



Ready, Set, *Report!*



PUBLIC SCHOOL & EDUCATION EMPLOYEE
RETIREMENT SYSTEMS OF MISSOURI



SIGNIFICANT
MEANINGFUL
ACHIEVABLE
RELIABLE
TIMELY
REPORTING



Cybersecurity

9,728,017,988

PSRS/PEERS

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EVERY DAY

4,722,339

Records



EVERY HOUR

196,764

Records



EVERY MINUTE

3,279

Records



EVERY SECOND

55

Records



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39 SECONDS



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Your Breach Level Severity

1-2.9

MINIMAL

3-4.9

MODERATE

5-6.9

CRITICAL

7-8.9

SEVERE



What's Your Score?

8.3

Quick Facts about PSRS/PEERS

- Approximately \$2.8 billion paid in retirement benefits each year to over 91,500 retirees.
- Over 260,000 total members.
- Each member has multiple records in our system.



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Create the safest environment
possible to protect members'
data.

- PSRS/PEERS Cybersecurity

What is Cybersecurity



NIST

The process of protecting information by preventing, detecting and responding to attacks

US Department of Homeland Security

The activity or process, ability or capability, or state whereby information and communications systems and the information contained therein are protected from and/or defended against damage, unauthorized use or modification, or exploitation



Know Your Adversary

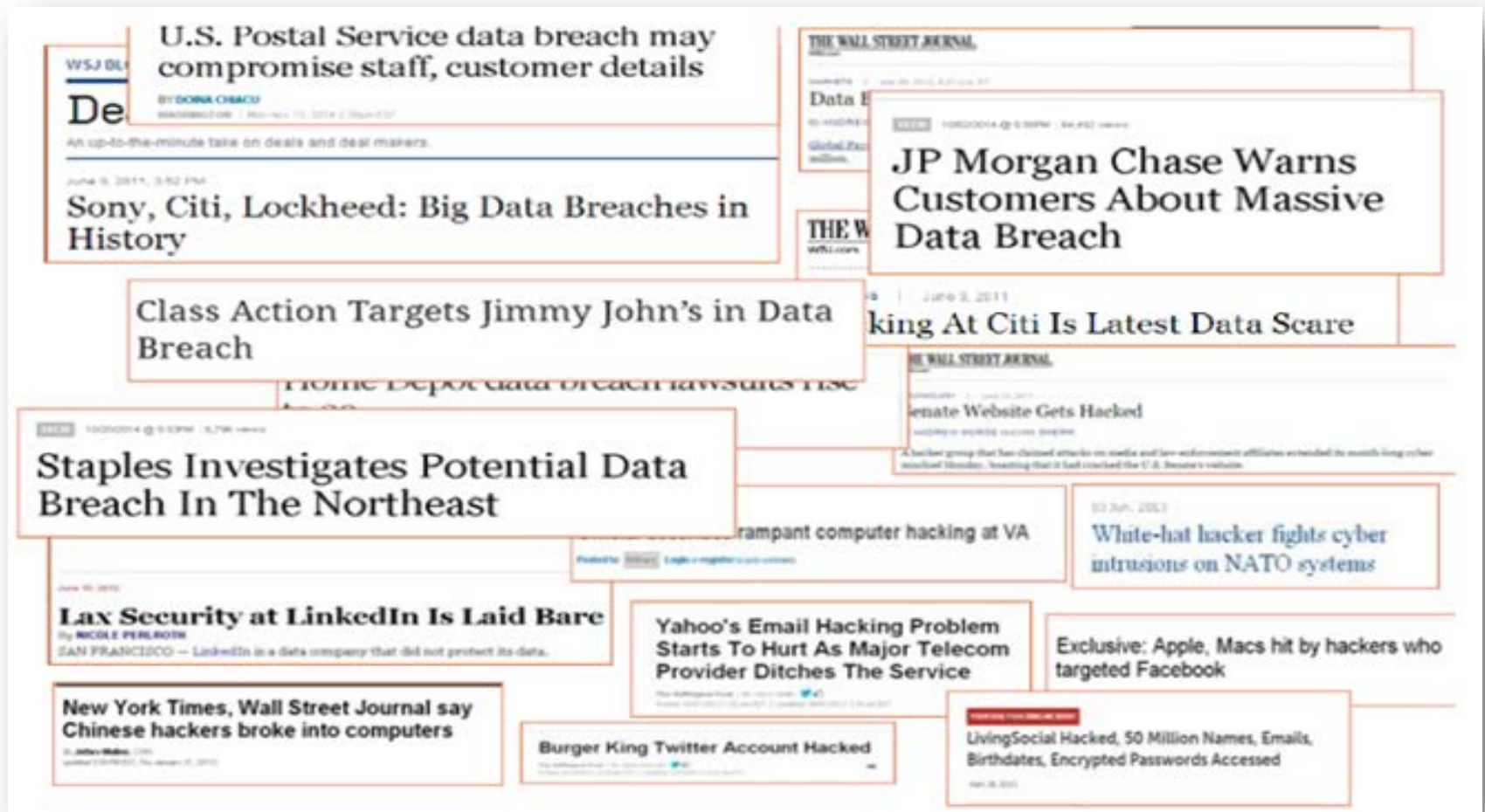
- Foreign Nations
 - Information
 - Intellectual Property
- Hacktivists
 - Sensationalism
 - Disruption
 - Social Impact
- Cyber Criminals
 - Value Data
 - Financially motivated



