

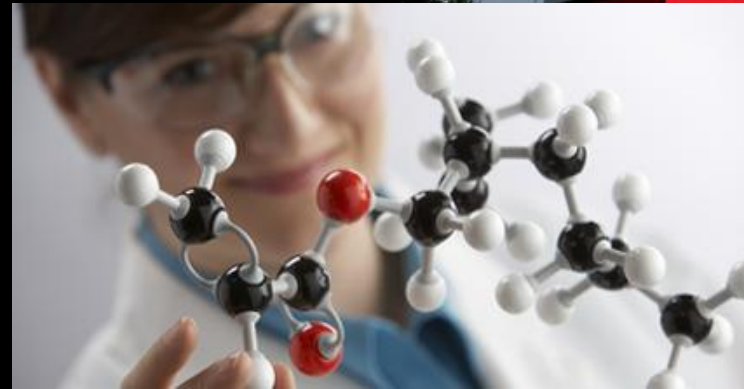
Health Information Systems

Business Agility at Scale
Global Scrum Gathering SD
April 10, 2017

David Frazee
Chief Technology Officer, 3M HIS

3M Facts

- Global Sales: \$30.1 Billion (65% International)
 - Net Income: \$4.7 Billion
 - R&D & Related Investment: \$1.7 Billion
 - Patents Awarded: 671 US, 3,330 WW
 - Worldwide Employees: 89,000
 - Worldwide Operations: 70+ Countries
 - Global: Sales in 200 Countries
 - One of 30 Companies in DJIA Stock Index
-
- June 2016 – 3M Recognized as the "Top Dream Company" for Millennials



3M's Five Business Groups

Safety & Graphics

Keeping you safe, your world secure, and enhancing visual communication and interactivity



Electronics & Energy

Enabling the global power and telecommunications networks and the world's electronic devices

Industrial

Changing how industry works from purification to aerospace



Health Care

Promoting health and improving quality care

Consumer

Simplifying life and work



3M Health Care Business Group

Infection Prevention



Critical & Chronic Care



Oral Care



Drug Delivery Systems



Health Information Systems



Food Safety



Waste in the U.S. healthcare system

~\$750B

per year in waste in the US healthcare system, 25% of total U.S. healthcare spend (Institute of Medicine)

Unnecessary services: ~\$210
Excess admin costs: ~\$190
Inefficient delivery of care: ~\$130
Inflated prices: ~\$100
Fraud: ~\$70
Prevention failures: ~\$50

\$ in Billions

68%

of specialists receive no information from Primary Care physician prior to referral visit



60-70%

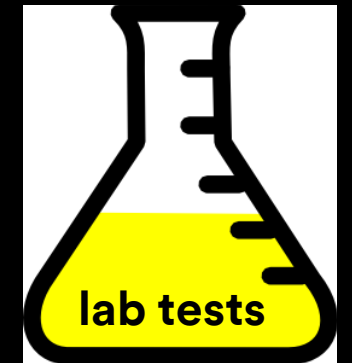
of referrals go unscheduled



25%

of appointments are missed

3 out of 10



are reordered because results are lost



3M Health Information Systems



**5,000+ customers,
mostly in the U.S.
providers and
payers**



**Nearly 2% of US
GDP is risk-
adjusted with a
3M grouper**



**40M+ covered
lives and
Three All-Payer-
Claims-
Databases**



**Significant number
of records processed
daily through large
implementation of
healthcare natural
language processing**

**We measure and manage performance for
healthcare providers and payers to optimize
revenue, lower costs, and improve quality of care**

ICD-10
International
Classification of
Diseases
v10

ICD-10

ICD-9 codes:

~17,000



ICD-10 codes:

