

Cannabis Tracking Systems (CTS) – Do They Help or Harm State Marijuana Programs?

The Selling of Cannabis Tracking Systems (CTS): The Oregon Story

A Summary of Open Access Documents
Downloaded for Ms. Katharine Ryan, MPH
Office of Representative Julie Fahey

Compiled by
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Cannabis Tracking Systems (CTS)

Do They Help or Harm State Marijuana Programs? EXEC SUMMARY

Why did you do this study?

Initiated to evaluate CTS for public health purposes (PATIENT HEALTH OUTCOME DATA COLLECTION SYSTEM FEASIBILITY STUDY)

- *Evidence suggests that CTS are neither effective nor secure.*
- *Use of these systems are not advised for public health data collection or analysis.*
- *The high cost of these compliance systems in a cost driven market leads to a less safe product.*

CTS Security and Performance Concerns Make it Unsuitable for Collection of Patient Population Outcome Data – Why?

- Serious performance concerns, data quality concerns, privacy and cybersecurity concerns – multiple breaches reported.
- Concern that government programs rush to market for tracking systems skipped or significantly underperformed on most proven software acquisition practices. (Oregon 2016 Project Evaluation and Closeout Report is deficient.)
- Appearance of financial conflicts of interest in the acquisition of CTS.
- Appearance of herding behavior by states in deciding METRC was the best programmatic tool rather than response to validated requirements.
- Out of step with other sector emerging or adopted traceability standards (i.e., Ag and Pharma standards) – unable to respond timely to only traceability crisis in industry to date (regarding vaping devices and cartridges.)
- CTS vendors and consultants on increase; investors bet heavily on CTS. This results in high pressure sales.
- Civil rights of patients and health data at risk.
- Danger in developing analytics to characterize private behaviors of consumers and patients from data mining.
- Claims made by consultants, vendors and regulators of necessity, utility and usability of CTS without supporting evidence or valid benchmarks.
- Concern that state and taxpayers may be liable for conducting exploratory program enforcement with unproven technologies.
- Federal (GAO) and multiple state audits (including Oregon) confirm findings of significant problems in rush to acquisition.

CTS Mandate in the Public Interest

- Program health and safety requirements should drive software systems design.
- Regulatory program requirements should be independent of vendor influence (with requirements based on need not vendor products).
- Reporting requirements should be a prudent, thoughtful decision. More data is not necessarily better information. Each reporting element has a program cost that impacts overall commodity costs. When a commodity cost is driven downward or fixed in a competitive market, the more commodity costs that go to reporting, the less resources go to product quality. Reportable actions should be a triaged, risk based requirement, not an opportunity to increase vendor licensing and cyber risk exposure.
- Information collected / reporting requirements should be the minimum to meet health, safety and programmatic requirements, not exploratory reporting to gather industry analytics that is costly, of dubious quality, and will benefit tech industry partners and not the cannabis programs nor the states.
- State compliance staff should not serve as 'beta testers' for new vendor tracking software when they could otherwise engage in program safety in other, likely more effective enterprises.

Software and tech sector now most powerful US lobbying force (Guardian, 9/3/2017)



Direct lobbying and campaign contributions

Use of "think tanks" for product promotion

Revolving door from government to industry and support consulting

If tracking / traceability is good, what's bad about CTS?

