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Abstract

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The Legal Ramifications of Microchipping People in the United States of America- a State Legislative Comparison

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Abstract

The ability to microchip people for unique positive identification, and for tracking and monitoring applications is becoming increasingly scrutinized by the legal profession, civil libertarians, politicians in positions of power, human rights advocates, and last but not least, citizens across jurisdictions. The United States is among the few nations internationally, that have moved to enact state-level legislation, regarding the microchipping of people in a variety of contexts. This paper provides an overview of nine state laws/bills in the United States of America that have either enacted anti-chipping legislation or have recently proposed bills regarding the enforced chipping of persons. The aim of the paper is to highlight excerpts of legislation, to identify relevant stakeholders the legislation is directed toward and to briefly describe how it may affect their chipping practices. As a final outcome, the paper seeks to broadly compare state legislation, identifying differences in penalties and fines, and to show the complexity of this kind of approach to protecting the rights of citizens against unscrupulous uses of advanced information technologies.

1. Introduction

The capability to implant people with microchips has its roots in the field of medicine as far back as the innovation of pacemakers in the late 1950s [1, 2]. Embedded chip-on-a-card technology, that could identify the cardholder, commonly known as smart cards or integrated circuit cards, was patented and prototyped for the first time in France by Roland Moreno in 1974 [3]. But it was not until 1998, that official reports of the first demonstrated microchip implantation in a human for identification and tracking purposes was achieved by Professor Kevin Warwick of the University of Reading in the Cyborg 1.0 experiment [4]. While United States patents date back to the 1970s, regarding apparatus allowing subcutaneous implants, such as guns for dispensing "pellets" comprising a case with a hollow needle attached to it [5], it was not until later that patents pertaining to medical devices stipulated a unique identification mechanism allowing for the collection of individual patient diagnostic data.

In 1987, beyond unique ID, a location tracking device was patented by a plastic surgeon Dr Daniel Man [6], residing in Florida in the United States. The abstract description of the patent reads: "[a] new apparatus for location and monitoring of humans has been developed. The device employs a unique programmable signal generator and detection system to locate and monitor the movement of individuals. It additionally utilizes a physiological monitoring system to signal a warning for the necessity for immediate help. The device is small enough to be implanted in young children as well as adults. The power supply and signal generator are designed to function at a low duty cycle for prolonged periods before recharging" [7].

2. Advancements in Implantable Technology and the Law

The challenges brought about by implantable technology, outside the biomedical arena, were for the greater part ignored until the mid-1990s. Few could debate against the obvious benefits brought about by the advancement of medical-related technologies to patients suffering from curable diseases or illnesses, and the lifestyle enhancements they promised and delivered, especially in the area of prosthesis. Even today, few could argue that implants for genuine therapeutic purposes pose any real danger to society at large if applied correctly; in fact they act to prolong life and aid sufferers to go about living as normal life as possible.

We can point to medical breakthroughs, such as those by Alfred Mann, that are likely to help hundreds of thousands of people in the future, to better cope with the treatments of diabetes, cancer, autoimmune and inflammatory diseases via automated drug delivery technologies [8]. Implantable technologies have already helped the deaf hear, and are likely to help the blind see, and to correct functional neural deficits using electrostimulation techniques and much more. The promise of nanotechnology, has brought with it the prospect of implantable treatments for Parkinson's Disease, epilepsy, Tourette's syndrome (which is now

beyond the experimental stage), and even obsessive compulsive disorder (OCD).

Responsible, well-tested, and regulated applications of nanotechnology within the biomedical domain can only have positive impacts on the individual who is a recipient of an implant [9]. But in today's commercial context, even biomedical technologies can serve dual purposes, opening up a number of critical moral questions [10] regarding who is actually in control [11] and at what cost [12]. For as Mark N. Gasson writes regarding information and communication technology (ICT) implantable devices, "[a] number of wider moral, ethical and legal issues stem from enhancement applications and it is difficult to foresee the social consequences, the fundamental changes on our very conception of self and the impact on our identity of adoption long term. As a result, it is necessary to acknowledge the possibilities and is timely to have debate to address the wider implications these possibilities may bring" [13].

