Session 28, Disruption in Healthcare Claims Management

{ CARPE DATA

Next Generation
Data for Insurance

SOA Health Meeting
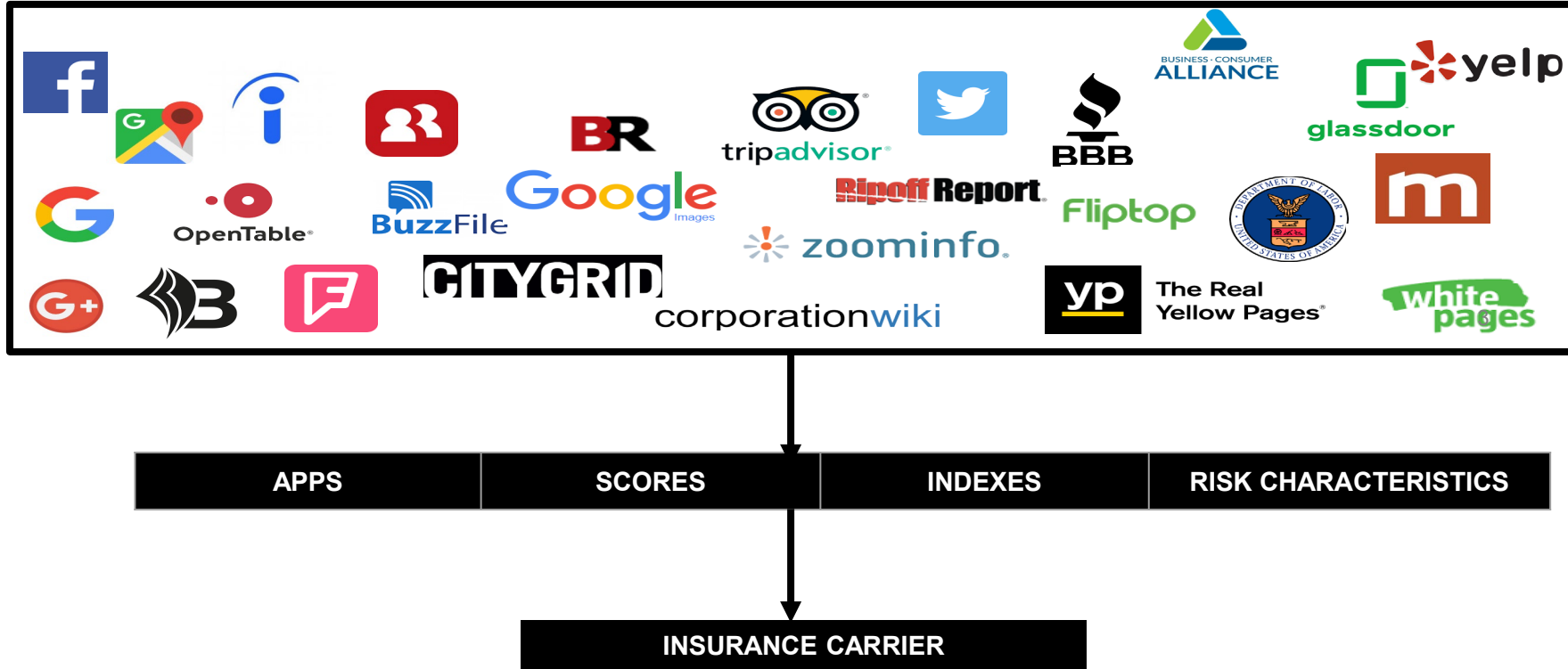**June 24, 2019**

Overview of Claims Solutions
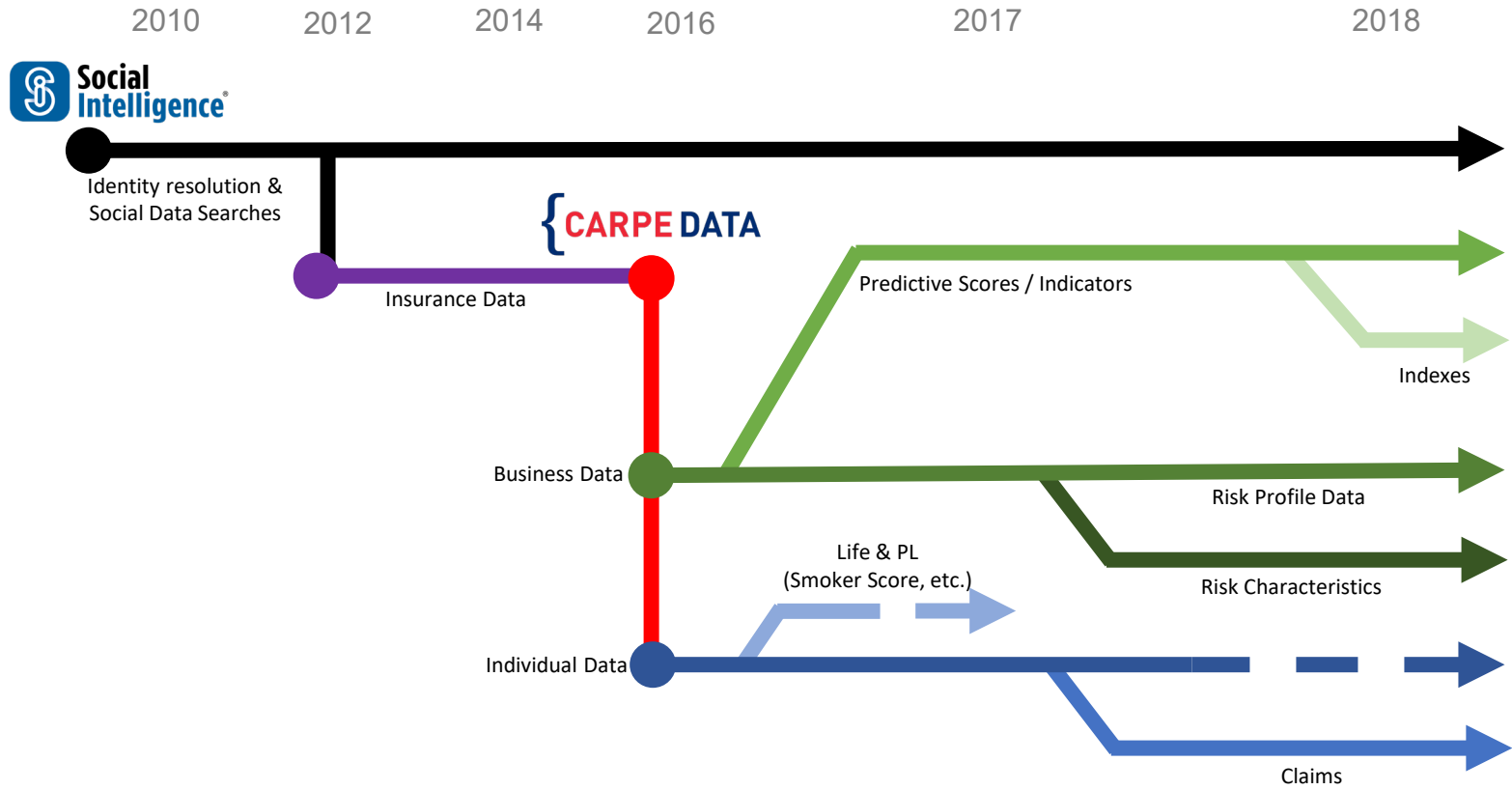**Adam P Tashman, PhD**

Contents

- **Carpe Data Mission**

- **Capabilities**

- **System Overview**

- **Claims Monitoring**

- **Vital Status (Bon Jovi)**

Mission: Map Emerging Data to Impactful Products

APPS	SCORES	INDEXES	RISK CHARACTERISTICS

INSURANCE CARRIER

Capabilities Timeline

Capabilities Timeline

System Overview: Three Layers

LAYER 3	Artificial Intelligence
LAYER 2	Innovative Data Sets
LAYER 1	Scaled Search and Accurate Identity Resolution

Claims Products

Claims Monitoring

Vital Status

Claims Monitoring

Typical industry practice before Carpe:
Investigator browses the web for each claimant, spending avg 45 minutes per subject

Carpe Partnership:

Carrier provides minimal claimant data (name / address / date of birth)

Agreement on monitoring time horizon (up to 12 mos). Horizon optimization is work in progress.