~141,000

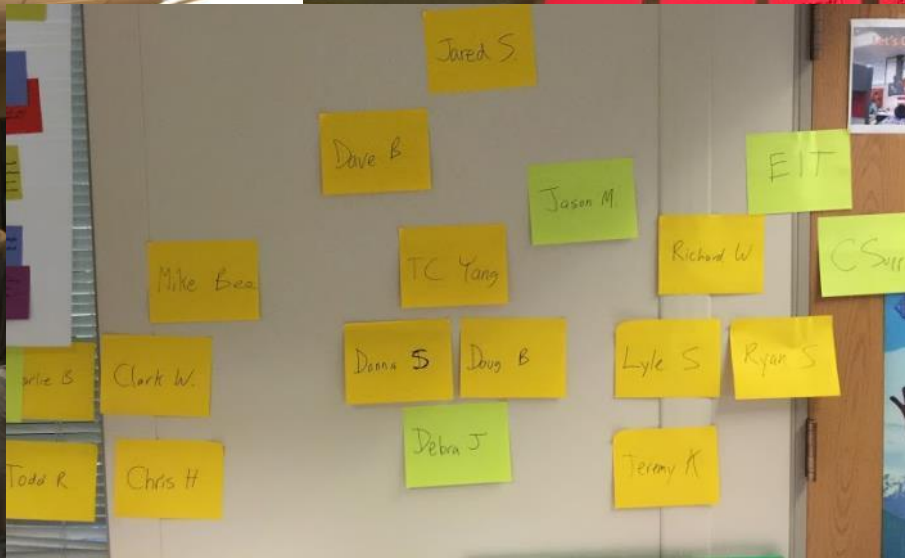
Reasons to change

- 30 years old
- Limited data about patients' medical conditions and hospital inpatient procedures
- Outdated and obsolete terms
- Inconsistent with current medical practices
- Limits the number of new codes that can be created
- Many ICD-9 categories are full

More granular data can help:

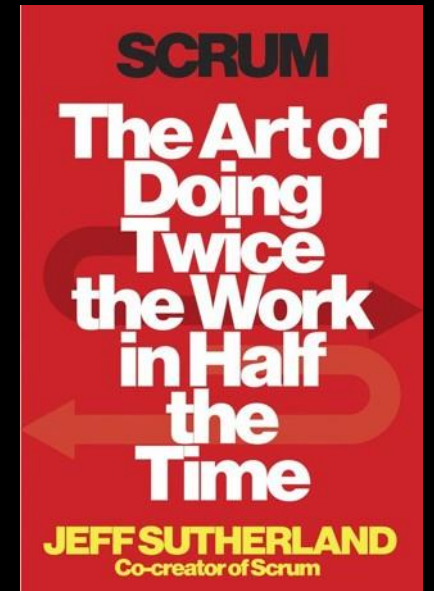
- 1 Improve experience of care
- 2 Improve the health of populations
- 3 Reduce the per capita cost of healthcare

Scrum in action



Scrum 1.0

- May 2015, Scruminc selected as HIS Scrum Partner
- “1% agile” – nowhere to go but up
- ICD-10 – The looming crisis
- July – Leadership Kickoff Event
 - Tammy Sparrow appointed **Director, Agile Journey**
 - Top HIS management trained in the basics
 - “You don’t know how to prioritize”
- Oct 1, 2015
 - the lights did not go out



Scrum 1.1 – Scrum at Scale

- ICD-10
 - “That Scrum thing worked”
- Training for everyone (teams):
 - *Whiskey Tango Foxtrot*
 - *Cowboys, Data Wranglers*
 - *Renegades, Gemini, Inception*
 - *Old Gang, Velocity Raptors*
- The language of Scrum is everywhere in HIS, Backlogs, Burndowns, Sprints, Impediments
- Executive Action Team rhythm