It is the "legal issues" pertaining to ICT implants which have been addressed only by a few researchers and their respective groups. As there are now several commercial organizations marketing a variety of applications using ICT implants for IDentification and location tracking purposes, some states in the USA have acted as 'first movers' to quell citizen concerns over the potential for enforced chipping, and to safeguard the individual's human rights. Of course, this is all set against a backdrop at a national level concerned about national security, and consecutive governments that have introduced widespread radio-frequency identification (RFID) and tracking and monitoring capabilities in passports, driver's licenses, toll-ways etc.

3. Seminal Works

Of the scant research that has been written addressing legal dilemmas of ICT implants, two can be considered landmark and representative of the literature. Elaine M. Ramesh, from the Franklin Pierce Law School wrote in anticipation of human microchip implants and offered initial insights on the legal implications even before Warwick's Cyborg 1.0 experiment [14]. Almost a decade later, a second paper by William A. Herbert, member of the New York State Public Employment Relations Board, wrote a paper addressing the legal issues related to advanced technologies like Global Positioning Systems (GPS), biometrics, and RFID implants [15]. To date, this article serves to be the most complete on the topic at large.

Ramesh uses a qualitative approach and discusses the rights that may be infringed by humancentric microchip implants in the areas of common law, constitutional rights, the Fourth Amendment, the Fifth Amendment and property rights. The scenarios and results with cases relating to the above laws provided by Ramesh were limited to the point that commercial diffusion of RFID implants only occurred in 2003, with pre-registration beginning in 2002 [16]. Ramesh explains that the human body is not generally accepted as "property" which is her rationale behind the gap in the legal system. If property ownership of one's body could be confirmed, (that is we can claim ownership of one's body and do what we will with it) then property law would apply as protection giving an individual the right to refuse of implantation of the microchip without any consequences as the individuals body is his or her 'owned property' (Ramesh, 1997). However this same legislation would bring with it a mine-field of other problems to do with ownership and the rights associated with "selling" one's body or individual body parts.

After the events of September 11, 2001 and the enactment of the USA PATRIOT Act, Herbert [15] analyzed current State and Federal laws within the context of employer practices across the United States. Herbert describes the laws and relevant cases in his paper, along with potential solutions. Herbert justifies his research by addressing the concern over American Labor Laws granting employers greater powers over most employee privacy expectations. Herbert's findings indicate that, "[t]he scope and nature of current legal principles regarding individual privacy are not sufficient to respond to the rapid development and use of human tracking technology" [15]. It is this very disproportionate "power" relationship that could be further propagated and exploited by ICT implants, that Michael and Michael have termed "uberveillance" [17].

Since Herbert's seminal paper, a number of states have enacted what has come to be known in the popular sense as anti-chipping legislation. The rest of this paper is dedicated to providing excerpts of laws and bills for nine U.S. states related to ICT implants for humans [18]. Seven state laws/bills were collected during the main study period in 2007, with two additional laws/bills found in 2009. It must be underscored that this list of states should not be considered an exhaustive list of legislation.

For the states investigated during the main study period in 2007, a legislative excerpt is presented, stakeholders pertaining to the law are identified, and a brief description of how chipping practices in that state may be affected is provided. For the two additional acts/bills found in 2009, only an excerpt is presented with no further analysis. As a final outcome, the paper seeks to broadly compare seven state acts/bills, identifying differences in penalties and fines, and to show the complexity of this kind of approach to protecting the rights of citizens against unscrupulous uses of advanced information technologies. The main contribution of this paper is bringing the state laws together to make identifying similarities and differences easier, and to allow for future research opportunities between United

States federal and state legislative comparisons towards harmonization and conflict.

4. State of California

4.1 SB 362, Identification Devices: Subcutaneous Implanting

SECTION 1. Section 52.7 is added to the Civil Code, to read:

52.7. (a) Except as provided in subdivision (g), a person shall not require, coerce, or compel any other individual to undergo the subcutaneous implanting of an identification device.

(b) (1) Any person who violates subdivision (a) may be assessed an initial civil penalty of no more than ten thousand dollars ($10,000), and no more than one thousand dollars ($1,000) for each day the violation continues until the deficiency is corrected.

...

(g) This section shall not in any way modify existing statutory or case law regarding the rights of parents or guardians, the rights of children or minors, or the rights of dependent adults.

