



# STRANDED

Repair Restrictions Immobilize Wheelchair Users

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Fund

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*Wheelchair users in the United States have come to the front lines in the fight for the right to repair in recent months. What's inspiring their activism? A constrained marketplace that has wheelchair users waiting months for simple repairs.*

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**May 2022**

Cover photo: muroPhotographer, Shutterstock.com. Cover Design, Jenne Turner, Public Interest GRFX

## | ACKNOWLEDGEMENTS

The author Kyle Wiens, Co-Founder and CEO, iFixit.com; Maddy Dennis, Campaign Associate with U.S. PIRG Education Fund; and Gay Gordon-Byrne, Executive Director, Repair.org for their contributions.

The author bears any responsibility for factual errors.

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## EXECUTIVE SUMMARY

When you rely on your powered wheelchair to get around, any delay in repair is not only a quality-of-life issue, but a matter of life and death. Yet a constrained market for wheelchair service and repair makes delays for repair of weeks or even months common.

This is Monopolies 101: when there is only one option for getting something done, quality and customer service go down while prices go up. One of the main goals of the Right to Repair campaign is to foster an open market for repair and service that offers real choice and price competition to consumers.<sup>1</sup>

But today, a skewed market for wheelchair repairs often results in even simple, mechanical repairs taking weeks or months to complete. In this report, we'll assess the reasons that repair choice is constrained and investigate policy options for state and federal leaders such as so-called "right to repair" laws that provide wheelchair owners with access to the information, software and parts to repair their own equipment. We'll also review the results of a survey we conducted of 141 American wheelchair users that provides insights into the state of wheelchair repair, and whether wheelchair users believe that right to repair reforms would improve conditions.

### **Wheelchair Users: Suffering in Silence**

National conversations about the need for a consumer right to repair in recent years have largely focused on anti-competitive restrictions on repair of agricultural equipment, automobiles and smartphones. However, we uncovered similar practices in the national market for wheelchair service and repair. There, Americans who rely on wheelchairs can be left stranded in a multi-billion-dollar market for Complex Rehabilitation Technology (CRT) like power wheelchairs—part of a \$50 billion Durable Medical Equipment (DME) industry<sup>2</sup> that is increasingly dominated by a handful of large, national suppliers.<sup>3</sup>

For wheelchair users in the United States, the rules and the marketplace are stacked against them—and against repair. Requirements forced on wheelchair users by private and public insurers—including publicly funded Medicare and Medicaid programs—put responsibility for repair and service in the hands of authorized CRT suppliers that, together with wheelchair manufacturers, severely restrict access to replacement parts, administrative software and the information needed to repair manual and power wheelchairs and keep them working. Wheelchair users are further hemmed in by consolidation in the marketplace for CRT in the last

decade. During this period a handful of large, national suppliers—many backed by private equity firms—have emerged and now dominate the CRT markets in many states, according to industry experts interviewed for this report.<sup>4</sup>

With few choices of suppliers and no easy way to fix their chairs themselves, wheelchair users complain that they endure months-long waits for even simple repairs. Delays in repair and faulty service have also been linked to injuries, hospitalizations and even death, according to interviews and a review of court cases<sup>5</sup> filed against wheelchair manufacturers and suppliers.

Finally, with modern power wheelchairs increasingly run by sophisticated, Internet-connected software, wheelchair users find themselves in a similar position as agricultural equipment, smartphone and automobile owners: hemmed in by so-called “digital rights management” (DRM) features and software locks that block access to administrative features for wheelchair owners and independent repair shops. As in other sectors, DRM and software locks enable manufacturers to lock out owners and independent service technicians, creating de-facto monopolies for aftermarket service, parts and repair.

## **Wheelchair Service and Repair: A Broken System**

Wheelchair users, advocates for the disabled and those representing CRT suppliers all agree on one thing: the market for wheelchair service and repair is deeply flawed and inefficient. That is, in part, a reflection of the U.S.’s complex and conflicted healthcare system.

Delays in service in repair have many causes. Suppliers point to cumbersome and bureaucratic procedures for obtaining approvals for repairs required by federal Medicare and state Medicaid programs,<sup>6</sup> as well as low reimbursement rates from both private and public insurers that make service and repair a “loss leader” for CRT suppliers. Their customers and disabilities rights advocates often point to bottom line-focused business models at large providers that keep staffing for field service technicians and inventories for replacement parts low, exacerbating the delays created by the health care bureaucracy.<sup>7</sup>

## **Wanted: A Right to Repair Wheelchairs**

Whatever the causes, the dire situation has spawned calls for change and drawn wheelchair users to the front lines of a national fight for the right to repair. In Colorado, for example, House Bill 22-1031,<sup>8</sup> filed by State Representative Brianna Titone, would provide wheelchair owners and independent repair shops with the parts, embedded software, firmware, tools, or

documentation to allow them to conduct diagnostic, maintenance, or repair services on the powered wheelchair.