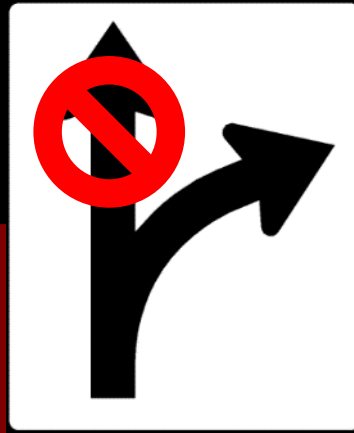
HIS Journey to the Cloud - Rocket



Provision Capacity
12+ weeks

Deploy 6+ weeks

ICD-9 to ICD-10
Bearing Down



Data Center
transition and
scale-up Failure

**“Never waste
a crisis”**



Project Rocket
Nov 2015

Scrum teams
created for CSP

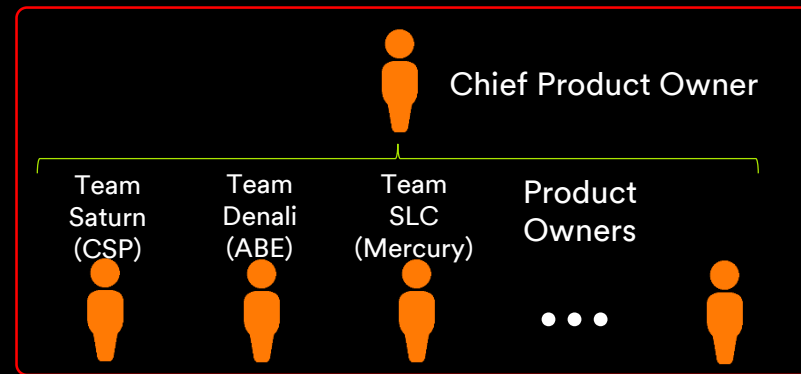


Critical workloads
live Jan 21, 2016

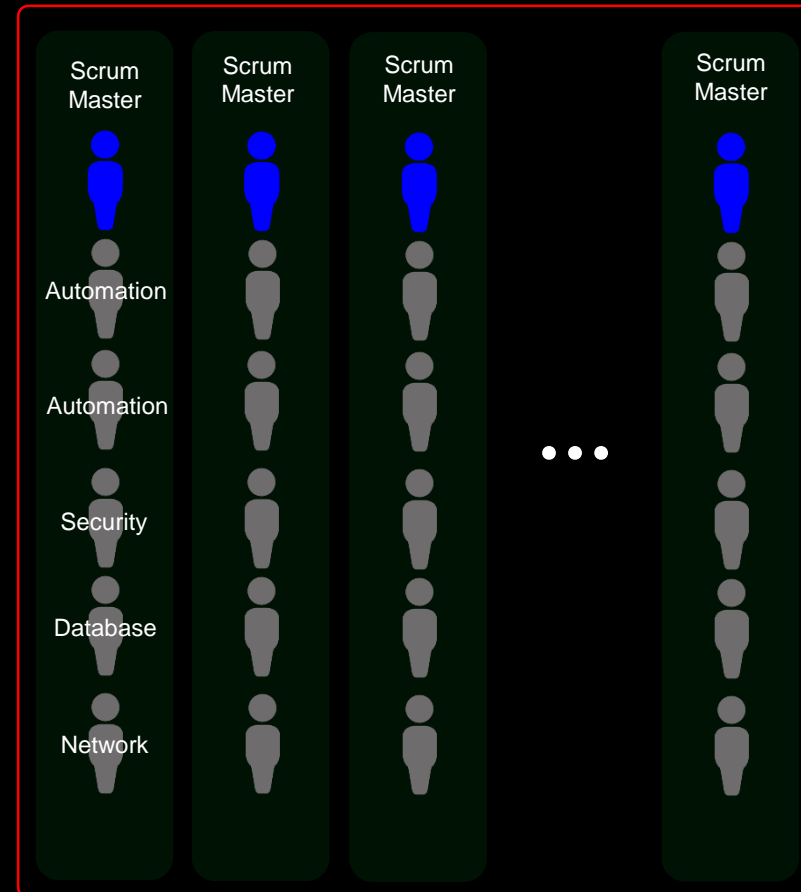
Synergy:
Scrum, Cloud,
Security

Rocket

- Cross-functional Scrum teams that can deliver end-to-end solution
 - Team Saturn: R&D, Cloud Systems, Operations and Security
- Weekly rhythm
 - Sprints – deliver working code
 - Demo to stakeholders
 - Metascrum led prioritization and alignment across teams
- Impediments escalated as high as necessary to resolve quickly