4.2 Definition

The language used to define the implant; "subcutaneous implanting of an identification device" (2007 California SB 362) provides longevity for the legislation as it can be used for any device that can be implanted and used for identification rather than specifically stating a microchip, RFID tag, or commercial product name [19].

4.3 Who it affects?

"Except as provided in subdivision (g), a person shall not require" (2007 California SB 362) prevents an individual to force the implantation of the device on another, however it does allow the Government of California and the Government of the United States to use the technology as they see fit.

4.4 Exceptions

Section G as stated in the above extract of bill 362 refers to the "existing statutory or case law regarding the rights of parents or guardians" (2007 California SB 362). Because of this clause, a parent and /or a legal guardian may sign the written consent form for any child under the age of 15 under California Family Law to receive an implant.

"A minor may only consent to the minor's medical care or dental care if all of the following conditions are satisfied: (1) The minor is 15 years of age or older. (2) The minor is living separate and apart from the minor's parents or guardian, whether with or without the consent of a parent or guardian and regardless of the duration of the separate residence. (3) The minor is managing the minor's own financial affairs, regardless of the source of the minor's income." (California Family Code §6922(a)) If these clauses are not satisfied then the parent or guardian has the right over the child and the right to implant the child.

A minor may sign his/her own consent for the use of a implantable microchip if used for the sole purpose of aiding in the treatment of a psychological disability under California Family Code §6924. *"A minor who is 12 years of age or older may consent to mental health treatment ... if both of the following requirements are satisfied: (1) The minor, in the opinion of the attending professional person, is mature enough to participate intelligently in the outpatient services or residential shelter services. (2) The minor (A) would present a danger of serious physical or mental harm to self or to others without the mental health treatment or counseling or residential shelter services, or (B) is the alleged victim of incest or child abuse"* (California Family Code §6924).

5. State of Colorado

5.1 HB 07-1082, A Bill For An Act Concerning A Prohibition On Requiring An Individual To Be Implanted With A Microchip

(1) A person may not require an individual to be implanted with a microchip.

(2) A violation of this section is a Class 3 Misdemeanor punishable as provided in section 18-1.3-501. Each day in which a person violates this section shall constitute a separate offence.

5.2 Definition

The term "microchip" is used to describe the device however no formal definition is provided therefore any device containing a microchip or device of similar or advanced capabilities is included within the definition of a 'microchip' and therefore must adhere to this Bill.

The crime of forcing the implantation of a microchip is defined as a "Class 3 Misdemeanor" (2007 Colorado HB 1082) which according to Colorado Revised Statutes results in a minimum sentence of $50.00 fine and a maximum of 6 months jail and a $750 fine per offence [20].

5.3 Who it affects?

"A person may not require an individual" (2007 Colorado HB 1082) prevents all individuals within the state of Colorado, however does not protect against United States federal legislation.

5.4 Exceptions

The bill does not outline any clause by where the legislation is void and therefore no loop holes exist. However this then allows the judicial branch to make decisions with each individual based on their specific circumstances, and they have the power to put previous legislation, statute or constitution above HB 1082 deeming it null and void for the case in question. The judicial branch is defined as the branch of the courts whereby the court determines the application of which law is applicable for each specific case and enforces it and determines the sentence/punishment based upon the law written by the legislative branch [21]. The same exception is applied to the majority of the states presented below.

6. State of Florida

6.1 SB 2220, An Act Relating To Implanted Microchips; Prohibiting The Implanting Of A Microchip Or Similar Monitoring Device

It is a felony of the third degree, punishable as provided in s. 775.082, s. 775.083, or s. 775.084, Florida Statutes, to knowingly implant, for tracking or identification purposes a microchip or similar monitoring device into a person without providing full disclosure to that person regarding the use of the device and obtaining the person's informed written consent.

6.2 Definition

The implantable microchip in Florida SB 2220 is defined as "a microchip or similar monitoring device" (2007 Florida SB 2220) which therefore validates the legislation (if enacted) for any technology used for the purpose of monitoring, tracking, tracing and identification.

The crime of forcing the implantation of a microchip is defined as a "felony of the third degree" (2007 Florida SB 2220) which according to Florida Criminal Code §775.082 (penalties) and §775.083 (fines) "For a felony of the third degree, by a term of imprisonment not exceeding 5 years" (Florida Criminal Code §775.082) and a fine of "$5,000, when the conviction is of a felony of the third degree" (Florida Criminal Code §775.083).