Carpe runs scalable search across web and data warehouse, only returning back relevant "hits":
claimant is traveling, working, taking part in physical activity, …

This acts as powerful filter, reducing overhead

Claims Monitoring Benefits

Identification of exaggeration, malingering, abuse that might otherwise not be found

Faster settlement of legitimate claims

Identification of and/or supporting evidence for possible fraud cases
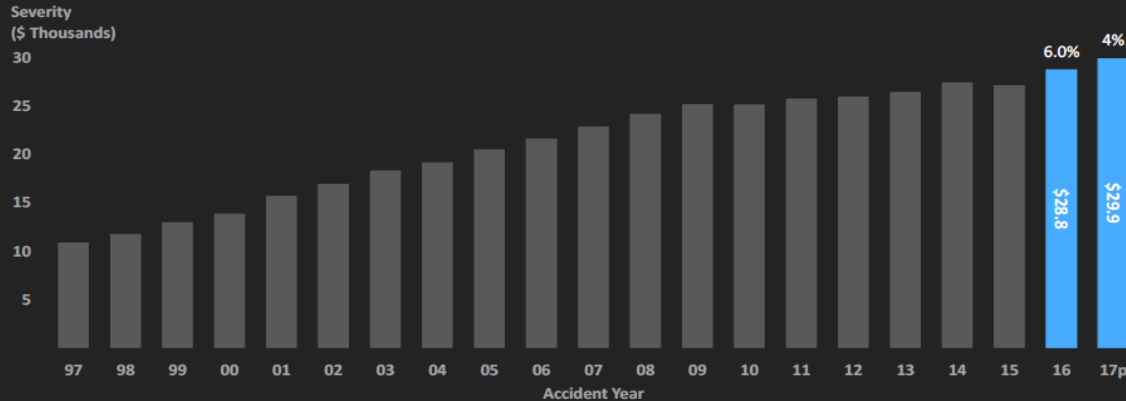
Reduction in litigation expenses

Claims Monitoring: Why it Matters

2018 State of the Line Guide

WC Average Medical Lost-Time Claim Severity
Private Carriers and State Funds—NCCI States

Severity
($ Thousands)