Office of the Product Owner



Additional Skills Assigned by Office of PO as needed

Architect(s)

Network Engineer(s)

Scrum 1.1 – Continuous Improvement (mostly)

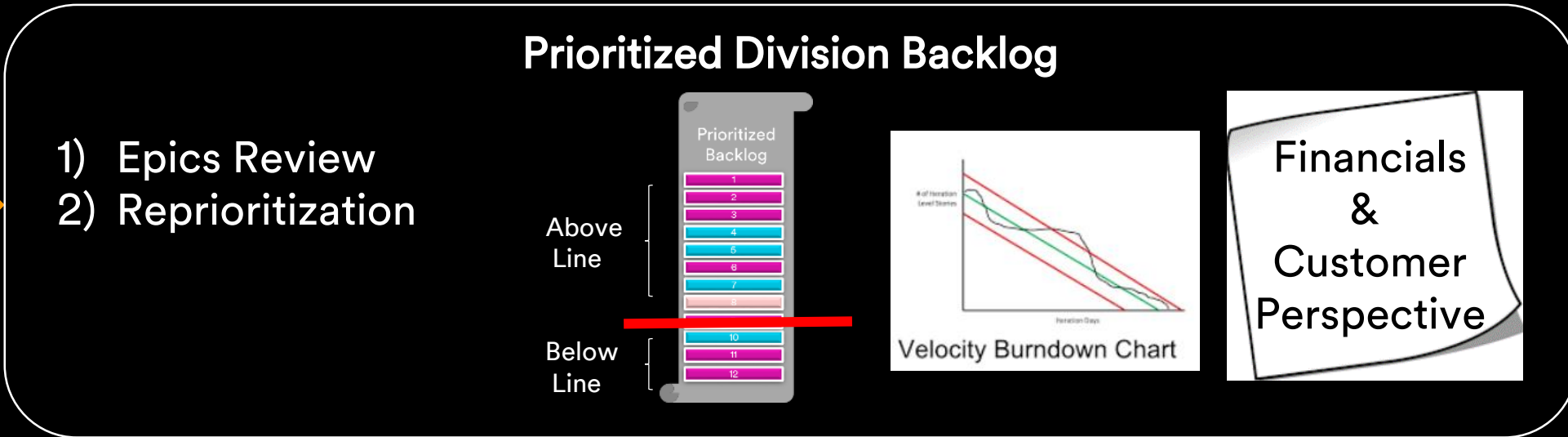
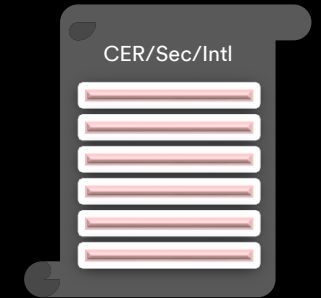
