

# HOW HEALTHCARE FRAUD AND ABUSE PERPETUATE HEALTH DISPARITIES IN THE U.S.

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## Introduction

There is a great divide between what is recognized as acceptable, high-quality healthcare in the United States and what vulnerable and medically underserved populations receive. Those most vulnerable suffer from entrenched weaknesses in our healthcare system that fail to consistently provide high quality care to everyone, regardless of *their social, economic, and/or environmental disadvantage*.

*Healthy People 2020 defines a health disparity as “a particular type of health difference that is closely linked with social, economic, and/or environmental disadvantage. Health disparities adversely affect groups of people who have systematically experienced greater obstacles to health based on their racial or ethnic group; religion; socioeconomic status; gender; age; mental health; cognitive, sensory, or physical disability; sexual orientation or gender identity; geographic location; or other characteristics historically linked to discrimination or exclusion [1].”*

It should be noted that, because of these intersecting identities, the youngest and the oldest in our country are often among the most vulnerable and medically underserved populations who are disproportionately impacted.

Table of Contents

The Problem. . . . . 1

Background . . . . . 1

Healthcare Fraud and Abuse and Patient Harm . . . . . 3

Trust and Health Disparities . . . . . 4

Case Studies . . . . . 5

Contributing Components of Fraud Schemes . . . . . 8

Detection, Response, and Mitigation . . . . . 8

Call to Action . . . . . 10

Conclusion . . . . . 11

References . . . . . 12

Appendix A: Abbreviations and Acronyms . . . . . 14

## The Problem

A significant challenge for the U.S. healthcare system involves the often-staggering amount of healthcare fraud and abuse that occur across the country. Healthcare fraud losses are estimated by the National Health Care Anti-Fraud Association (NHCAA) to be in the tens of billions of dollars annually, with estimates ranging from three percent to ten percent of annual U.S. healthcare expenditures [2]. The Centers for Medicare & Medicaid project national healthcare expenditures to reach \$4.2 trillion in 2021 [3]. The estimated loss of taxpayer dollars ranges from a staggering \$126 to \$420 billion dollars in one year alone. In addition to the financial costs of healthcare fraud and abuse, there are also other considerable impacts experienced by fraud and abuse victims.

Not surprisingly, there is a critical interrelationship between healthcare fraud and health disparities, as vulnerable and medically underserved beneficiaries are routinely targeted, and often receive substandard, medically unnecessary, and even harmful care. Consequently, healthcare fraud and abuse can be easily overlooked health determinants that contribute to or perpetuate existing health disparities.

## Background

### The Intersection between Healthcare Fraud and Health Disparities

The existence of an intersection between healthcare fraud or abuse and health disparities is especially troubling considering that it is well documented that racial and ethnic minorities experience health disparities at unacceptable levels compared to people who are white, non Hispanic. As early as 2002, at the request of Congress,

## THE ESTIMATED LOSS OF TAXPAYER DOLLARS RANGES FROM A STAGGERING \$126 TO \$420 BILLION DOLLARS IN ONE YEAR ALONE.

the Institute of Medicine (IOM) conducted a study to assess the differences in the extent of racial and ethnic disparities in the quality of healthcare received by racial and ethnic minorities [4].

In summary, the IOM assessment from 2002 found that:

- Racial and ethnic disparities in healthcare carry a disproportionate load and are associated with significantly worse health outcomes.
- Health disparities occur in the context of broader social and economic inequality.
- There are many sources that contribute to these disparities, including health systems, health plan managers, and providers.
- Bias, stereotyping, prejudice, and clinical uncertainty contribute to disparities.
- Racial and ethnic minority patients are somewhat more likely to refuse treatment, but the refusal rates do not explain the extent of health disparities. [4]



More recently, researchers' review of the List of Excluded Individuals and Entities (LEIE), compiled by the U.S. Department of Health and Human Services Office of Inspector General (HHS-OIG), indicated:

*Healthcare professionals who were excluded from participation in federal healthcare programs due to fraudulent and abusive activities were more likely than their unsanctioned colleagues to have provided care to Medicare beneficiaries who were Black, Asian, Hispanic, or members of another racial or ethnic minority group [5].*

The researchers also reported that these same fraudulent providers were not only more likely to treat non-white patients, but they were also more likely to treat people with disabilities and beneficiaries who were dually enrolled, signifying that these beneficiaries were lower-income individuals with both Medicare and Medicaid coverage.