6.0%   4%
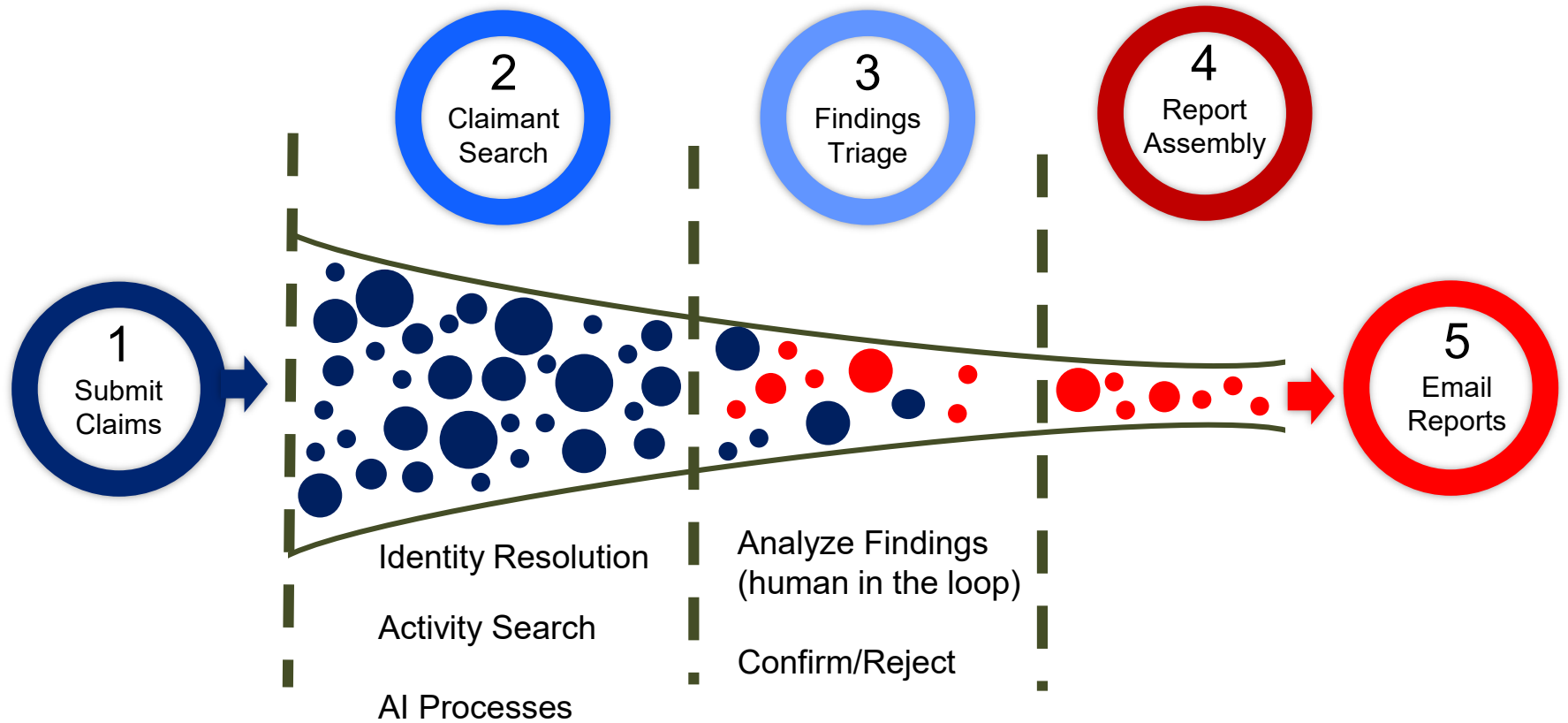
$28.8 $29.9

Accident Year

p Preliminary, based on data valued as of 12/31/2017
Source: NCCI's Financial Call data, developed to ultimate, excludes high-deductible policies; based on data through 12/31/2016
Values displayed reflect the methodology underlying the most recent rate/loss cost filing
Includes all states where NCCI provides ratemaking services; WV is excluded through 2007

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AIS
2018
30th Anniversary

Average WC medical lost-time claim severity in AY 2017:   **$29,900**

Claims Monitoring: How it Works

Claims Monitoring: Proprietary Dataset & Models

- **Training Data**
  50K+ hand-labeled records

- **Blacklist**
  Where to look / not look for relevant claim data is important
  Majority of website domains returned no relevant cases

- **Machine Learning**

  ❖ Given various input including text and quantitative data,
    flag relevant URLs and subjects

  ❖ Vetting of large universe of models, variety of datasets internal & external

Vital Status: Motivation

- Carriers need to know whether insured is **"dead or alive"** in a timely manner

- Death data banks are available but heavily delayed

- Costs of not knowing deceased status include **higher interest expenses**, **overfunded reserves**

- Carpe provides an automated system for vital status identification

Vital Status: Overview

- Requirements: minimal data from carrier (name / address / date of birth)

- Similar to Claims Monitoring Process, Carpe runs:

  ❖ Identity resolution
  ❖ Activity search
  ❖ AI Processes

  applies:
  > carrier minimal data
  > findings from search (relevant text, domain presence, date of death)

  Gotchas: subject leaves message on obituary page for relative, survived by [subject]

{ Questions?

Thanks!