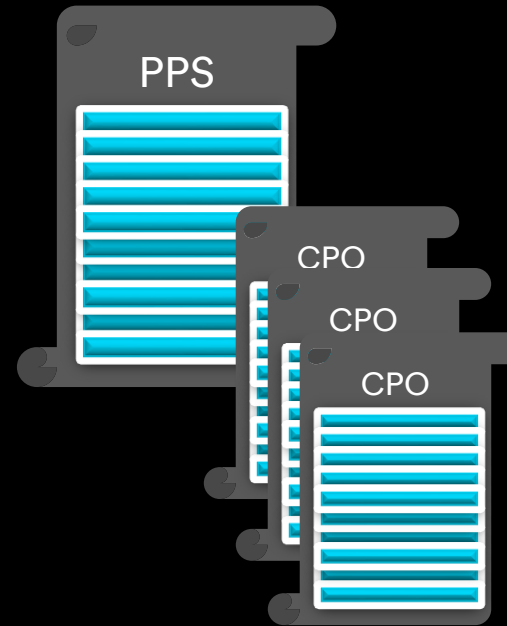
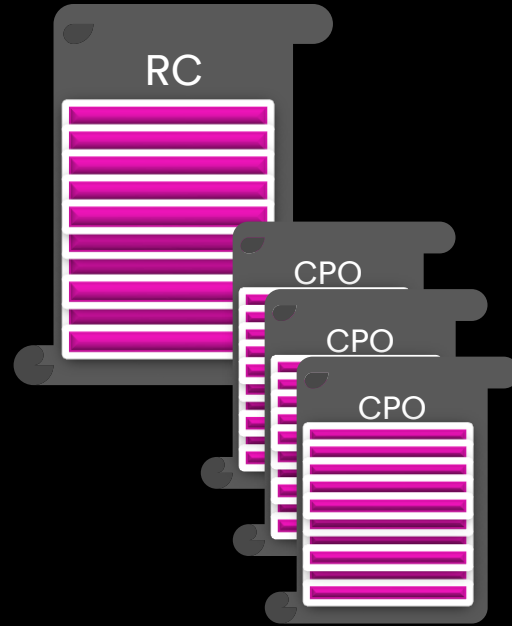
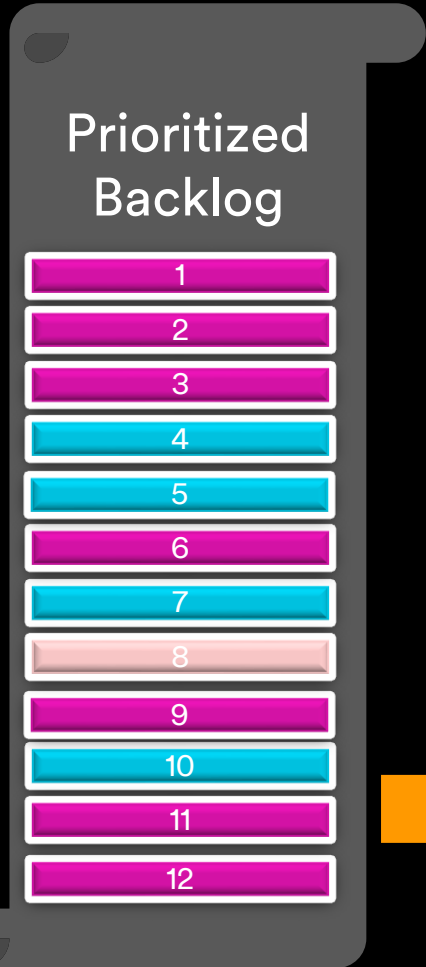
- Wins:
 - Rocket
 - ICD-10
 - The new ProFee
- Looming
 - Appetite for more and faster continues
 - Population Health
- “You don’t know how to prioritize”