Metrc ≠ addressing Cole Memo requirements

Metrc ≠ International standards of supply chain traceability

Metrc ≠ Better public health and safety

- Requirements and benchmarking lacking.
 - Is approach the optimal use of state resources?
 - Is it taking away from other resources in the regulatory program that could better achieve program objectives?
 - Are program benchmarks based on real indicators (product safety, diversion, etc.) or (irrelevant) activity measures such as numbers of data entries or users?
 - Cost-benefit analysis: Does it have a detrimental value on public health and safety if majority programmatic resources by state and regulated community dedicated to use of software system?
- Security is a critical concern – system is very vulnerable.
 - History of data compromises. “Protected” Oregon METRC User Information disclosed to greater user community as recently as 12/23/19.
 - Not HIPAA compliant implementation for patient data.
- Company support is spotty (diminishing).
 - METRC sold to Casa Verde Capital 4thQ2018 - Forecast uncertain especially w exponential corporate growth / turnover in months.
 - Multiple Oregon users have expressed inability to access support in a timely fashion, putting their operations at risk.
 - Have not identified one facility able to successfully implement RFID technology sold.
- Finite resources of state compliance taxed
 - Staff emphasis on learning and using kludgy software, unproven tracking technology, rather than other benchmarked forms of monitoring/ surveillance.
 - Emerging group of investor and tech savvy stakeholders will advocate for increased controls to enhance the software and consulting sector
- Unproven technology
 - Self reported data is notoriously unreliable.
 - Unproven technology likely to tie up court system, leaving Oregon taxpayers vulnerable to paying for legal consequences.
 - R&D in program evaluation likely to show significant costly deficiencies.
 - No evidence of problems identified by state audit ever fixed.
- CTS implementation is a clear violation of the civil rights principles of big data
 - Especially problematic for handling of patient and public health information.

What Is in the Public Interest?



- **Safety! Traceability for fast recall.** (this includes delivery devices... think vaping crisis!)
 - Unique ID for farm & harvest lot.
 - Adverse events reporting for consumers and health providers.
 - Lab testing for purity and product quality info.
- **Costs! Commodity costs optimized for cost to produce.**
 - Reporting costs not a significant burden on the market or product cost.
 - Reporting requirements commensurate with public health risk.
 - Thoughtful specification of data elements to be reported and analyzed.
- **Privacy!**
 - Health outcome and other patient data should be collected separately from licensing and compliance information.
 - Not co-mingled with enforcement-centric compliance reporting systems.
 - Health data should be aggregated to protect individual health information privacy.
- **Accountability!**
 - Fair use of public funds for program oversight.
 - Arms distance / financial disclosure between vendors, consultants and acquisition team.

Cannabis Tracking Systems – Are they even needed? Suggested Next Steps



- Remove OMMP medical growers from METRC immediately due to urgent security vulnerabilities
 - Focuses cost on commodity needed for patients, not software data entry / reporting
 - Brings disenfranchised medical growers back to program
 - Provides relief to patients and growers in program
- Suspend penalties for METRC reporting errors in OLCC licensees
 - Avoids legal jeopardy of using untested, unproven technology for enforcement
 - Benchmark performance against defined specifications
 - Use error reports to reinforce quality reporting practices
 - Run cyber audit and close access to all vulnerable components
- Establish procedures to:
 - Input stakeholder feedback prior to systems acquisition
 - Require specification approval prior to acquisition for data systems supporting programmatic reporting
 - Ensure accountability and transparency
 - Limit revolving door from program regulators to vendors – disclose finances
 - Limit software vendor access to legislators and regulators before contracting
- Audit, evaluate and validate any methods and techniques used in CTS reports, data analytics, and alerts that are used to identify potential compliance issues and marijuana market trends.
 - Revisit state IT audit recommendations for follow up
 - Revisit

Legislative Background

Oregon Requirements for Cannabis Tracking Systems: Changes to Regulatory Requirements

2015 475B.150 Duty to develop and maintain system for tracking transfer of marijuana items.

- (1) The Oregon Liquor Control Commission shall develop and maintain a system for tracking the transfer of marijuana items between licensed premises.
- (2) The purposes of the system developed and maintained under this section include, but are not limited to:
 - (a) Preventing the diversion of marijuana items to criminal enterprises, gangs, cartels and other states;
 - (b) Preventing persons from substituting or tampering with marijuana items;
 - (c) Ensuring an accurate accounting of the production, processing and sale of marijuana items;
 - (d) Ensuring that taxes are collected for the purpose of being distributed as described in section 44, chapter 1, Oregon Laws 2015;
 - (e) Ensuring that laboratory testing results are accurately reported; and
 - (f) Ensuring compliance with the provisions of ORS 475B.010 to 475B.395, rules adopted under the provisions of ORS 475B.010 to 475B.395 and any other law of this state that charges the commission with a duty, function or power related to marijuana.