In addition, researchers with Johns Hopkins University conducted another review of the LEIE and reported that in 2018, more than 47,000 healthcare professionals were barred from participation in Medicare and Medicaid, the federal programs that provide health insurance to elderly, disabled, and low-income beneficiaries, because of fraudulent and abusive activities, with the potential costs of those activities estimated to be between \$30 billion and \$140 billion annually [6].

*Patients treated by individuals or entities later excluded from the Medicare and Medicaid programs for fraud and abuse were between approximately 14% to 17% more likely to die than those who were treated by their law-abiding counterparts, and exposure to these fraudulent and abusive healthcare professionals was projected by the researchers to have contributed to 6,700 premature deaths in 2013 alone [6].*

Although fraudulent and abusive provider activities certainly contribute to excessive and needless healthcare expenditures, an equally concerning impact involves the untold numbers of individuals who already experience health disparities. These individuals, who include racial or ethnic minorities, people with disabilities, and people who are elderly, routinely receive medically unnecessary treatment from unscrupulous healthcare providers.

Healthcare professionals ordering or providing medically unnecessary treatments take valuable and limited health resources away from those individuals who truly need the services and often have the most difficulty accessing those services. According to a study published in 2017, researchers conducted a survey of 2,106 U.S. physicians whose survey responses indicated that they believed almost 21% of overall medical care was unnecessary, including 22% of prescription medications, almost 25% of tests, and over 11% of procedures. Although fear of malpractice and patient demands were reported among the common reasons for overtreatment, almost 71% of doctors reported that physicians are more likely to perform unnecessary procedures when they profit from them [7]. Such medically unnecessary treatments furnished just to generate higher reimbursements and unearned profit is one of the most egregious forms of healthcare fraud, almost always resulting in harm to the patient and contributing to worse health outcomes.

## Healthcare Fraud and Abuse and Patient Harm

Patient harm has been investigated and prosecuted as part and parcel to healthcare fraud for over three decades. In fact, progressively longer prison sentences were contemplated in the Health Insurance Portability and Accountability Act of 1996 for healthcare fraud convictions involving patient harm [8]. In 2016, HHS-OIG issued an investigative advisory to the Centers for Medicare & Medicaid Services (CMS) identifying specific concerns of substandard care and patient abuse involving fraudulent personal care services in the Medicaid program [9].

Although providers have been prosecuted for a wide variety of healthcare fraud schemes, many of the fraudulent fact patterns include a lack of medical necessity, which often suggests a risk of higher likelihood for patient harm. It is important, however, to account for the wide variety of possible impacts from the consequences of a fraud scheme when considering what constitutes patient harm.

With this effort in mind, law professor and health policy expert Joan Krause suggested that there were three primary types of injury or harm to patients caused by healthcare fraud: physical harm, economic or financial harm, and intangible harm to patients' interests [10]. Each type of patient harm is worth briefly noting, particularly because each relates to the potential impact of healthcare fraud or abuse upon existing health disparities.

### Physical Harms

Perhaps physical harms are the most readily apparent direct consequence of healthcare fraud when the scheme involves medically unnecessary services. This is especially true for surgical procedures and risky treatments that

carry the potential for pain, suffering, or severe complications. Additionally, there could be physical harms from exposure to excessive or unnecessary diagnostic tests, especially if those tests lead to other unnecessary services. Conversely, if the patients rely on useless services in deciding to delay care, courts have recognized that patients may experience harm by delaying any medically necessary care [10]. Finally, physical harms could also occur when a provider or a managed care organization inappropriately denies medically necessary services [10].

### Economic or Financial Harms

In addition to the direct financial costs experienced by health insurance programs due to healthcare fraud, there are also direct financial costs to the beneficiaries and recipients of such programs. Perhaps these financial costs are most easily recognized in the form of needlessly increased patient coinsurance and copays, which are cost-sharing structures in many health insurance programs, but which may disproportionately impact Medicare and Medicaid beneficiaries with very limited financial resources. These copays and coinsurance costs are typical for many medical services and products, including prescription drugs and devices such as orthotics and prosthetics.