The DOC Metascrum

Division Backlog – The DOC Meta Scrum

Products & Initiative Epics of Division Priorities



We (think we) know where everyone is

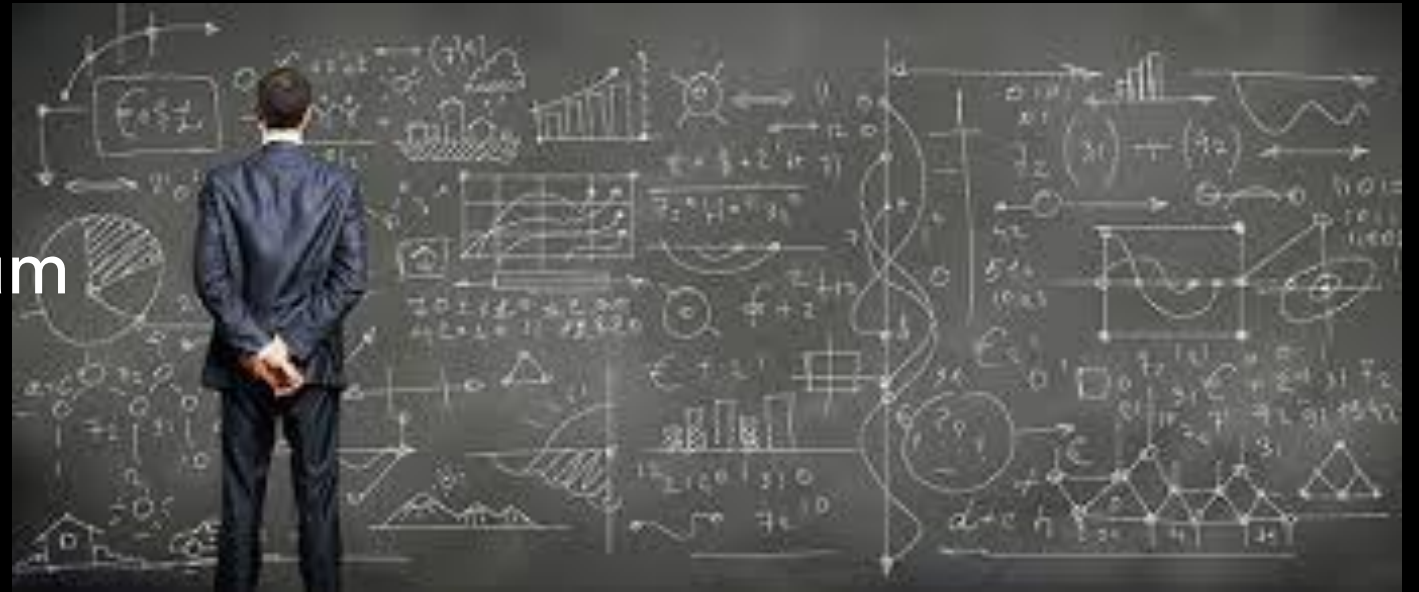
- Transparency
- Visibility
- Who knew?



- Why them?
- Who decides?
- That team can't...