With access to functioning wheelchairs critical for disabled Americans' livelihoods, their health and their quality of life, regulations like Rep. Titone's are needed to clear the way for wheelchair users and independent repair providers to service and repair their chairs.

## Survey Finds Long Waits for Repairs, Support for New Laws

Support for right to repair laws protecting wheelchair users was one of the clear takeaways from our survey of 141 manual and power wheelchair users. So too was evidence that long wait times of a month or more are the norm, and the biggest issue facing wheelchair users when it comes to service and repair.

For example, when we asked our survey respondents to estimate the average time it takes from initial request to completed repair, 62% of them (87 of 141) said the average repair took 4 or more weeks. And 40% of respondents (56 of 141) estimated it takes 7 or more weeks on average to get a repair completed.

And it's not that repairs are uncommon occurrences for wheelchair users. Just the opposite. Ninety-three percent of respondents indicated that they have required service in the last year, with 68% indicating they needed two or more repairs in the last year. A month or more of wait time, multiplied by multiple repairs a year adds up to a lot of downtime for wheelchair users. It is not a surprise, then, that 77% of respondents reported that "long wait for service and parts" was among the biggest challenges they have encountered getting wheelchairs serviced and repaired.

Wheelchair users we surveyed overwhelmingly supported legislation to address repair restrictions. For example, when we asked survey takers to indicate how they feel about a new Colorado law, which requires manufacturers of powered wheelchairs to make parts, documentation and service tools available to wheelchair owners and independent repair technicians, 83% responded by saying that the new law would "make life better for wheelchair owners by making it easier to get wheelchairs serviced and repaired." Just 4% indicated it

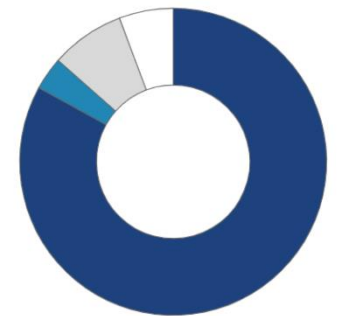
### Impression of Colorado Right to Repair law:

Make life better - 83%

Make life worse - 3.5%

Make no difference - 7.8%

Other response - 5.7%



would make life worse, and another 8% said it would have no impact.

Similarly, 69.5% said the “strongly agreed” with the statement “As a wheelchair user, I would benefit from more choices for having my wheelchair serviced and repaired, including the option to repair it myself.”

This report outlines why wheelchair owners, like farmers, hospitals and smartphone owners, would benefit from a legal right to repair their equipment. Absent these and other reforms, wheelchair users will continue to face long wait times for repair that adversely affect their mobility and, with that, their physical and financial well-being. Right to Repair legislation that encompasses complex rehabilitation technology (CRT) devices like power wheelchairs would improve the market for wheelchair repair that would help ensure that disabled Americans receive prompt, high-quality service at an affordable price.

## INTRODUCTION

Paralyzed from the waist down after he was struck by a pickup truck while walking on a sidewalk in his suburban Denver, Colorado neighborhood in 2012, Doug Howey relies on his power wheelchair for just about everything: commuting to and from work, grocery shopping and visiting friends and doctors. In the last two years, Howey said he logged 4,000 miles on his wheelchair. In contrast, a broken chair means he is resigned to his bed: unable to work or shop and at risk of developing pressure sores that can land him in the hospital.

So when a critical bearing failed on his two-year-old Permobil Corpus F5 motorized wheelchair in August, 2021, Howey contacted the local office of the complex rehabilitation technology (CRT) supplier that sold him the chair to have the problem fixed.<sup>9</sup> What followed was an exercise in frustration that is all too familiar to wheelchair users across the country.

According to Howey and others,<sup>10</sup> it took until October 26th—*82 days* from his first service call—for the repair needed to get his chair operating properly to be performed. And even that timeline was helped along by interventions by a local advocacy group, the Colorado Cross-Disability Coalition (CCDC), which Howey contacted on two occasions to cut quoted wait times from his CRT supplier from more than two months to one or two days. Without that, Howey said he could easily have waited more than six months for the broken bearing to be repaired.

### **Long Waits Common for Wheelchair Users**

Ask around, and you'll discover that Howey's story is a familiar one to wheelchair users in the United States.