DATA SECURITY BREACH



Data Breaches In The News



Data Breaches in the News

JPMORGAN
CHASE & CO.

- **8/27/2014:** JP Morgan Chase: 83,000,000 customer records were exposed in an attack.

ebay

- **5/21/14:** 145,000,000 records from ebay were exposed.

Anthem 

- **1/27/2015:** Anthem Blue Cross Blue Shield: 78,800,000 million customer records were exposed in an attack.

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Data Breaches in the News



- 2017: Equifax – 147.7 million customers records exposed.



- 2017: IHG Hotel Group – 1200 of the hotel properties had a data breach that included the loss of credit card information.



- 2017: Uber announced that it paid \$100,000 to a hacker to coverup a breach.

Data Breaches in the News



- 2018: Iranian government hacking attack
 - 144 – U.S. Universities were hacked
 - 5 - U.S. Government agencies
 - 36 – American Companies

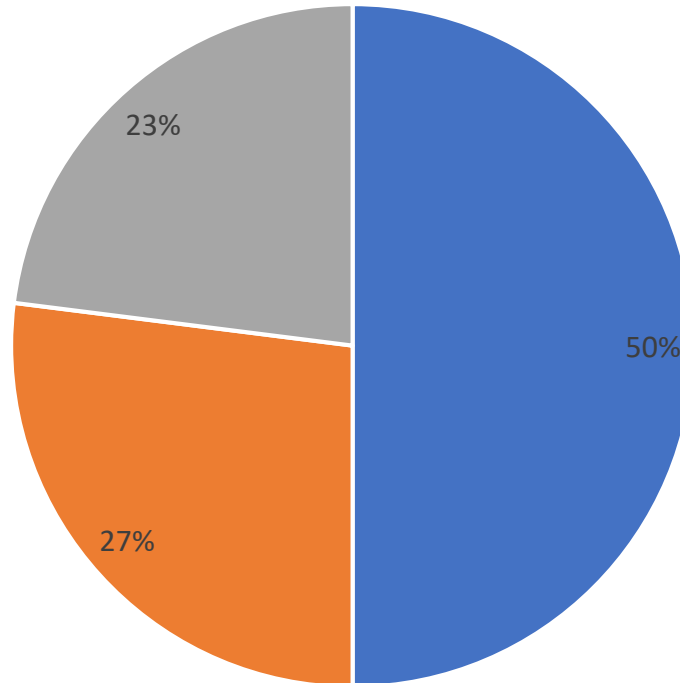


- 2018: SunTrust Banks a former employee stole and exposed 1.5 million clients records.



- 2018: Ticket Master and 800 other e-commerce sites lost payment card data of their customers.

Cause of Data Breach



■ Criminal Attack ■ System Glitch ■ Human Error

Types of Identity Thefts

- Employment- or tax-related fraud (34%)
- Credit card fraud (33%)
- Phone or utilities fraud (13%)
- Bank fraud (12%)
- Loan or lease fraud (7%)
- Government documents or benefits fraud (7%)

The Information Economy

- Social Security Number = \$1
- Drivers License Number = \$20
- Bank Account Information = \$15
- Non-Financial Logins = \$1
- Full Identity = \$30
 - *(Name, SSN, DOB, Bank Account)*
- Medical Records = \$1 - \$1000



- Experian – April 9, 2018

Stats on Identity Theft

Number of Identity Theft Victims and Amount Stolen		
Year	Individuals Impacted (in millions)	Amount Stolen (in billions)
2018	??	??
2017	16.7	16.8
2016	15.4	16.2
2015	13.1	15.5

DIGITAL RESPONSIBILITY

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The person who controls
the data controls the
destiny!