2017 475B.177 Duty to develop and maintain system for tracking transfer of marijuana items

- (1) The Oregon Liquor Control Commission shall develop and maintain a system for **tracking the transfer of marijuana items between premises** for which licenses have been issued under ORS 475B.010 to 475B.545.
- (2) The purposes of the system developed and maintained under this section include, but are not limited to:
 - (a) **Preventing the diversion of marijuana items to criminal enterprises**, gangs, cartels and other states;
 - (b) **Preventing persons from substituting or tampering** with marijuana items;
 - (c) **Ensuring an accurate accounting of the production, processing and sale of marijuana items**;
 - (d) Ensuring that **laboratory testing results are accurately reported**; and
 - (e) Ensuring compliance with ORS 475B.010 to 475B.545, rules adopted under ORS 475B.010 to 475B.545 and any other law of this state that charges the commission with a duty, function or power related to marijuana.
- (3) The system developed and maintained under this section must be **capable of tracking**, at a minimum:
 - (a) The propagation of immature marijuana plants and the production of marijuana by a marijuana producer;
 - (b) The processing of marijuana by a marijuana processor;
 - (c) The **receiving, storing and delivering of marijuana items** by a marijuana wholesaler;
 - (d) The **sale of marijuana items by a marijuana retailer to a consumer**;
 - (e) The **sale and purchase of marijuana items between licensees**, as permitted by ORS 475B.010 to 475B.545;
 - (f) The **transfer of marijuana items between premises** for which licenses have been issued under ORS 475B.010 to 475B.545; and
 - (g) Any other information that the commission determines is reasonably necessary to accomplish the duties, functions and powers of the commission under ORS 475B.010 to 475B.545. [Formerly 475B.150]

Background: Do Seed to Sale Tech Satisfy Federal Marijuana “Cole Memo” Enforcement Concerns?

Scott Denholm, Franwell/METRC (now METRC/CASA VERDE) CEO. :

“The need for Metrc’s services is rooted in what is referred to as the Cole Memo. The federal document says that if a state has strong and effective regulation and enforcement methods, the U.S. Department of Justice will take a hands-off approach. An inventory system would bolster enforcement efforts, reducing the risk of federal interference.” 4/17/2015

Vendor claims that CTS are preferred method to monitor legalization not substantiated by federal audit.

DOJ Marijuana Enforcement Priorities

- Preventing the distribution of marijuana to minors ★
- Preventing revenue from the sale of marijuana from going to criminal enterprises, gangs, and cartels ★
- Preventing the diversion of marijuana from states where it is legal under state law in some form to other states ★
- Preventing state-authorized marijuana activity from being used as a cover or pretext for the trafficking of other illegal drugs or other illegal activity ★
- Preventing violence and the use of firearms in the cultivation and distribution of marijuana ★
- Preventing drugged driving and the exacerbation of other adverse public health consequences associated with marijuana use ★
- Preventing the growing of marijuana on public lands and the attendant public safety and environmental dangers posed by marijuana production on public lands ★
- Preventing marijuana possession or use on federal property ★

Source: Department of Justice; Department of the Interior (logo). | GAO-16-1

GAO Highlights
December 2015

STATE MARIJUANA LEGALIZATION
DOJ Should Document Its Approach to Monitoring the Effects of Legalization

Highlights of GAO-16-1, a report to congressional requesters

Why GAO Did This Study
An increasing number of states have adopted laws that legalize marijuana for medical or recreational purposes under state law, yet federal penalties remain. In 2012, Colorado and Washington became the first states to legalize marijuana for recreational purposes. In 2013, DOJ updated its marijuana enforcement policy by issuing guidance clarifying federal marijuana enforcement priorities and stating that DOJ may challenge those state marijuana legalization systems that threaten these priorities. GAO was asked to review issues related to Colorado’s and Washington’s actions to regulate recreational marijuana and DOJ’s mechanisms to monitor the effects of state legalization.