6.3 Who it affects?

"Into a person without providing full disclosure to that person regarding the use of the device and obtaining the person's informed written consent" (2007 Florida SB 2220) prevents all individuals within the state of Florida, however does not protect against United States federal legislation. The use of the device must also be outlined to the individual and recognition of the individuals understanding of the implants use must be received prior to the implantation and operation of the device.

7. State of North Dakota

7.1 SB 2415, An Act Relating To Implanted Microchips In Individuals; And To Provide A Penalty

SECTION 1. A new section to chapter 12.1-15 of the North Dakota Century Code is created and enacted as follows: Implanting microchips prohibited. A person may not require that an individual have inserted into that individual's body a microchip containing a radio frequency identification device. A violation of this section is a class A misdemeanor.

7.2 Definition

The implantable microchip in North Dakota SB 2415 is defined as a "microchip containing a radio frequency identification device" (2007 North Dakota SB 2415). This legislation is therefore limited by its definition and allows the use of devices by which their main technology to achieve its purpose is not radio frequency. Therefore utilization of innovations such as microwaves and barcodes may be argued as immune to the legislation.

The crime of forcing the implantation of a microchip is defined as a "class A misdemeanor" (2007 North Dakota SB 2415). Which according to North Dakota Century Code §12.1-32 "Class A misdemeanor: up to one year in prison, $2000 fine or both" (North Dakota Century Code §12.1-32).

7.3 Who it affects?

"A person may not require that an individual have inserted into that individual's body" (2007 North Dakota SB 2415). Therefore any individual does not have to agree to the implantation of a microchip regardless of status.

8. State of Ohio

8.1 SB 349 A Bill To Prohibit An Employer From Requiring An Employee Of The Employer To The Employee's Body A Radio Frequency Identification Tag

Sec. 4113.81. No employer shall require an employee of the employer to have inserted into the employee's body a radio frequency identification tag. Any employer who violates this section shall be subject to a fine of not more than one hundred fifty dollars per violation.

As used in this section:

(A) "Radio frequency identification tags" mean a silicon chip containing an antenna that stores data and transmits that data to a wireless receiver.

(B) "Employer" means the state, any political subdivision of the state, or any person employing one or more individuals in the state.

8.2 Definition

The implantable microchip is defined as a "radio frequency identification tag" (2006 Ohio SB 349) in the main text which may seem open to the use of other technologies, however definition (A) states; "Radio frequency identification tags mean a silicon chip containing an antenna that stores data and transmits that data to a wireless receiver" (2006 Ohio SB 349). Therefore the legislation is in relation to any technology that achieves its purpose by the above method.

The preamble of this bill is a proposal for amendment of Ohio Code 4113. Ohio Code 4113 is the Miscellaneous Labor Provisions Code which provides legislation from dismissal laws, to wages to whistle blowing (Ohio Code §4113). This is a clear indication that there was no intention to have the bill / legislation protect every individual of the state, rather to protect an employee from an employer.

8.3 Who it affects?

Ohio's proposed legislation is very unique in the subject affected by it. "No employer shall require an employee" (2006 Ohio SB 349). Unlike the other states, Ohio only proposes the legislation against employer's therefore protecting an employee over an unfair dismissal due to refusing implantation.

8.4 Exceptions

The 2006 Ohio SB 349 leaves itself open for attack. By only referencing an employee to employer relationship the legislation does not prevent state government, hospitals, doctors, parents or any other individual to be microchipped unless the individuals lawyer can prove a violation of §2903.13 of the Ohio Code (assault) whereby "No person shall knowingly cause or attempt to cause physical harm to another or to another's unborn" (Ohio Code §2903.13) whereby the coercion and physical act of microchipping could be classed as assault.

The punishment outlined in 2006 Ohio SB 349 does not reference any Ohio Code section or specify it in a misdemeanour or felony class, instead an exact figure of $150.00 per violation (2006 Ohio SB 349). In a given scenario it would then allow a company like CityWatcher.com to enforce the implantation of a chip and pay $150 in addition to the original price of purchasing and using a commercial implant product. If an organisation wants to utilise the technology for convenience and security $150 per employee (or per violation) may be considered an investment rather than a crime.

