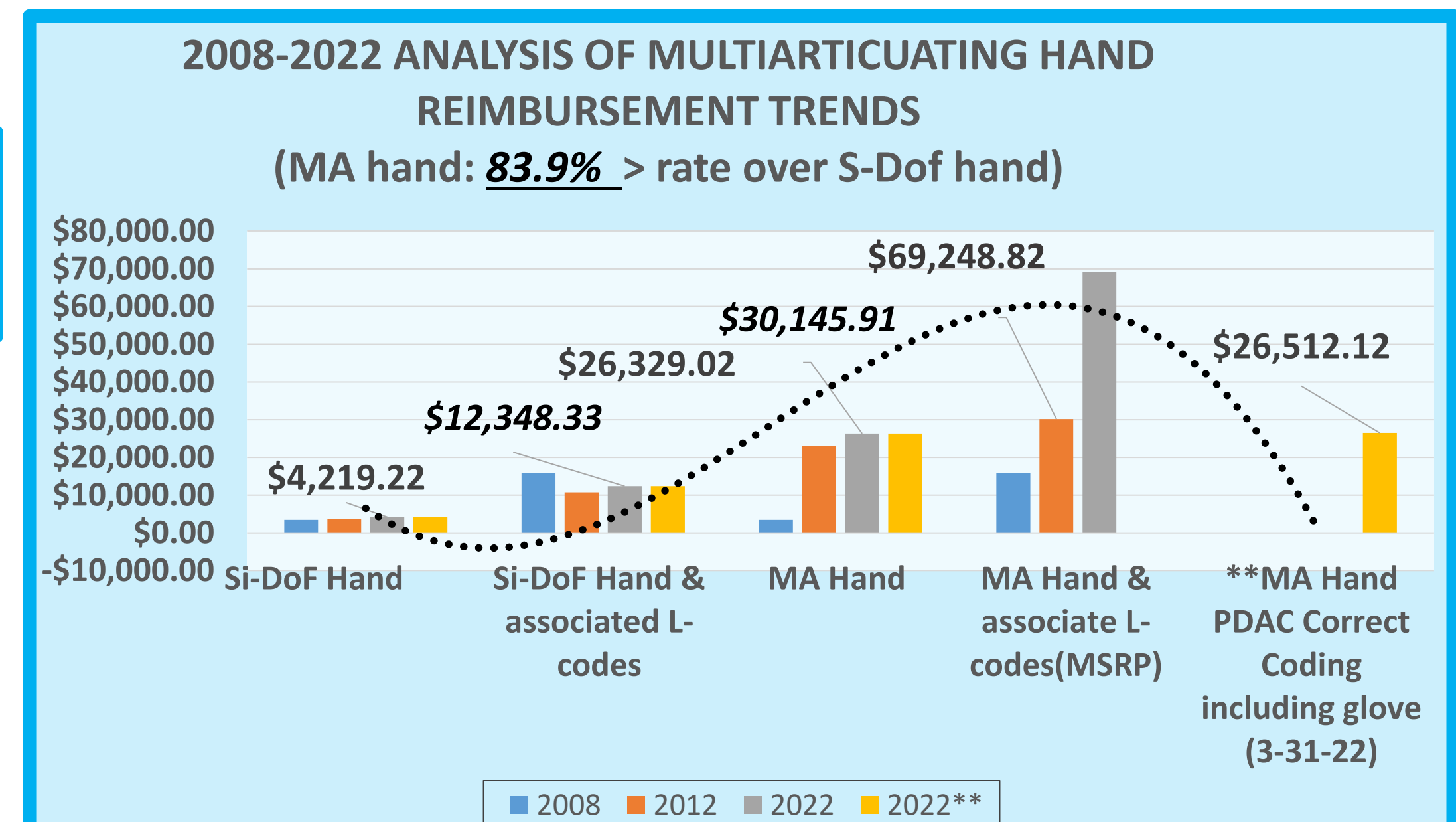
## RESULTS



By **2022**, Innovation for multiarticulating hands had advanced beyond the **L-6880** code. Some manufacturers were recommending MSRP's of **~\$70,000.00, 50.2%** above established codes. **PDAC** ruled on **3-31-22** only **L-6880** and a cover is allowed. The avg CMS allowable for these codes is **\$26,512.12**.

## CONCLUSIONS

- Innovation** brought to the market must have a strategic plan in place on how to get properly reimbursed by utilizing established L-codes.
- Prosthetists cannot afford to absorb the increasing costs of components into the overall reimbursement rates of the entire prosthesis.
- Manufacturers, researchers, therapists and prosthetists** must work together to provide evidence of innovation's usefulness by conducting proper outcome measures, solicit CMS for modifications to existing codes and submit to CMS for new codes with appropriate sales.
- Trends** as shown below provide a look into your future.



## REFERENCES

- DMEPOS Fee Schedule <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/DMEPOSFeeSched/DMEPOS-Fee-Schedule>
- Joint DME MAC and PDAC Publication, <https://med.noridianmedicare.com/web/jadme/policies/dmd-articles/2022/upper-limb-prostheses-correct-coding>
- Special Issue: Health Economics in Prosthetics & Orthotics, Vol. 4 No. 2 (2021); CANADIAN PROSTHETICS & ORTHOTICS JOURNAL
- Various manufacturers coding recommendations
- Personal experience working in a private clinic, Department of Veteran Affairs, 3rd Party Payer, Manufacturer, and Catastrophic Care Management

## CONTACT

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