At a Colorado hearing on a broader Right to Repair bill hearing, which covered wheelchairs in addition to other devices, resident Ken Maestas, a paraplegic, testified to legislators about his frustration after calling for a repair to a broken armrest on his chair. Maestas said he was given a date 35 days later for an initial visit to simply assess the problem. It was more than two weeks after that before a second appointment to get the repair performed: 53 days in all, he reported.<sup>11</sup>

In fact, between January and March of this year, CoPIRG and the Cross-Disability Colorado Coalition collected more than 10 pages of stories like Howey's from other Coloradans struggling to keep wheelchairs working for themselves or loved ones.<sup>12</sup> In many cases, the stories describe onerous waits and astronomical charges for even simple repairs to manual and power wheelchairs.

*“Had a flat tire. new (sp) innertube was \$6 on Amazon. (National CRT supplier) Numotion wanted to replace both wheels at a cost of \$300 to Medicaid and 6-8 weeks to get them. Got the innertubes in 2 days but they would not install them,”* read one submission.

*“Numotion took 4 months and charged \$500 for a button that allows Bruce to power his wheelchair. Without it, he is stuck in bed. Got it overnight mailed from eBay for about \$20 (2020),”* read another.

“It’s sad,” said Maestas, who is a legislative coordinator at CCDC and a NuMotion customer. “If you need to schedule a visit, they’ll look at the schedule to see when there’s a technician in your area. It might be a week or two before they send someone down. If I’m the only person in my area, they’ll make me wait,” Maestas said.<sup>13</sup>

Long delays aren’t a problem only for Coloradans. Arthur Torrey, a resident of Billerica, Massachusetts and a paraplegic, said that long waits for repair and service are common in the Bay State, as well.<sup>14</sup> “Right now if this chair breaks, I’m stuck at home for six or eight weeks dealing with insurance and medical equipment dealers,” Torrey told a joint committee of the Massachusetts Legislature in 2019.<sup>15</sup> Torrey, who uses a power wheelchair, said he is mechanically adept and would be happy to service his own equipment, but that current insurance rules make that difficult.

“The only reason that I call (CRT suppliers) at all is because MassHealth (Massachusetts Medicaid program) only pays for repairs and parts if I call the vendor and they come out and do the repair,” Torrey explained. “If you buy the part and service the chair yourself, MassHealth will not pay.”

Online forums for wheelchair users and the disabled also document widespread frustration on the part of wheelchair users. An October 2021 post at Wheelchairdriver.com, for example, lamented a three month wait for replacement tires for a wheelchair. “Even through (sp) the tires were for a wheelchair that is not supported by insurance, (national CRT supplier) Numotion had to submit the order through insurance to get a denial before they would order the tires,” the post from a user with the handle *swalker* reads.<sup>16</sup>

## **High Personal Cost to Repair Delays**

Long waits for service and repair are common across industries. But wheelchair users point out that the price for delays in wheelchair repairs is especially high: measured in physical injuries, impaired mobility and lost productivity.



Julie Reiskin, the Executive Director of the Colorado Cross-Disability Coalition (CCDC) and a wheelchair user since 1990, said that for people like her, even small abnormalities such as a broken wheel, a depleted battery or a protruding bolt, can have disastrous consequences.<sup>17</sup> Wheelchair users may be forced to use “loaner” wheelchairs that do not fit them properly or end up confined to their beds while their chair is out of commission. Ill-fitting hardware or long periods of immobility can cause wheelchair users to develop pressure sores or respiratory illnesses that can lead to hospitalization and even death.

Today, Reiskin said that the typical wheelchair user in her state faces long waits for service and few options, even if their medical condition demands prompt response. While her group has successfully intervened in cases like Howey’s to urge suppliers like Numotion to cut wait times, “the average person calling (the company) does not get a response,” she said. “You have to go up to the person running it, which isn’t sustainable,” Reiskin said.

Poor quality service and long waits are a theme in a number of lawsuits filed in more than a dozen states that name leading CRT suppliers like Numotion and National Seating and Mobility as defendants in the last decade. Many of those cases allege negligence and/or product liability and cite bodily harm and even death stemming from faulty or delayed repairs to motorized wheelchairs and other assistive equipment for which the firms were suppliers.<sup>18</sup>

A 2020 Arizona lawsuit filed by Roman Armando Gallegos is one such example. A partial quadriplegic, Gallegos’ suit stems from an accident in which a Permobil power wheelchair serviced by Numotion dislocated and fractured both of Gallegos’ tibias.<sup>19</sup> Gallegos alleges a pattern of long delays and poor service. He and his family “begged for” service from Numotion for more than three years to get his chair working as intended, according to court documents. Numotion, the suit alleged, was “negligent in the evaluation, set-up, fitting, configuration, adjustment and/or programming of the subject wheelchair.” The case was settled out of court.