Protecting Personally Identifiable Information (PII)

When you possess an individual's personal information, it is your responsibility to protect that individual's privacy. Employees should be vigilant about protecting other individuals' PII so they will not create any undue harm to the individual or to the organization.

Treat others' personally identifiable information as if it is your own!

- Wisconsin Department of Public Instruction



MONTANA



AAA000

COLUMBIA FALLS
WILDCAT COUNTRY

TAB HERE

Iowa Public Employees Retirement System





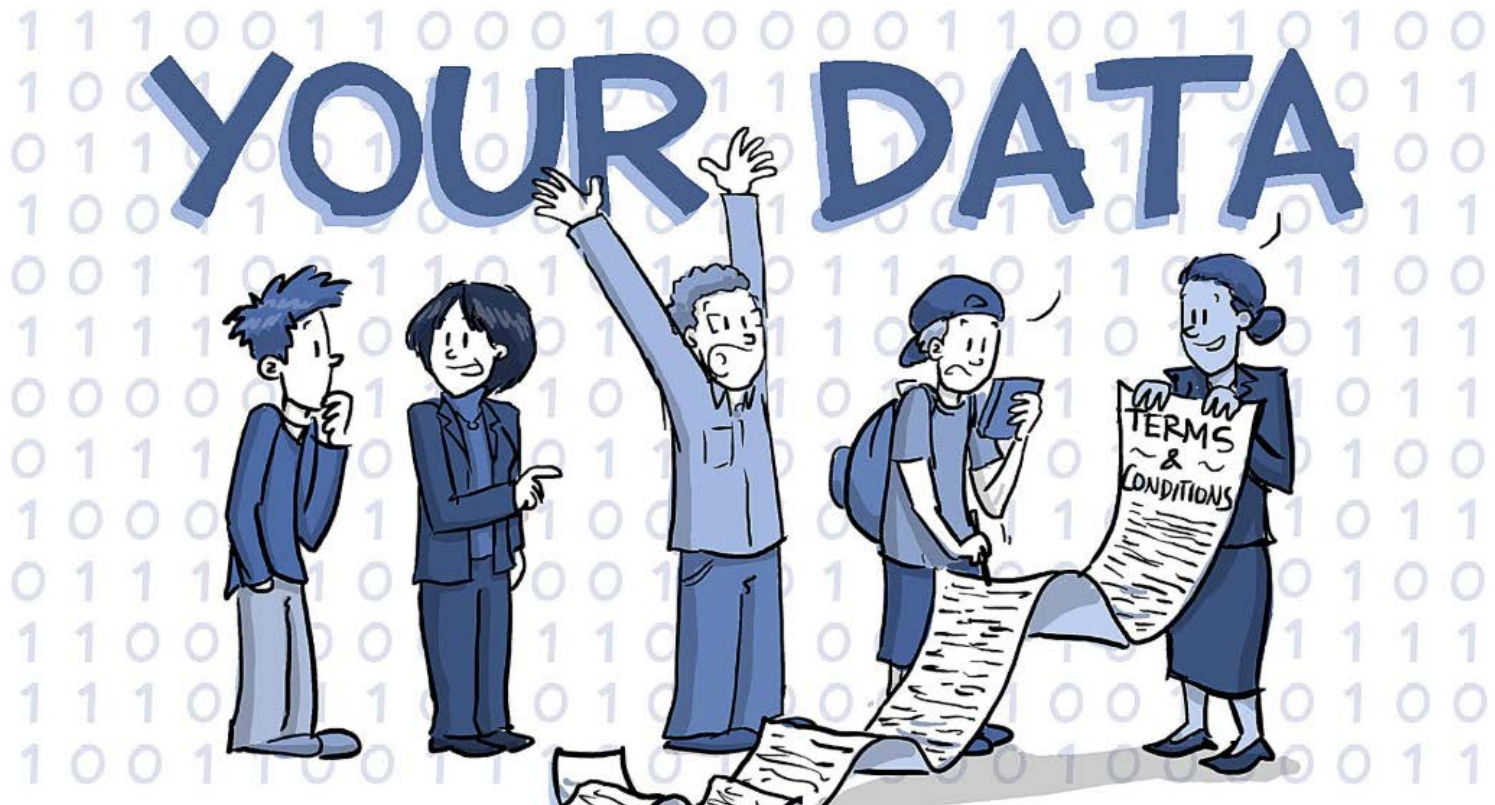
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How is PSRS/PEERS Protecting Member data?