### Intangible Harm to Patients' Interests

Aside from physical and financial harms, which may be more easily identified, there are other harms that are less easily identified or quantified, but which may be more likely to involve an affront to patients' rights or result in an otherwise intangible harm. In many cases, these intangible harms involve an abuse of power or a betrayal of trust on the part of a fraudulent provider that results in emotional distress or causes fear or anxiety that may be related to a false diagnosis or unnecessary treatment [11].

Some examples of these intangible harms include the unauthorized or inappropriate use of patients' personal information, often for the purpose of submitting fraudulent claims for services never rendered [11]. Other intangible harms include consequences of schemes that later interfere with a person's ability to obtain necessary services [11]. Other similar harms include violations of a patient's privacy and risks of future disclosures of personal health information [11].

There are, however, intangible harms that are even more damaging to the trust that forms the basis of the patient-provider relationship—trust that is necessary for achieving optimum health outcomes. When the fraudulent schemes involve misrepresentation and deception rising to the level of interfering with a patient's ability to make sound decisions without coercion or giving informed consent, a patient's dignitary rights, and autonomy may be violated [10]. Examples of such violations include a provider performing unauthorized or unconsented medical procedures and managed care organizations committing marketing violations in order to coerce recipients into enrolling in a particular plan [10]. Each violation and encounter with a fraudster undermine and erodes the patient-provider trust, which is necessary for overcoming disparities and improving health outcomes. These examples speak to the intangible harm associated with dignitary rights and autonomy.

## Trust and Health Disparities

The importance of a trust-based patient-provider relationship has long been widely embraced in theory but not in universal practice. While recognizing the long-established body of academic and scientific literature indicating the importance of patients' trust in their healthcare professionals, researchers with the Urban Institute's Health

Policy Center suggested that a lack of trust in providers could worsen health disparities for racial and ethnic minorities as well as other vulnerable and medically underserved populations. In fact, based upon a review of the data from the 2016 Health Reform Monitoring Survey (HRMS), these researchers reported that people with lower incomes were less likely to trust their providers than people with higher incomes, and racial and ethnic minorities were less likely to trust their providers than white, non Hispanic individuals [12]. Unfortunately, these sentiments are often influenced by the structural racism and institutional discrimination experienced by generations of racial and ethnic minorities. However, they are pervasive and linked to substandard care being given to racial and ethnic minorities as a rule of thumb.

Perhaps one of the more disturbing examples of the roles structural racism and institutional discrimination play in undermining the trust in the patient-provider relationship among racial and ethnic minorities involves the practice of forced or coerced sterilization of many people of color. These forced sterilizations were tied to the concept of "eugenics," and "by performing a tubal ligation or unwanted hysterectomy on a woman—as well as performing sterilization procedures on men—clinicians believed they could stamp out 'feeble-mindedness,' 'criminality,' or supposed sexual promiscuity [12]." Currently, federal requirements for informed consent exist and are intended to afford some protection from coerced sterilizations, which are primarily performed on women from vulnerable or marginalized populations such as those with low incomes, individuals with disabilities, as well as women of color and those who are incarcerated [13].

Although atrocities, such as coerced or unconsented sterilizations, are likely to persist as powerful forces in the collective memories of many racial and ethnic minorities, the importance of individual experiences shared among the members of a community should not be ignored. To this point, the experiences of microaggression and implicit bias are often shared among patients in “word-of-mouth tales about poor healthcare interactions and negative interpersonal exchanges with clinicians that have truly cemented this poor patient-provider relationship [12].” When such experiences of intangible or physical harm occur at the hands of fraudulent healthcare providers, the resulting erosion of trust may serve as yet another way healthcare fraud and abuse contribute to or perpetuate existing health disparities. These actions can be exemplified in present provider and research perceptions of pain tolerance.