A 2019 lawsuit filed by Nevada resident Linda Mitchell raises similar charges. Mitchell, who has multiple sclerosis, alleges that a series of serious physical injuries including a broken femur, a broken clavicle and head trauma resulted from accidents and breakdowns of a Permobil power wheelchair sold to her and maintained by Numotion. The wheelchair “was not properly measured and fitted for the Plaintiff’s body and physical needs, is not the right wheelchair for the Plaintiff’s needs and the wheelchair continues to malfunction and fall apart,” the complaint reads. That case, also, was settled out of court.<sup>20</sup>

## Rules Prohibit Wheelchair Self Repair

Wheelchair users and disabilities advocates argue that long waits for service are a byproduct of a healthcare system that mostly ignores the importance of service and repair of complex rehabilitation technology.

Today, there are more than 3 million wheelchair users in the United States—a number that is expected to rise considerably as the Baby Boom generation ages.<sup>21</sup> Spending on manual and power wheelchairs already accounts for about 1 percent of Medicare spending.<sup>22</sup> Both CRT suppliers and disabilities rights advocates agree that the rules governing that spending are voluminous and arcane, hampering attempts by wheelchair users to keep their equipment in working order.

For example, a senior executive at CRT supplier National Seating and Mobility pointed out that many repairs for wheelchair parts that have broken are classified by Medicare, the federal health insurance program for seniors, as “replacements,” not repairs.<sup>23</sup> Depending on the payer (Medicare, Medicaid or a private insurer) that categorization may require the wheelchair user to obtain additional approvals, like a new prescription from a doctor. That, in turn, may require a face-to-face appointment with the physician, adding days or weeks of unnecessary time to the repair process. Other payers have added so-called “prior authorization” requirements for repairs, resulting in members having to wait as long as six weeks or more for a critical repair of a chair even when the chair has already been approved as medically necessary.

Such policies present wheelchair users and their families with difficult choices: work through insurers and wait weeks or months to see a repair completed or pay for parts and labor out of pocket and see the repair performed promptly.

With simple repairs, that is often an easy choice. Robin Bouldoc is a Colorado resident whose husband, Bruce Goguen, suffers from primary, progressive multiple sclerosis and requires a power wheelchair equipped with a respirator and a device that allows him to control the chair using head movements.<sup>24</sup>

She recalled a recent incident in which an anti-tip wheel on the back of Bruce’s chair broke—a dangerous situation, given that the weight of the equipment on the back of Bruce’s chair makes it prone to tip back.

Bouldoc said that the couple was gearing up for a long wait as their CRT authorized repair provider, Numotion, went through its standard procedure. That would include days or weeks

waiting for the firm to send out a technician to assess the problem; days or weeks more waiting while Numotion sought and received approval for reimbursement from Medicare or Medicaid; and weeks more waiting for the company to order and receive the tip wheel part and schedule a follow up home visit with a technician to do the repair.

“Then my son walked in and looked at the wheel and was like ‘Mom, those are just skateboard wheels,’” Bouldoc recalled. She and Gougin jumped on Amazon.com and, for around \$20, had replacement wheels shipped to them in days. They even had a choice of colors. The couple replaced the tip wheels themselves. “If Numotion had done it, it would have taken 3 or 4 months and they would have charged Medicaid hundreds of dollars—for skateboard wheels,” Bouldoc said.

Torrey said that most wheelchair repairs are like this. “There’s nothing about manual wheelchairs or power wheelchairs that is that complex or difficult,” he said. Even if wheelchair users’ physical disabilities might make some repairs difficult to perform themselves, family members, friends or neighbors with a mechanical inclination could easily perform such repairs, he said.

Wheelchair technicians we interviewed agreed that most repairs to wheelchairs are straightforward and don’t require specialized skills or training, just a familiarity with mechanical devices.<sup>25</sup>

Asked why they don’t simply ship parts directly to wheelchair users or allow the wheelchair owners to perform their own repairs, spokespeople for national CRT suppliers Numotion and National Seating and Mobility pointed to the requirements of insurers like Medicare and state Medicaid programs that prevent them from doing so.

“This is an industry-wide, payer-driven policy. We have to follow payer guidelines in order for the client to get the benefits of having health insurance and NSM to get reimbursed,” National Seating and Mobility wrote. “Using an approved (contacted) supplier (NSM) is part of the payer requirement. And, if a client has health insurance, by law we have to submit a claim for any equipment and services provided.”

Finally, low reimbursement rates from Medicare and Medicaid as well as expensive labor and inventory mean repair and service of manual and power wheelchairs are not profitable for CRT suppliers, according CRT suppliers and industry representatives. “Repair is a money loser,” said Don Clayback, the Executive Director at the National Coalition for Assistive and Rehab

Technology (NCART), a national association representing CRT providers and manufacturers.<sup>26</sup> “There are less and less companies doing it and more pressure on companies that are,” he said.