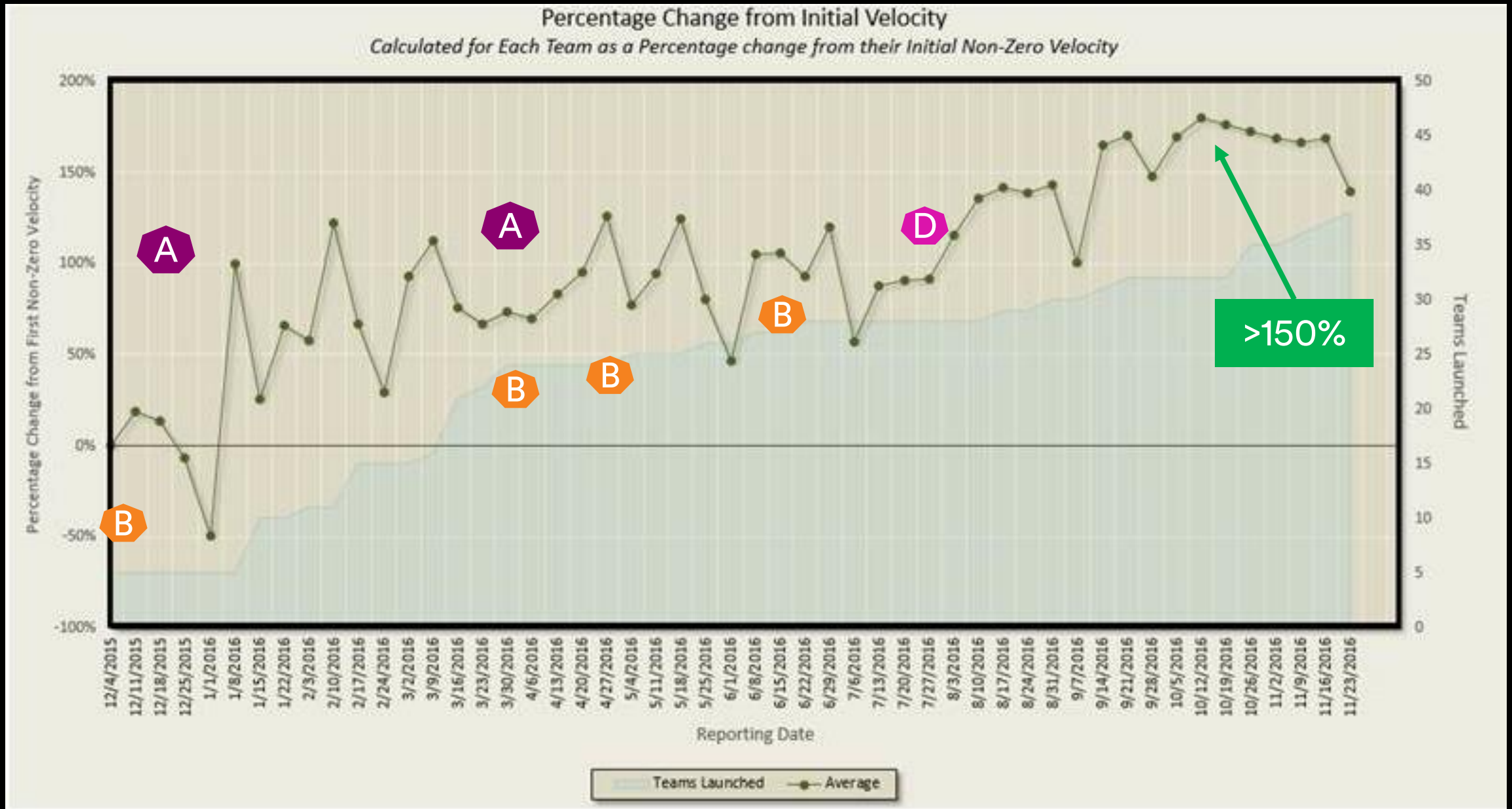
Scrum 1.2 – Scrum at Scale

- Snapshot – end of 2016
 - 80+ teams doing development across HIS
 - 3M growing its own Scrum coaches
 - **You can never have too many starting pitchers:**
 - Several excellent POs, CPOs and SMs have emerged
 - POs, POs, POs
- 2017: Scrum 2.0
 - Fix the DOC metascrum
 - Define value



2016 Productivity

(38 teams included)



Scrum @ 3M HIS – Scaling is Hard

- Relentless – at the leadership level
- Not everyone will come along
- We still have too much tech debt
- Yet we have gained much and can reflect...



Above the loo

Scrum @ 3M HIS – S@S is hard, but we are winning

- Culture
 - “Love my job”
 - Attrition down by 60%
 - It feels like a software place (not like 3M)
 - People making their space to fit their style and it’s (good) noisy
- From “That team can’t” ...to.... “let them try it”
- Legacy product engineers (COBOL, Delphi, ...) are actually working on “cloud/web/CI/cool/EMR...” now
 - It is indeed possible for a .NET guy to write Java
 - It can be, and often is, FUN
- From DOC Metascrum to the “Shark Tank”

In closing...

- Scrum at Scale is different for everyone
 - 3M is not Spotify
 - We are just 2 years into the 4 (or 5 or 6) year journey
- Onboarding in 2016:
 - 43 interns
 - 100+ new 3M hires
 - 140+ contractors
 - Not possible without S@S
- 3M CTE&I Award (big deal at 3M Company)
 - 2015: 30 individuals nominated, 4 teams
 - 2016: 12 individuals nominated, 19 teams

Thank you.

**Special thanks to scruminc (Nigel, Joe, Joel)
Kudos to 3M Champions: Tammy Sparrow & Rick Austin**

Business Agility at Scale

David Frazee

Chief Technology Officer, 3M HIS