9. State of Oklahoma

9.1 HB 2092, SB 47 An Act Prohibiting The Forced Implantation Of A Microchip

A. No person shall require an individual to undergo the implanting of a microchip.

B. Any person convicted of violating the provisions of this section shall be subject to a fine of not more than Ten Thousand Dollars ($10,000.00). Each day of continued violation shall constitute a separate offense.

9.2 Definition

The term "microchip" is used to describe the implantable microchip, however no formal definition is provided therefore any device containing a microchip or device of similar or advanced capabilities is included within the definition of a 'microchip' and must adhere to this bill.

9.3. Who it affects?

"No person shall require an individual" (2007 Oklahoma HB 2092) prevents all individuals within the state of Oklahoma however does not protect against United States federal legislation.

10. State of Wisconsin

10.1 2005 Wisconsin Act 482 Prohibiting The Required Implanting Of Microchip In An Individual And Providing A Penalty

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows: SECTION 1. 146.25 of the statutes is created to read: 146.25 Required implanting of microchip prohibited.

(1) No person may require an individual to undergo the implanting of a microchip.

(2) Any person who violates sub. (1) may be required to forfeit not more than $10,000. Each day of continued violation constitutes a separate offense.

10.2 Definition

The term microchip is used however no definition is provided therefore any device containing a microchip or device of similar or advanced capabilities is included within the definition of a 'microchip.'

10.3 Who it affects?

"No person may require an individual to undergo the implanting of a microchip" (2005 Wisconsin Act 482) prevents all individuals within the state of Wisconsin however does not protect against United States federal legislation.

11. State of Georgia

11.1 HB 38, Microchip Consent Act

SECTION 2… 1) 'Implantation' includes any means intended to introduce a microchip internally, beneath the skin, or applied to the skin of a person.(2) 'Microchip' means any microdevice, sensor, transmitter, mechanism, electronically readable marking, or nanotechnology that is passively or actively capable of transmitting or receiving information. This definition shall not include pacemakers.(3) 'Person' means any individual, irrespective of age, legal status, or legal capacity.(4) 'Require' includes physical violence, threat, intimidation, retaliation, the conditioning of any private or public benefit or care on consent to implantation, including employment, promotion, or other benefit, or by any means that causes a person to acquiesce to implantation when he or she otherwise would not.(b) No person shall be required to be implanted with a microchip.(c) This Code section shall be subject to a two-year statute of limitations beginning from the date of discovery that a microchip has been implanted.(d) Any person required to have a microchip implanted in violation of this Code section shall be entitled to pursue criminal charges in addition to filing a civil action for damages. Each day that a microchip remains implanted shall be subject to damages of not less than $10,000.00 per day and each day shall be considered a separate violation of this Code section.(e) The voluntary implantation of any microchip or similar device may only be performed by a physician and shall be regulated under the authority of the Composite State Board of Medical Examiners."

12. State of Missouri

12.1 285.035. 1.

No employer shall require an employee to have personal identification microchip technology implanted into an employee for any reason.

For purposes of this section, "personal identification microchip technology" means a subcutaneous or surgically implanted microchip technology device or product that contains or is designed to contain a unique identification number and personal information that can be non-invasively retrieved or transmitted with an external scanning device. Any employer who violates this section is guilty of a class A misdemeanor.

13. Cross-case comparison

From the seven (7) states studied in 2007, it is clear that there are subtle yet possibly detrimental differences between the legislation enacted (e.g. in the case of North Dakota and Wisconsin) and the legislation pending enactment.

13.1 Stakeholder & Other Definitions

Citizen: Refers to any other citizen within the state of the (enacted / pending) legislation other than the subject (oneself).

Employer: Refers to the manager, management, owner, franchiser or CEO of an organization by where the subject is currently employed on any basis (full time, casual, part time, or probation).

Government: Refers to the state government and anyone employed by the state government including law enforcement personnel.

Hospitals (Doctors): Refers to any healthcare practitioner including, general practitioners and psychologists, psychiatrists, social workers and nurses of the subject who may be deemed suffering a mental illness.

Parents: Refers to the parents and guardians of a minor as defined by the state and the carer / guardian / solicitor of a subject deemed mentally ill or elderly.