Like CRT suppliers, Clayback points to bureaucratic hurdles to repair, such as requirements for pre-approval by insurers, even for small repairs. He also notes state Medicaid policies often only reimburse CRT suppliers for the time a technician spent actually working on a CRT device, not for things like travel to and from customer sites, or time needed to diagnose problems.

The result, Clayback said, is a market for repair and service of wheelchairs that fails everyone. CRT providers find it impossible to make money on wheelchair repairs and are motivated to stop providing repair services. That results in a marketplace with even fewer choices and poorer quality choices for wheelchair owners. “If you think of other devices you use in the home—like a furnace or a refrigerator or a car—you have a business environment with a lot of competition,” Clayback said. “But when you look at the current environment for CRT, there is no incentive for competition,” he said.

## **Wheelchair Owners Denied Access to Administrative Features**

But ill-conceived payer requirements aren’t the only contributor to the dire situation faced by wheelchair users. In a mirror of what’s going on in markets such as automotive and agricultural equipment, power wheelchair users are increasingly running up against manufacturer-imposed software locks and restrictions that give wheelchair manufacturers the power to determine who is allowed to service and configure power wheelchairs and what types of changes they are able to make.

Arthur Torrey, the Massachusetts-based wheelchair user and disabilities rights activist, said that late model power wheelchairs are mostly run by software, which controls everything from how the chair responds to joystick movements; to how it handles and drives; to the tilt and recline of the seat, leg lifters and so on.

Research conducted by iFixit found that power wheelchair manufacturers commonly restrict customers’ access to software features that are often needed to configure chairs to suit the specific needs of their owners. For example, a wheelchair user with a balky wheel or failing motor may need to adjust the power wheelchair’s speed damping setting, which is accomplished using the administrative software. Or, changes to chair configuration settings may be needed to accommodate an aftermarket replacement part on the chair. A wheelchair user who installs a different tire on their chair for navigating inclement weather may want to access administrative software features to adjust the chair’s grip parameters.

However, access to such features is often restricted by the chair manufacturer, with differing levels of access to manufacturers, dealers and owners. For example, the Quest Pride Quantum Power Wheelchair displays warning messages to users that they should not “modify your power chair in any way not authorized by Pride”<sup>27</sup> and that a “Quantum Rehab Provider or a qualified technician must perform the initial setup of this power chair and must perform all of the procedures in this manual.”<sup>28</sup>

Wheelchair manufacturers can also lock access to administrative features and configuration settings using passwords and hardware security keys (aka “dongles” or “controllers”), iFixit found. For example, wheelchairs powered by Dynamic DX control systems require passwords and hardware security keys to access critical configuration parameters. Without a key, the diagnostic tool (aka “Wizard”) can display parameter values and diagnostic messages, but nothing can be edited or written to a power wheelchair’s controller. According to the documentation, “it is up to the power chair manufacturer to determine whether they will allow distribution of Wizards to dealers.”<sup>29</sup>

In comments submitted to legislators in Colorado, at least one wheelchair user related that they were told by their CRT supplier that (wheelchair maker) “Permobil will not sell controllers to clients, only to dealers and will void a warranty if they found out a customer had a controller.”<sup>30</sup> In other cases, “dealer level” controllers and USB dongles can be purchased, but only for hundreds of dollars, said Torrey.

Torrey said the inability of wheelchair users to configure the software on their own chairs can be a big source of frustration when the settings on the chair don’t suit the needs of the chair’s owner. For example, Torrey said that chairs might be configured to add a delay between the joystick’s movement and the chair responding, which is “like driving with bungee cords.” Or manufacturers and suppliers might configure “super conservative and really limited” settings for the chair’s maximum speed that don’t suit the abilities or desires of the chair’s owner. Software locks and restrictions keep the chair owner from overriding those settings and configuring their chair to suit their needs.

“We are seeing more software locks blocking repair or calibration in a wide range of products. This is particularly an issue for powered wheelchairs and other assistive devices like hearing aids,” said Kyle Wiens, co-founder and CEO of iFixit, who has led multiple efforts to expand legal protections for bypassing locks to make repairs or adjustments. “Imagine if you had to pay the dealership to change your tires or adjust the recline of the seat in your car. People should be allowed to repair or calibrate their own products.”