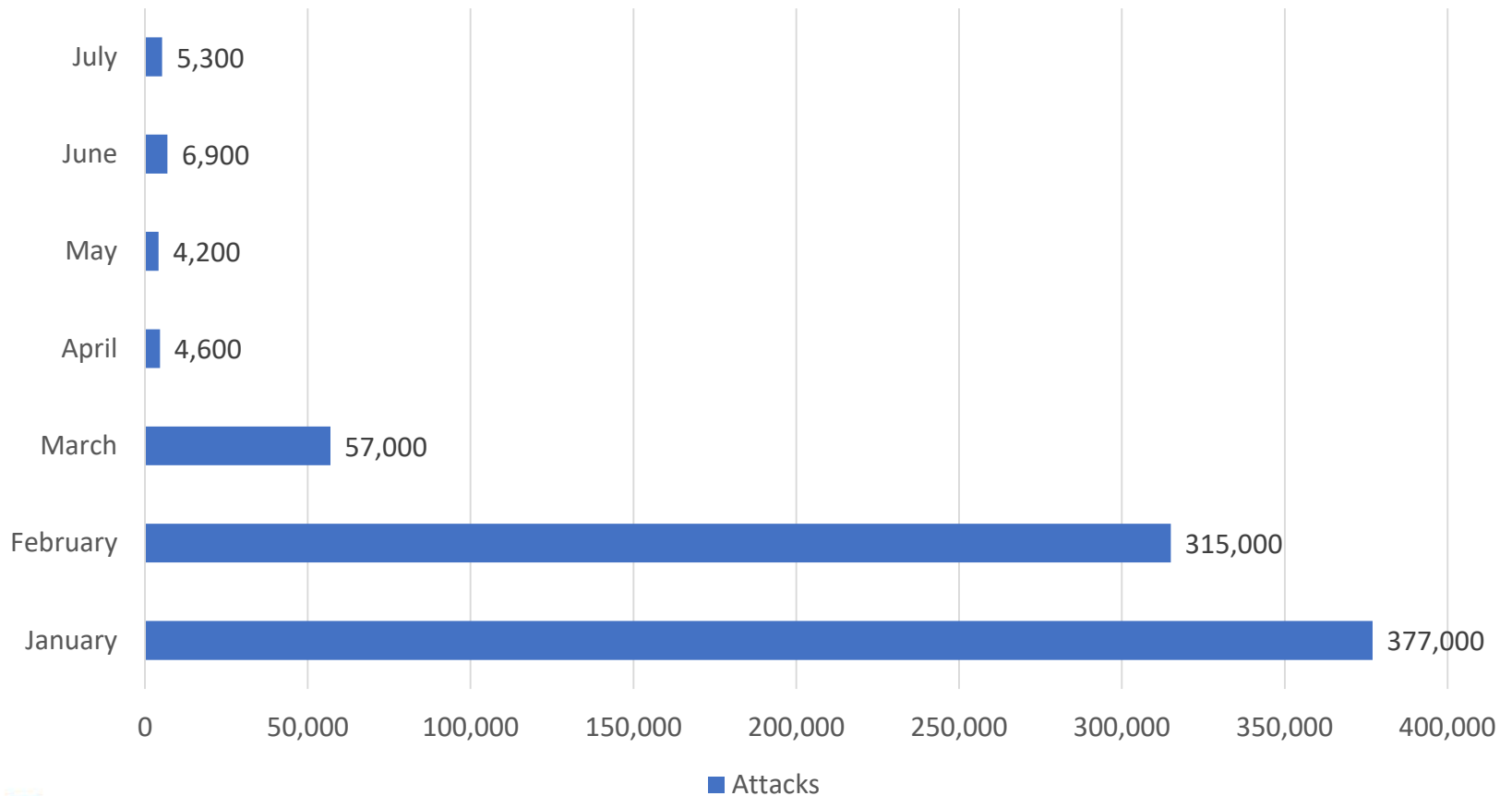
Cybersecurity Threats

- Cybercriminals, Exploits, and Malware
- Denial of Service attacks (DDoS)
- Domain name hijacking
- Corporate impersonation and Phishing
- Lost or stolen laptops or mobile devices
- Third party vendors
- Employees/School Districts/Members