Yourself: Refers to the subject, an individual wishing to approve the implantation of a microchip into their body.

Fine: Refers to a monetary fine payable for the offence of coercing an individual to be chipped. If a period of time (day(s), month(s), year(s)) is including in this field then jail time for that period indicated is part of the maximum sentence for the crime.

Consecutive Day: Refers to the punishment (jail time / momentary fine) applicable for each day in which the crime occurs.

Table 1. U.S. State Anti-Chipping Laws/Bills Comparison Chart as of October 2007

	California	Colorado	Florida	North Dakota	Ohio	Oklahoma	Wisconsin
Citizen	N	N	N	N	N	N	N
Employer	N	N	N	N	N	N	N
Government	N	N	N	N	Y	N	N
Hospital (Doctors)	N	N	N	N	Y	N	N
Parents	Y	N	N	N	Y	N	N
Yourself	Y	Y	Y	Y	Y	Y	Y
Fine	$10,000	6 month/ $750.	5 years/ $5000	1 year / $2000	$150	$10,000	$10,000
Consecutive Day	$1,000	Separate Offence	Not specified	Separate Offence	$0	$10,000	$10,000

13.2 Fines and Punishment

The following section provides a breakdown of the key elements within the Acts and Bills for each state and shows what is permitted by law and what is disallowed with regards to ICT implants states of the U.S.A. Section 13.2 should be read together with Table 1.

The yellow colored sections of the table represent a fine or punishment which can be seen as too light in comparison to the other states. In California for each day the offence occurs after the initial offence a $1000.00 fine exists whereas in a state like Oklahoma and Wisconsin each day the offence continues an additional principal fine ($10,000) is charged. According to the United States Census Bureau, a citizen of California on average earns 6.666% more than an average American and 17.7% more than the average citizen of North Dakota [22] and yet the proposed fine in California is only 10% of the fine quoted in North Dakota's enacted legislation (2007 North Dakota SB 2415).

Ohio put in place a *maximum* penalty of $150 which to an employer or government wishing to utilize the technology for security is not too substantial, i.e., $150 is not too much of an added expense to the $200 outlay per microchip [23]. This fine is not comparable to any of the other states and may oppose a risk rather than a benefit if it becomes enacted and employers act on the proposed $350.00 'investment.'

The peach colored section of Table 1 outlines the three states (Colorado, Florida and North Dakota) proposing jail time part of the maximum sentence if an individual is in breach of the legislation. These jail times come about by the classification of the offence as a felony or a misdemeanor and of a particular class. These classifications are then cross referenced to the State Code in order to determine the maximum sentence. Even though these states vary with punishment and do not have a monetary fine comparable with Oklahoma and Wisconsin, the fact they reference a classification under a criminal code protects the legislation for many generations. The fine attached to a classification may be changed if the legislative or judicial assembly makes a proposal and these changes often occur in a change in inflation or the Consumer Price Index (CPI), making the fine comparable in years to come. States that propose a fixed fine do not allow for inflation or CPI and may become a more relaxed punishment during the development of society over subsequent decades.

The green colored sections of Table 1 outline who is allowed to enforce the implantation of a microchip upon an individual without direct punishment in reference to the enacted or proposed bill of that state. In the case of Ohio only an employer who is a citizen of Ohio is prevented from chipping an employee of an Ohio state registered firm (2006 Ohio SB 349). California is the only state out of the seven that included clauses by which an exemption from punishment could be applied. Section (g) of 2007 California SB 362 allows the parents and guardians of minors to enforce the implantation of a device under certain circumstances outlined in §6922 and §6924 of the California Family Code. This clause does not mean that this does not apply to the other six states. The judiciary has the power to veto the legislation if they feel other legislation such as a Family Act is more relevant to the case or superior to the microchipping legislation and the defendant's lawyer has the ability to utilize these acts or codes to refute the microchipping legislation.

14. Conclusion

As the development and deployment of the implantable microchip continues to gather momentum across markets and jurisdictions, the greater the

propensity for case law to emerge related to the specific ICT implantable technology. The problem with state laws, as demonstrated in the U.S.A is that legislation is not uniform, at least at the state level, and even more anomalous is a comparison between state and federal legislation, which will be the focus of a forthcoming study.

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