## Case Studies

There are many fraudulent and abusive provider behaviors that may result in patient harm. Examples of some of the most disturbing types of fraud cases involving each category of patient harm are represented in the following case studies:

### **Javaid Perwaiz, MD – OB/GYN (Virginia)**

In May of 2021, Dr. Javaid Perwaiz, an OB/GYN practicing in Virginia, was sentenced to 59 years in prison after his conviction on 52 counts of healthcare fraud and false statement charges related to a scheme that, persisting over a decade, involved billing Medicaid and other insurance programs approximately \$20.8 million for unconsented and irreversible hysterectomies, improper or coerced sterilizations, and other medically unnecessary surgeries and procedures. Many of Perwaiz’s patients were women on Medicaid who were undereducated and had lower income [14].

In addition, Pervaiz falsified patient records to justify inducing labor on patients prior to 39 weeks of gestation, contrary to the standard of care and increasing the risk of future complications and long-term health outcomes for the children—just to be certain he would be reimbursed for the deliveries [15]. Pervaiz aggressively pressured women to undergo irreversible hysterectomies, and other medically unnecessary invasive surgeries, often by misleading them into believing that they had cancer—or would soon develop cancer—if they did not have the procedures [16].

Pervaiz also pressured many Medicaid patients to consent to permanent sterilization procedures. He did so by creating a false sense of urgency and often falsely assuring them that the procedures could be easily reversed [15]. Pervaiz then circumvented the informed consent safeguards for sterilization procedures by backdating the consent forms and not complying with the required waiting period [16]. According to the affidavit in support of his arrest, a Medicaid recipient on whom Pervaiz had performed several procedures consulted with a fertility specialist and discovered that Pervaiz had removed her fallopian tubes without her consent or knowledge, making natural conception impossible [15].

### **Mashiyat Rashid and Tri-County Wellness Group – Pain Clinics (Michigan and Ohio)**

In October 2018, Mashiyat Rashid, the Chief Executive Officer (CEO) of Tri-County Wellness Group (TCWG)—a collection of pain clinics in Ohio and Michigan—entered a guilty plea to conspiracy to commit healthcare fraud and wire fraud [17]. Rashid was sentenced to 15 years in prison and ordered to pay \$51 million in Medicare restitution.

The scheme orchestrated by Rashid involved offering requested Oxycodone prescriptions to patients only if they consented to unnecessary and painful back injections in exchange for the prescriptions.



According to trial testimonies, many patients experienced more pain from the injections than they were already experiencing, and “audible screams from patients” could be heard in the clinics [17]. Other patients reported developing adverse complications from the unnecessary facet joint injections. The evidence presented during the trial indicated that Rashid and TCWG “intentionally targeted the Medicare program and recruited patients from homeless shelters and soup kitchens [17].”

## **Farid Fata, M.D. – Oncologist (Michigan)**

In September, 2014, in a widely publicized case, Dr. Farid Fata, a Michigan oncologist, entered a guilty plea to charges that included 13 counts of healthcare fraud. Fata billed for unnecessary chemotherapy and cancer drugs for patients who did not have cancer, and he also solicited kickbacks from home health agencies and hospice providers in exchange for referrals of patients [18]. The prosecutor identified over 550 patients, many of whom did not have cancer, but who Fata administered thousands of doses of chemotherapy and other cancer drugs [18]. The long term deleterious effects of this case continue to this day on Fata’s various victims.

## **MB2 Dental Solutions (MB2) – Dental False Claims in Medicaid**

Dental care fraud, or fraud schemes perpetrated by dentists or corporate dental practices, are one category of services where it is not difficult to imagine the potential for physical harm or distressing, intangible harms from the violated trust related to unnecessary or unconsented dental procedures. In fact, even some dentists have warned that “Medicaid fraud is the most lucrative business model in U.S. dentistry today,” and that this business model is largely based upon abusing

vulnerable children (typically directed at children under six years old) and inflating the billings for medically unnecessary and excessive services [19].