PSRS/PEERS Critical Security Areas

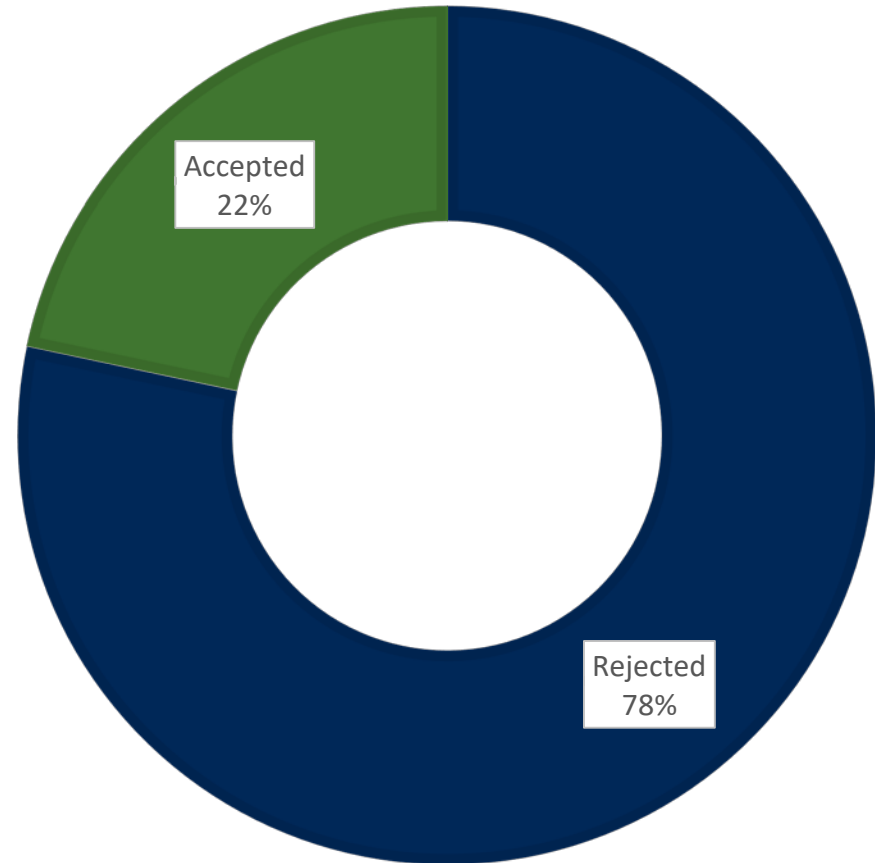
- Email Security (Anti-Virus/Malware/Spam)
- Network and Application Firewalls
- Wireless Access
- Web Filtering
- Workstations
- Mobile Device Management
- Network Monitoring
- Penetration Tests/Security Audits