## ANALYSIS

### **Despite History of Disability Protections, Repair Remains a Gap**

Over the past five decades, elected bodies in the United States have enacted comprehensive legal protections for people with disabilities.<sup>31</sup> Federal laws like the groundbreaking Americans with Disabilities Act of 1990 (ADA),<sup>32</sup> for example, prohibit discrimination against individuals with disabilities in all areas of public life and includes specific provisions for ensuring equal access to Americans with disabilities in employment, public accommodations, government services and telecommunications.

More than 30 years after the ADA was signed into law, however, many of the more than 3 million Americans who rely on manual or power wheelchairs<sup>33</sup> contend with new and imposing barriers that threaten both their mobility and their health. Among them: a dysfunctional system for wheelchair service and repair that leaves wheelchair users stranded for weeks or months with non-functioning equipment, putting their health, financial security and independence at risk.

### **Repair Restrictions Poses Issues Across Many Devices**

The challenges encountered by wheelchair and power wheelchair users are similar to those faced by owners of other appliance and electronics products throughout the United States. As with smartphones, connected home appliances or medical devices, manual and power wheelchair owners must navigate a severely constrained market for service and repair that concentrates repair access in the hands of “authorized” service providers while locking out wheelchair owners and independent repair providers in ways that impede competition, degrade quality of service and increase costs.

As with other products that restrict repair—be they Apple iPhones<sup>34</sup>, John Deere farm equipment, or Intuitive Surgical’s “da Vinci” robot<sup>35</sup>—a lack of choice in the market for service and repair leaves owners at the mercy of manufacturers and their authorized service providers. The consequences of that are easy to apprehend in the testimonials provided by manual and power wheelchair owners.

For mechanically inclined wheelchair users like Arthur Torrey, the contrast between the heavily constrained market for service and repair of his wheelchairs and the wide-open market for service and repairs made possible by a Massachusetts automotive right to repair law is striking. “I have a van sitting in my driveway that I can buy performance parts and chips for and drive

120 miles per hour. Why can't I do that for a wheelchair that I can drive 4 miles per hour," he wondered.

## **Colorado Steps Up with Wheelchair Right to Repair Law**

Faced with a consolidated and lopsided market for service and repair, wheelchair users and advocates for the disabled are looking to new right to repair laws and changes to federal and state policies for relief.

The logic is simple: if disabled Americans can obtain the wheelchair parts, information and software needed to service and repair their own equipment, it would provide quick relief for those who rely on assistive technologies like power wheelchairs. Shorter waits will improve mobility and health outcomes in the process. "A right to repair would make things better," said Buldoc, the Colorado resident. "Why can't the local bicycle shop change the flat tire on our wheelchair?"

Lawmakers in one state have taken notice. Following the defeat of a right to repair bill she introduced in 2021, Colorado State Rep Brianna Titone introduced a new bill in the 2022 session that focuses just on wheelchair repair. HB 22-1031, the Consumer Right To Repair Powered Wheelchairs Act, would require that powered wheelchair manufacturers to provide "parts, embedded software, firmware, tools, or documentation, such as diagnostic, maintenance, or repair manuals, diagrams, or similar information, to independent repair providers and owners of the manufacturer's powered wheelchairs."<sup>36</sup>

The bill, and others like it, is modeled on an automotive right to repair bill passed in Massachusetts in 2012 and recently expanded. Titone said she first conceived of the wheelchair focused bill after hearing her colleagues express support for a narrowly tailored law at a 2021 hearing about a broader right to repair bill.

On its path through the Colorado legislature, the Consumer Right To Repair Powered Wheelchairs Act faced many of the same arguments from wheelchair manufacturers and CRT suppliers that the automotive industry used to argue against the Massachusetts auto right to repair law, and that other industries have used to fight broader right to repair bills for personal electronics or agricultural equipment.

For example, Don Clayback of NCRT said that his group opposes the Colorado law because of concerns about manufacturer liability and warranty coverage.<sup>37</sup> But courts have been clear in

the U.S. that authorized repair providers or manufacturers are not liable for damages caused by a faulty repair they did not perform.

CRT suppliers and industry representatives have also paid lip service to a “right to repair,” while seeking to erect barriers to owner- and independent repair in the name of ensuring “quality.” For example: they would require manufacturer certification of anyone undertaking wheelchair repairs. Gay Gordon-Byrne, executive director of Repair.org, which represents hundreds of independent repair businesses and other pro-repair groups, warns that certification programs often just enable tighter manufacturer-control of the repair process without real consumer benefits.