Two of the services that are reported to be involved in many of the dental fraud schemes include the use of stainless-steel crowns instead of typical tooth restorations such as fillings, and unnecessary pulpotomies, sometimes referred to as “baby root canals [19].” Both of these procedures are reported to cause significant pain and distress if performed without proper anesthesia, which often leads to the overutilization of anesthetics due to the excessive number of procedures performed at each dental visit [19]. A related concern involves the excessive use of sedation without the parents’ informed consent of the risks involved [19]. In addition to the unspeakable pain and physical harm caused by such unnecessary and excessive dental services, many of the children exposed to such pain and distress also experience psychological trauma that may cause dental fear and phobias, which “contributes to a lifetime of dental disease [19].”

Perhaps much of the motivation for fraudulent and abusive dental schemes is tied to some unprincipled efforts at increasing profits. One contributing factor could be the growing domination of the Medicaid dental market by corporate dental chains, which are often controlled by hedge funds and private equity firms, whose business models may depend upon fraudulent or abusive practices to drive profits [19] [20].

In 2017, MB2 Dental Solutions (MB2), based in Texas, and 19 affiliated pediatric dental practices, as well as their owners and marketing chief, agreed to pay \$8.45 million to the United States and the State of Texas Medicaid program to settle allegations that they violated the False Claims Act [21]. The allegations, which were raised in a qui tam lawsuit, included MB2 knowingly submitting claims to the Texas Medicaid fee-for-service

program for single-surface fillings in children that were not provided, for allegedly paying kickbacks to Medicaid recipients and their families, marketers, and marketing entities, and for other inappropriate billing practices [21].

## **Ishrat Sohail, M.D. – Pediatrician (Florida)**

Dr. Ishrat Sohail, a pediatrician in Orlando, Florida, had her physician's license suspended in an Emergency Order issued by the State Surgeon General due to an "immediate serious danger to the public health" related to Sohail's improper administration of vaccines to children [22]. Sohail was found to be improperly administering vaccines from the federal Vaccines for Children Program to children with private insurance. The vaccines were intended for children with Medicaid or who were uninsured. Perhaps more disturbingly, Sohail was found to be giving only partial doses of the vaccines, but she was billing Medicaid and private insurances for full doses, and she was not administering the vaccines in an appropriately sterile environment [22].

## **Alere, Inc. – Medical Device Manufacturer (Massachusetts, California, Illinois)**

In July 2021, Alere, Inc. agreed to pay \$38.75 million to resolve allegations of violations of the False Claims Act related to billing Medicare for defective rapid point-of-care testing devices [23]. The settlement resolved allegations that Alere knowingly sold defective blood coagulation monitors and that the software algorithm used in the devices contained a material defect with systems limitations that would produce inaccurate and unreliable results [23].

According to information released by the U.S. Department of Justice, the Alere devices were linked to over a dozen deaths and hundreds of injuries, including intra-cerebral hemorrhages, abnormal bleeding requiring surgery or other repairs, and other cardiovascular events [23].

## **Bobby Lyons, Wendy Leiba, and Brian Craig – Behavioral Health Providers (Florida)**

Bobby Lyons was the head of an Orange County, Florida school mentoring program. Lyons engaged in a sophisticated scheme with several other co-conspirators to fraudulently obtain students' Medicaid and personal information and to falsely diagnose them with mental health disorders. The information was used to fabricate progress notes that were sold to others who used it to submit false claims to the Medicaid program for mental health services [24].

Currently, there are widespread reports of behavioral health and mental health fraud cases where unqualified providers are involved in fraudulent testing, diagnoses, and treatment of children. Many of these children are the vulnerable inner-city children who are caught up in fraudulent schemes often designed or perpetrated by organized criminal elements. The most egregious behavior often involves unqualified service providers, false diagnostic test results, and false or fabricated mental health diagnoses that may follow these victims for life.

## Contributing Components of Fraud Schemes

Below are activities that may also be components of fraud and abusive schemes. When perpetrated on vulnerable and underserved populations, these activities contribute to existing health disparities:

- Accepting or paying kickbacks for patient referrals
- Falsifying diagnostic tests to justify unnecessary medical procedures or interventions
- Billing for medically unnecessary services or products
- Over-prescribing medications, including dangerous opioids and psychotherapeutic medications, without medical necessity
- Prescribing opioids and other controlled substances to drug-seeking individuals with addictions for personal use (a.k.a. “doctor shoppers”)
- Prescribing controlled substances or other “highly divertible” drugs to individuals who resell the drugs on the street or divert them to illegitimate buyers for unauthorized distribution
- Upcoding, or billing for more medically complex services or procedures than were performed
- Billing non-compensable or unauthorized services or products as covered services
- Unbundling, or billing each component of a procedure as a separately performed, individual procedure
- Misrepresenting the credentials, licensure, or qualifications of providers—especially physicians, dentists, and mental or behavioral health professionals
- Misrepresenting material facts on claims, including provider details, dates, and place of service
- Falsification or fabrication of medical records, invoices, and other documentation

## Detection, Response, and Mitigation

As mentioned above, the absence of medical necessity is a significant driver of healthcare fraud and often affects the most vulnerable and medically underserved populations. It has been historically difficult to prosecute cases involving medical necessity due to challenges in proving the elements of an “intent to defraud,” wherein fraudulently accused providers often defend their actions under the guise of “helping the patient with only good intentions,” although intent has little to do with impact. These cases are complex and often involve multiple witness interviews, hundreds of medical record reviews, and outside consultation with peer medical experts. In some circumstances, there will be a whistleblower who may reveal the scheme in a qui tam case, which can assist with resolving the question of intent by the fraudster.

Although detection of fraudulent and abusive providers may arise from sources like qui tam lawsuits or public complaints to fraud hotlines, other critical efforts for early detection involve the use of data analytics platforms and services. Identification of anomalies in claims data is imperative and key to early detection of inappropriate billing activities by providers. The use of algorithms in data analytics is common; however, efforts to avoid algorithmic bias must be considered.

There are a variety of data analytics options currently available and in use for healthcare fraud and abuse detection. The Centers for Medicare and Medicaid Services (CMS) has used a predictive analytics technology in the Fraud Prevention System since 2011 to identify potentially improper or erroneous claims prior to payment [25]. CMS has also encouraged State Medicaid Agencies to develop a Medicaid data analytics program for fraud and abuse detection and has assisted with

federal matching funds for implementation of approved systems [26]. Consequently, numerous state Medicaid Program Integrity Units have integrated various data analytics technologies into their detection efforts. For example, the State of Florida has reported using fraud and abuse detection reports based on legacy Surveillance and Utilization Review Subsystem capabilities [27] as well as sophisticated, composite risk-based data models developed by an interdisciplinary team using multiple resources and technologies [27].

Similarly, the State of California has implemented a contractor-supported solution with a cloud based interactive dashboard that includes geospatial mapping and link analysis capabilities [28]. In addition to the data analytics capabilities implemented by the State Medicaid Agencies and their program integrity units, approximately 21 state Medicaid Fraud Control Units (MFCUs) have requested and been granted approval to engage in data mining, which is described as “the process of identifying fraud through the screening and analysis of data [29].”

There are also public-private partnerships that foster collaboration in fraud and abuse detection. One example is the National Healthcare Anti-Fraud Association’s (NHCAA) Special Investigation Resource and Intelligence System (SIRIS), which is a database that allows members to share information related to potential provider fraud and related investigations [30]. A final example is the Healthcare Fraud Prevention Partnership (HFPP), which is a public-private partnership of 224 organizational members that help identify possible fraud and abuse across the healthcare sector through data and information sharing and cross-payer research studies [31].

Although detection efforts are critical for addressing all forms of healthcare fraud and abuse, once a suspected issue has been detected, it is equally imperative that stakeholders respond quickly and appropriately and begin implementing mitigation efforts to limit both the risk of patient harm and financial exposure. Fortunately, there are numerous mitigation options available for many of the fraudulent or abusive provider behaviors affecting quality of care. These activities may include suspension from program participation, as well as the imposition of payment restrictions like a credible allegation of fraud payment suspension following an investigation. When appropriate, termination, revocation, or exclusion from federal healthcare programs is also an option. Of course, criminal prosecution of the fraudster is also a possibility when appropriate. Other remedies or mitigation efforts include:

- Letter(s) of education to providers prompting a change in behavior, followed by potential audit or investigation as warranted
- Education campaigns for patients and providers
- Covered medical services limitations and policy creation or edits to prevent payments for non-covered services
- Local coverage determinations and/or national coverage determinations creation and/or edits
- Claims edits to stop non-payable claims from processing
- Establish pre-payment review processes for suspicious providers, wherein clinicians and certified professional coders review claims and medical records or clinical documentation submitted for each claim in question
- CMS rule development and promulgation
- Legislation for combatting various types of “price gouging,” surprise medical billing, and other questionable billing practices
- Fusion of evidenced-based behavioral and social science research with application of emerging technology



## Call to Action

The following are recommendations that should be considered in an effort to mitigate the impact of healthcare fraud and abuse on people who disproportionately experience health disparities:

1. Develop guidance for a robust program integrity impact assessment for all proposed policies and programs, similar to the health disparities impact assessment that is suggested in Strategy III.B.2 of the HHS Action Plan to Reduce Racial and Ethnic Health Disparities [32].
2. CMS should consider developing guidance for the consideration of the impact of Fraud, Waste and Abuse (FWA) on health disparities as a component of any program integrity assessment.
3. CMS should consider developing guidance to help state Medicaid agencies consider the reduction of health disparities during prioritization of program integrity activities. Such activities could include field initiatives or on-site provider visits, provider audit projects, and cumulative data analytics projects.
4. CMS should consider including a health disparities impact assessment as a component of the states' program integrity unit State Program Integrity Reviews or the State Program Integrity Assessment.
5. CMS and HHS-OIG should develop similar guidance for the state Medicaid Fraud Control Units (MFCUs) to consider health disparities impacts during prioritization of MFCU investigative and prosecutorial activities, and especially for approved data mining efforts.
6. Building on a recommendation from researchers at Johns Hopkins University that was published by Nicholas et al. [6], which suggested coordination between investigative agencies and CMS to develop strategies to identify beneficiaries who could benefit from either medical or social services interventions. Such interventions could serve to reduce health disparities for people in vulnerable populations who were victims of fraud schemes. Nichols et al. also suggested that providers who are found to be causing harm should be more expeditiously removed from practice. This could be achieved by excluding participation in federal healthcare programs by adding providers to the LEIE that is maintained by HHS-OIG.
7. Health disparities' impact considerations should be included as a component for any fraud and abuse activities coordinated by public-private partnerships, such as the HFPP. Particularly for data analytics projects, such considerations could assist in prioritizing projects and allocating resources.

Particularly, as more advanced data analytics platforms are utilized for healthcare fraud and abuse detection, there is an opportunity to capitalize on more robust systems capabilities to integrate health disparities considerations into the process. This is especially true as more artificial intelligence and machine learning technologies are used for both fraud and abuse detection and health disparities research.

## Conclusion

Healthcare fraud causes an annual loss to the U.S. economy of between three percent and ten percent of total healthcare expenditures, with estimated losses as high as \$420 billion in 2021 [2]. Beyond the economic losses, the ravages of healthcare fraud affect all Americans. Because there is such a strong interrelationship between healthcare fraud and health disparities, with vulnerable and medically underserved beneficiaries routinely targeted, healthcare fraud and abuse can be an easily overlooked health determinant that contributes to or perpetuates existing health disparities.

In order to further mitigate the impact of healthcare fraud on people disproportionately experiencing health disparities, the above recommendations should be considered by policy makers and other stakeholders. In addition to reducing the risk of patient harms experienced by vulnerable and medically underserved populations, the dollars saved from annual fraud losses could be repurposed or reallocated to greatly improve the utilization of scarce healthcare resources and improve the health outcomes for all.

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## Appendix A: Abbreviations and Acronyms

Term	Definition
CEO	Chief Executive Officer
CMS	Centers for Medicare & Medicaid Services
FWA	Fraud, Waste and Abuse
HFPP	Healthcare Fraud Prevention Partnership
HHS-OIG	U.S. Department of Health and Human Services Office of the Inspector General
HRMS	Health Reform Monitoring Survey
IOM	Institute of Medicine
LEIE	List of Excluded Individuals and Entities
MB2	MB2 Dental Solutions
MFCU	Medicaid Fraud Control Units
NHCAA	National Health Care Anti-Fraud Association
TCWG	Tri-County Wellness Group

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