2018 Firewall Attacks



PSRS/PEERS EMAIL - JULY 2018

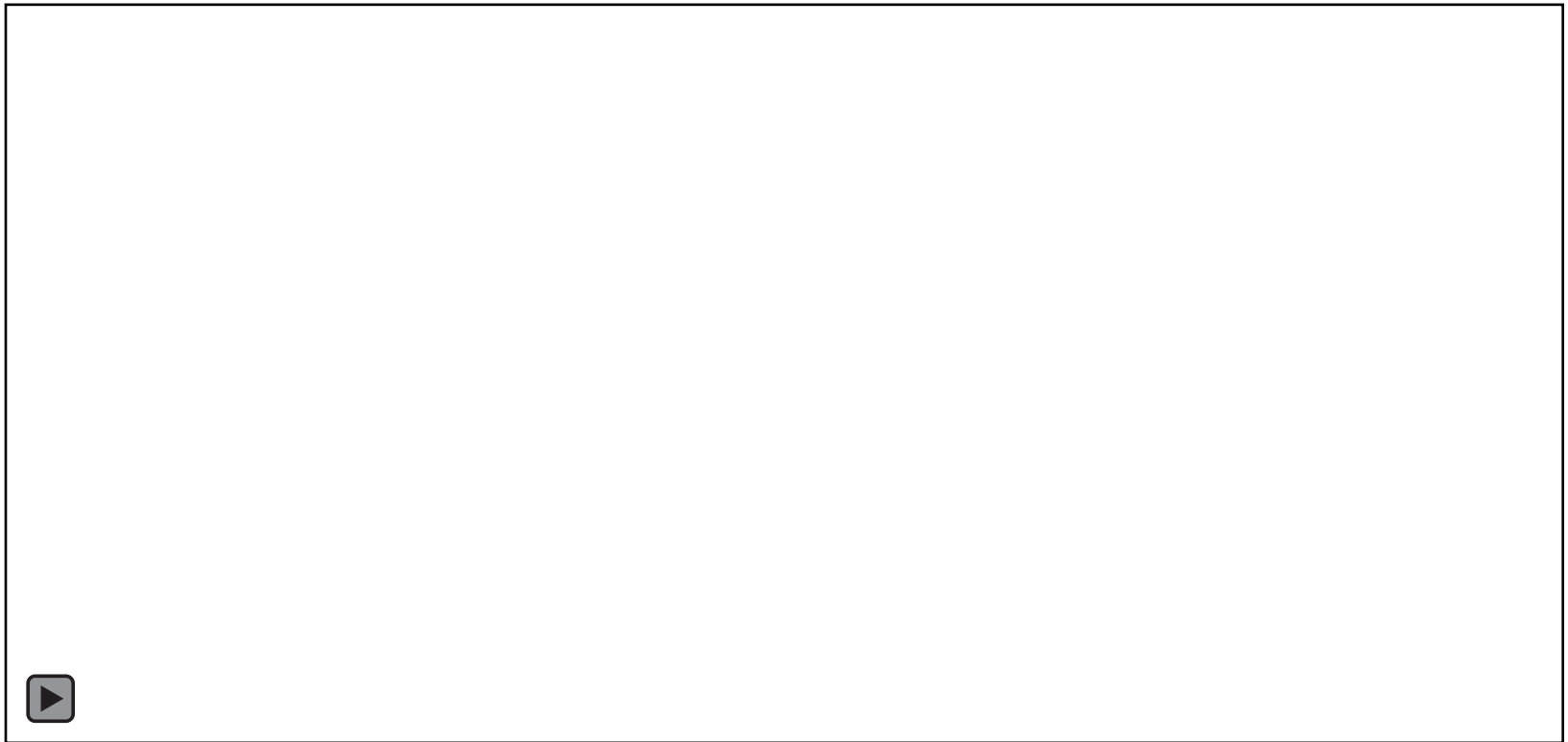
- Total: 380,524
- Accepted: 82,440
- Rejected: 298,084



**We need
your help!**

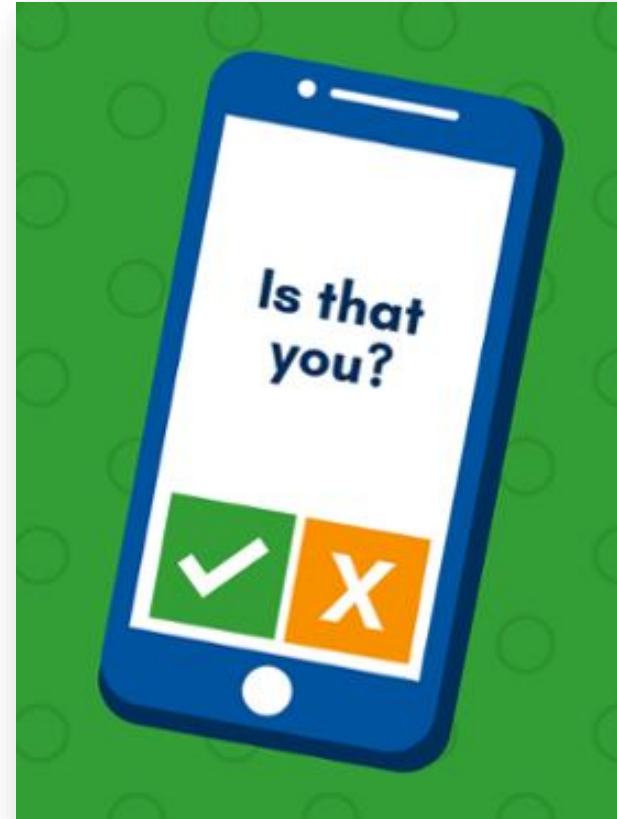
- Social Security Number is not enough.
- Date of Birth is not enough.
- Home Address is not enough.
- Passwords are not enough.
- Multi-factor Authentication is currently the best way that we have to protect our members information.

Privacy Video



Multi-Factor Authentication is Important to Your Security

- Definition: A method of granting access to something only after presenting two separate pieces of evidence that you are who you say you are.
- An example of this would be a password and a one time PIN delivered either via text message or email.



Partner with us!

- Make sure you are providing us with the best information possible.
- If you experience a breach in your district let us know as soon as possible.
- Maintain good security practices.

Questions?



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