“Most of our repair business members are open to proving their proficiency, but many of the current certification programs are mainly used by the manufacturers to restrict repair access and do nothing to set quality standards,” said Gordon-Byrne. “We should be careful not to set up additional rent-seeking programs in the guise of ‘certifications,’ which provide little relevant instruction but serve as an excuse to deny professional technicians access to the tools, parts and information they need to do their jobs.”<sup>38</sup>

Such arguments have stalled or killed right to repair laws in scores of states in the last five years. However, as of this writing, they appear to have fallen flat in Colorado. An amended version of HB 22-1031 has passed in both the Colorado House of Representatives and the Colorado Senate and is on its way to Governor Jared Polis to be signed into law.

## **Beyond a Right to Repair, More Changes Needed**

A “right to repair wheelchairs,” as has been proposed in Colorado, would address many of the above-mentioned impediments to repairing wheelchairs, power wheelchairs and other complex rehab technologies.

If passed, the law would give ordinary Coloradans easy and affordable access to the information, parts and software needed to diagnose, service, repair and configure their own equipment. That would shorten down time and, as a consequence, increase wheelchair users’ mobility and quality of life. The presence of independent wheelchair repair providers, and the possibility of owner self-repair would increase service options for wheelchair users and, by doing so, decrease wait times while increasing competition over price and quality of service.

But a right to repair wheelchairs must also be accompanied by broader changes in the healthcare market that address the need for repair and servicing of CRT and other assistive

technology. Those include changes to federal Medicare, state Medicaid and private insurance regulations that are needed to encourage a competitive market for repair and service.

Clayback of NCRT, for example, said policy changes at the federal level that eliminate or minimize prior authorization and documentation requirements for repairs would greatly reduce the wait times experienced by wheelchair users. Today, such requirements are intended to stop fraud and abuse, but Clayback said there are less burdensome ways to protect taxpayers' interests—for example by monitoring patterns in billing practices for signs of fraud and abuse. "If you see utilization going up, audit us. But don't penalize the person who needs a new battery and make them wait," he said.

NCRT also backs changes to Medicare and state Medicaid policies that pertain to reimbursement for repair services provided by authorized or independent repair pros. Public insurers should avoid bottom-basement reimbursement rates that prevent repair providers from recouping costs. They should also recognize and reimburse repair providers for the full range of activities involved in repair calls—including travel to and from the customer and time assessing and diagnosing problems.

Finally, changes to coverage that would make it easier for wheelchair owners to purchase a backup wheelchair would also increase mobility and reduce the likelihood of ill-fitting "loaner" chairs that can lead to accidents or injury, he said.

## Our Survey Reinforces How Commonly Restrictions Impact Users

The results of our survey of 141 individuals who rely on wheelchairs underscores the importance of the Colorado wheelchair repair reforms, and the need for similar actions in other states. Responses include:

<b>For health insurance, I use:</b>		
Private insurance only	22	16%
Public insurance (e.g. Medicare/Medicaid) only	64	45%
A mixture of private insurance and public insurance	45	32%
I do not carry health insurance.	2	1%
VA (Veterans Affairs)	4	3%
Other response	4	3%

### I would characterize my service provider as:

A locally owned “mom and pop” wheelchair and medical equipment shop with 3 or fewer locations	29	21%
Part of a regional chain of wheelchair and medical equipment shops	21	15%
Part of a large, national provider of wheelchairs and medical equipment (e.g. NuMotion, National Seating, etc.)	91	65%

### Considering all your requests for service or repair with your current provider, the average time that expired between your initial request for service and when the repair was completed was:

Less than a week	16	11%
1 to 3 weeks	31	22%
4 to 6 weeks	31	22%
7 to 10 weeks	21	15%
11 to 16 weeks	16	11%
16 to 24 weeks	8	6%
More than 24 weeks	8	6%
<b>Other Responses, including:</b>		
Never / has not yet responded	3	2%
Always different	1	1%
Could be longer	1	1%
N/A, I do it myself	3	2%
"When I can get the parts. Sometimes I have to use parts meant for other things like a curcuit breaker for a boat. "	1	1%
N/A, I don't have a supplier	1	1%
<b>4 or more weeks</b>	<b>87</b>	<b>62%</b>

### Considering the problems or issues that prompted you to make a service request, what percentage of those do you feel could be performed by a friend, family member or independent repair professional with the right information, access to parts, etc.?