What GAO Found
Officials from the Department of Justice’s (DOJ) Office of the Deputy Attorney General (ODAG) reported monitoring the effects of state marijuana legalization relative to DOJ policy, generally in two ways. First, officials reported that U.S. Attorneys prosecute cases that threaten federal marijuana enforcement priorities (see fig. below) and consult with state officials about areas of federal concern, such as the potential impact on enforcement priorities of edible marijuana products. Second, officials reported they collaborate with DOJ components, including the Drug Enforcement Administration (DEA) and other federal agencies, including the Office of National Drug Control Policy, and assess various marijuana enforcement-related data these agencies provide. However, DOJ has not documented its monitoring process, as called for in Standards for Internal Control in the Federal Government. Documenting a plan specifying its monitoring process would provide DOJ with greater assurance that its monitoring activities relative to DOJ marijuana enforcement guidance are occurring as intended. Further, making this plan available to appropriate DOJ components can provide ODAG with an opportunity to gain institutional knowledge with respect to its monitoring plan, including the utility of the data ODAG is using. This can better position ODAG to identify state systems that are not effectively protecting federal enforcement priorities and, if necessary, take steps to challenge these systems in accordance with DOJ marijuana enforcement guidance.

This report examines, among other issues, (1) DOJ’s efforts to monitor the

Federal Government (GAO) Concerns About Myriad of “Systems” Sold to Address Cole Memo

- ★ Yes, meets requirement
- ★ Partially meets requirement
- ★ No, cannot meet requirement

Background: 2018 State Audit of Oregon CTS Information Technology Practices - Findings

1. Data reliability problems
2. Insufficient number of trained compliance inspectors
3. Inadequate processes for ensuring the security and reliability
4. Inability to monitor third party vendors who interface to CTS
5. OLCC has not implemented an effective IT security management program.
6. OLCC has not formally developed a disaster recovery plan
7. No functional assessment to assert “Properly Functioning”



“...several weaknesses associated with OLCC’s new IT systems used for marijuana licensing and tracking. They include data integrity and maturity issues, and insufficient processes for managing marijuana computer programs and vendors.

Until these issues are resolved, the agency may not be able to detect noncompliance or illegal activity occurring in the recreational marijuana program.”

Background: 2015 Civil Rights Principles for the Era of Big Data

- Stop High-Tech Profiling. ...
- Ensure **Fairness** in Automated Decisions. ...
- Preserve Constitutional Principles. ...
- Enhance Individual **Control** of Personal Information. ...
- Protect People from Inaccurate Data.



Chapter 1: Financial Inclusion

As Insurers Embrace Big Data, Fewer Risks Are Shared

Data Brokers Enable Targeting of Financially Vulnerable Communities

Furthering Financial Inclusion with "Alternative Data"