Not many (fewer than 10%)	21	15%
Some (around 25%)	23	16%
Many (up to 50%)	34	24%
Most (more than 50%)	35	25%
All (100%)	26	18%
n/a	1	1%
Fix everything on my own, things I couldn't fix had a machinist do for me	1	1%
<b>Many to all</b>	<b>96</b>	<b>68%</b>



**The biggest challenge(s) I have encountered getting my wheelchair serviced and repaired are: (pick no more than three)**

Long wait for service and repair parts	109	77%
Poor quality repair/service	35	25%
Lack of choice in service/repair providers	72	51%
Repair technician doesn't understand my unique needs	29	21%
Cost of service/repair	38	27%
Other responses	30	21%
Mentioned insurance or billing process / too many steps	9	6%

**A pending law in Colorado would create a legal right to repair wheelchairs and provide wheelchair owners and independent repair shops with access to schematics, diagnostic tools, parts and other information needed to make repairs. I feel this law, if passed, would:**

Make life better	117	83%
Make life worse	5	4%
Make no difference	11	8%
Other	8	6%

**Rate your response to the following statement: "As a wheelchair user, I would benefit from more choices for having my wheelchair serviced and repaired, including the option to repair it myself."**

1 - Strongly disagree	3	2%
2	1	1%
3	14	16%
4	25	18%
5 - Strongly agree	98	70%
<b>AVERAGE</b>		<b>4.52</b>

## CONCLUSION

### Not Bits and Bytes, But Life and Limb

Discussions about the need for a right to repair often center on issues that can seem abstract. "Who gets to replace the broken screen on your smartphone?" "Can you service your own refrigerator or tractor, or are you compelled to pay an authorized repair provider to do the work?" But stories about the travails of manual and power wheelchair users make clear that the right to repair is about more than bits and bytes. It is a matter of life and limb.

Today, there are more than 3 million wheelchair users in the United States. The testimony of countless wheelchair users and disabilities rights activists make clear that wheelchair service and repair is a broken marketplace in which wheelchair owners lack access to the information, replacement parts and software to service the equipment they rely on to commute to jobs, buy groceries and attend to their families and loved ones. Ensuring that these individuals have access to functioning wheelchairs that suit their needs, and their physiology is critical to preserving their physical health and wellbeing.

## **Wheelchairs: Ripe for Repair**

Our research shows that the wheelchair repair and service market is ripe for a right to repair. Wheelchair users and disabilities rights activists have documented a pattern of long delays for wheelchair service and repair that result both from a cumbersome healthcare bureaucracy and a constrained market for repair services that healthcare “payer” policies help prop up. Our survey of 141 manual and power wheelchair users overwhelmingly supports those claims.

In the United States today, wheelchair users, denied access to the information, parts and tools to perform repairs themselves, are beholden to a small number of authorized repair providers to do the work. Those providers, in return, face bureaucratic hurdles to approving repairs. The result, as is so often the case, is long waits, poor quality service and high prices.

A right to repair wheelchairs would address many of the concerns raised by wheelchair users and disabilities rights advocates—especially in combination with changes to streamline the billing process. Laws like HB 22-1031 in Colorado will end the practice of wheelchair manufacturers and authorized repair providers restricting access to service and repair manuals, replacement parts and diagnostic software and tools. In so doing, it would liberate a constrained market for wheelchair service and repair, allowing individual owners as well as independent repair providers to assist wheelchair users: speeding repairs and providing competition to lower their cost.

## **Make it Easier to Pay for Wheelchair Repairs**

What is clear from our research is that passing a right to repair wheelchairs is a critical piece of a much larger project. At the very least, a right to repair wheelchairs will help wheelchair owners, repair technicians and small businesses to undertake repairs, liberating them from a burdensome and inefficient repair and service market.

However, more changes are needed even with a right to repair wheelchairs. Policies at the federal and state level, as well as those adopted by private insurers, exacerbate delays in service and repair. Low reimbursement rates and cumbersome pre-approval processes make repair and service a loss leader, even for authorized repair providers. Federal and state rules also enshrine authorized repair over independent- or owner-repair. That cuts off a vital source of revenue to market players whose participation would shorten wait times and provide more price competition for payers.

Should a right to repair wheelchairs become law, these same policies will hinder the participation of small businesses and independent repair, essentially locking in the status quo for wheelchair owners who don't wish to undertake repair themselves. That's why reforms to Medicare and state Medicaid policies are urgently needed that reflect an understanding of the repair and service market, and with an eye to encouraging prompt, high quality service and repair of equipment in the field.

## METHODOLOGY

This report was based on phone, video and email interviews with all relevant stakeholders conducted between June, 2021 and April, 2022. That includes authorized wheelchair technicians, CRT industry professionals, analysts and leaders, representatives from Numotion and National Seating and Mobility, wheelchair users and disability rights advocates, representatives for the independent repair industry, right to repair advocates, the Centers for Medicare and Medicaid Services and more.

Our survey was distributed by a number of wheelchair user community organizations, including the North American Spinal Cord Injury Consortium; Placerville Mobility Support Group; the Illinois, Oregon, Western New York, Philadelphia and Virginia chapters of the United Spinal Association; and the Colorado Cross Disability Coalition. We focused on analysis on only the U.S. residents who took the survey (of which there were 141).

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