Chapter 2: Jobs

E-Verify: The Disparate Impact of Automated Matching Programs

Hiring Algorithms May Put Jobs Out of Reach

In Online Searches, Big Data Systems Reproduce Racial Bias



Chapter 3: Criminal Justice

Predictive Policing: From Neighborhoods to Individuals

Secrecy Is a Barrier to Responsible Use of Police Technologies

Body-Worn Cameras Can Promote Police Accountability



Chapter 4: Government Data Collection and Use

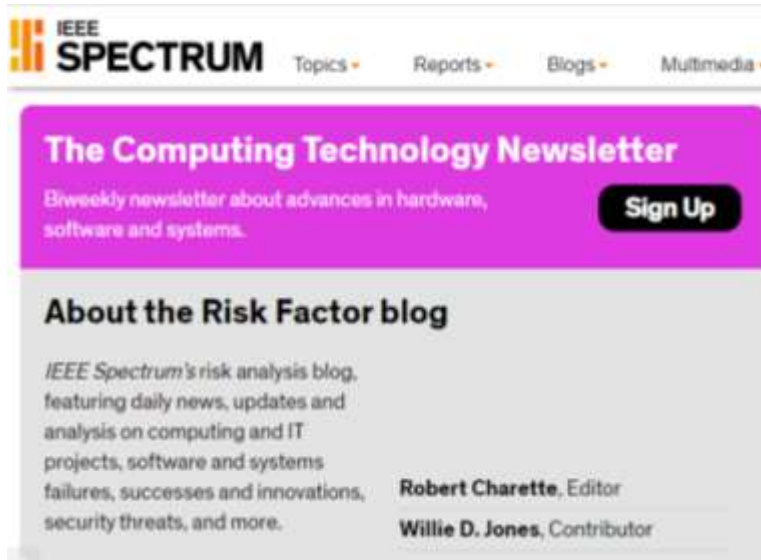
Dragnet Surveillance Short-Circuits Court Review in Drug Cases

The Temptation to Abuse Government Databases

The Census: Big Data for Civic Welfare

- [American Civil Liberties Union](#)
- [Asian Americans Advancing Justice — AAJC](#)
- [Center for Media Justice](#)
- [ColorOfChange](#)
- Common Cause
- [Free Press](#)
- [The Leadership Conference on Civil and Human Rights](#)
- NAACP
- [National Council of La Raza](#)
- National Hispanic Media Coalition
- [National Urban League](#)
- NOW Foundation
- [New America Foundation's Open Technology Institute](#)
- Public Knowledge

Background: Computer Engineering Risk Experts Warn of CTS Vulnerabilities



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16 Feb 2018 | 13:00 GMT

Cyber Intrusion Creates More Havoc for Washington State's New Marijuana Tracking System

Other states' seed-to-sale tracking systems have troubles of their own

By **Robert N. Charette**

“As more states legalize marijuana, expect more tracking system related-issues, especially those involving cybersecurity and compliance enforcement. Like healthcare IT systems, marijuana tracking systems look to be very tempting targets to cybercriminals to exploit.”

Background: Document of Concern for Accuracy/ Specificity

<https://olis.leg.state.or.us/liz/201511/Downloads/CommitteeMeetingDocument/92575>



“Franwell’s track record of successful implementation within tight timelines and its clear understanding of Oregon’s need as demonstrated by its proposal submissions and product demonstrations, made the company a good fit for Oregon.”

- Acquisition staff admit that vendor influenced the state’s specification as if that is a benefit!
- Contemporaneous audit from Colorado questions effectiveness of METRC while selection team cites “success” in Colorado as evidence of performance.
- Success factors (“build an infrastructure” are vague and appear contrived).
- Attribution of acquisition specification to multiple vendors suggestive of ongoing concerns within knowledgeable IT contractors for legal liability in selection and effectiveness of system.
- No program indicators to support assertions of system functionality.

Background:

About the Author – Elizabeth Porter, MSSM

I am a public health scientist with a background in systems management.

I served as the chief information officer for one of the busiest regulatory districts in the US, overseeing the modernization of the reporting and tracking systems for regulating water. My work history includes the development of complex land surveillance systems and reporting systems for a variety of applications.

I conducted hundreds of public interest reviews, participated in rule-making and legislative reviews.

I participated on both working and strategic national committees addressing issues in information collection, retention, benchmarking and information ethics.

I contributed to the development of state, federal and international data standards.

I managed systems acquisitions from small to major in scope, maintaining active contracting officer technical representative certification.

My training is in both science and engineering.

I have no financial interests in cannabis tracking systems or any alternative technologies.

I have no business interest in the cannabis industry.