Asking Your Public Safety Chiefs the Right Questions

Bruce J. Moeller, PhD

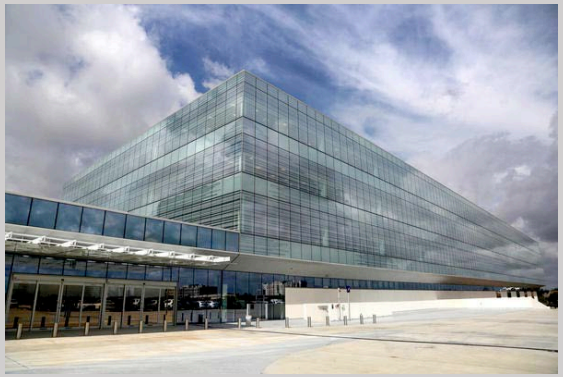
JUNCTURE GROUP

ILCMA
Illinois City/County Management Association
A State Affiliate of ICMA

City Manager / Chief Disconnect

- “Big sucking sound . . “
  - Using metrics
  - Understanding what the ‘other guy’ wants
- ‘What an idiot . . . ‘
  - Their job is to ask for stuff
  - My job is to say NO (unless they make the case)

CITY OF
SUNRISE
FLORIDA



Response Times

Do They Matter ?

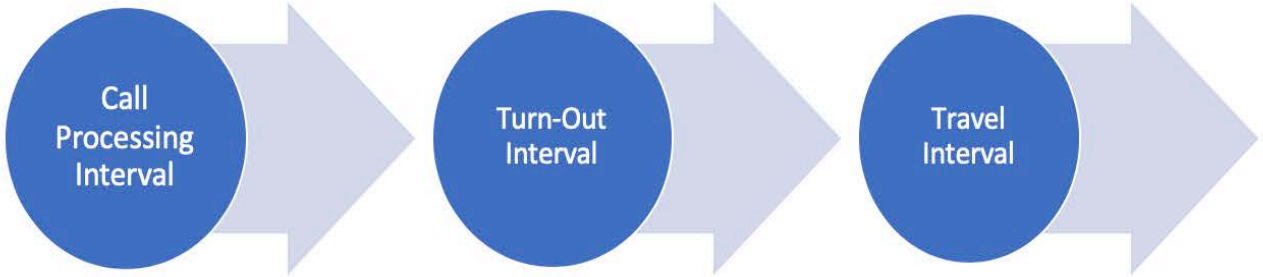
What Is Your Community's Response Time?

Police-Fire-EMS

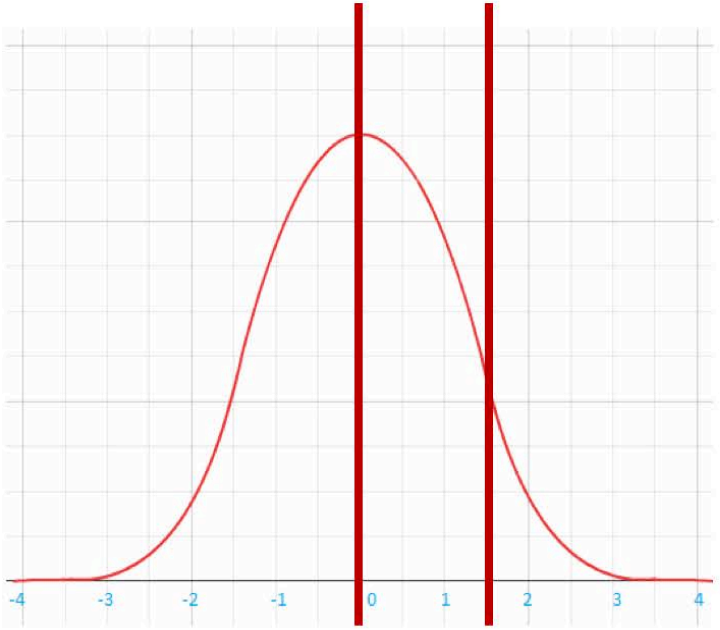
- < 4 Minutes
- 4 – 6 Minutes
- 6 – 8 Minutes
- 8 – 10 Minutes
- > 10 Minutes

Response Time Components

Alarm Time	The point at which activation of the emergency response system is initiated to the Public Safety Answering Point (PSAP)
Dispatch Time	The point at which a request for emergency response is transmitted to the responding agency
En-route Time	The point at which the responding units begin movement to the incident location
Arrival Time	The point at which the responding unit arrives at the geographic location of the incident
Patient Contact Time	The point at which operations to mitigate the emergency begins. This includes patient access & treatment for medical events.



- Various national groups endorse or mandate the use of percentile / fractile evaluations when assessing public safety departments.
  - National Fire Protection Association (NFPA)
    - NFPA 1221
    - NFPA 1710
  - National Emergency Number Association's Standard
    - NENA 56-005
  - Center for Public Safety Excellence's Standard of Cover document.
- By framing the performance goal at a 90th percentile, policy makers are ensuring that 9 out of 10 times the performance will be achieved.



Response Times & 90th Percentile Standard

Consolidation of 9-1-1

The Illinois General Assembly in Summer 2015 adopted Public Act 99-0006 (Act), which significantly amended the Emergency Telephone System Act (50 ILCS 750) (ETSA) and repealed the Wireless Emergency Telephone Safety Act (50 ILCS 751/27), ***for the purpose of consolidating local 911 systems in preparation for a statewide conversion to a "Next Generation" 911 system.***

The new Section 15.4a of the ETSA includes the most significant change for municipalities, requiring the consolidation of all but the largest 911 Authorities into JETSBs. ***The explicit goal of this mandate is to reduce the number of ETSBs, and their corresponding PSAPs, in Illinois by 50 percent in the next year.***

Accessed at https://www.hklaw.com/publications/consolidation-of-illinois-911-authorities-pursuant-to-public-act-99-0006-03-03-2016/ on April 28, 2019.

Primary to Secondary PSAP Interval	
Average	00:01:04
90th Percentile	00:01:47
95th Percentile	00:02:34

9-1-1 Design

Primary vs. Secondary

Full Response Time
(Unscientific Method – Employing Others Research)

Illustrative example & for discussion purposes only

- Upson, R., & Notarianni, K. (2010). *Quantitative Evaluation of Fire and EMS Mobilization Times*. Retrieved from NFPA: Quincy, MA:
- Conway, A. B., McDavid, A., Emert, J. M., Kudenchuk, P. J., Stubbs, B. A., Rea, T. D., . . . Sayre, M. R. (2016). Impact of Building Height and Volume on Cardiac Arrest Response Time. *Prehospital emergency care, 20*(2), 212.
- Lateef, F., & Anantharaman, V. (2000). Delays in the EMS response to and the evacuation of patients in high-rise buildings in Singapore. *Prehospital emergency care, 4*(4), 327-332.

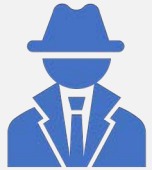
Response Time Component	90th Percentile
Call Transfer	01:47
Call Processing	01:24
Turnout (night)	02:24
Travel Time	08:00
Patient Access	03:47
Total	***17:22***

Response Times

- How do you calculate response time?
  - When does the clock start?
  - When does the clock stop?
- Does your dispatch receive 911 calls directly, or are they transferred from another PSAP
- Are you reporting the average response time, or the 90th percentile?
- Does this include all calls, or only the “high priority” incidents?

Workload

POLICE: Reactive vs. Proactive

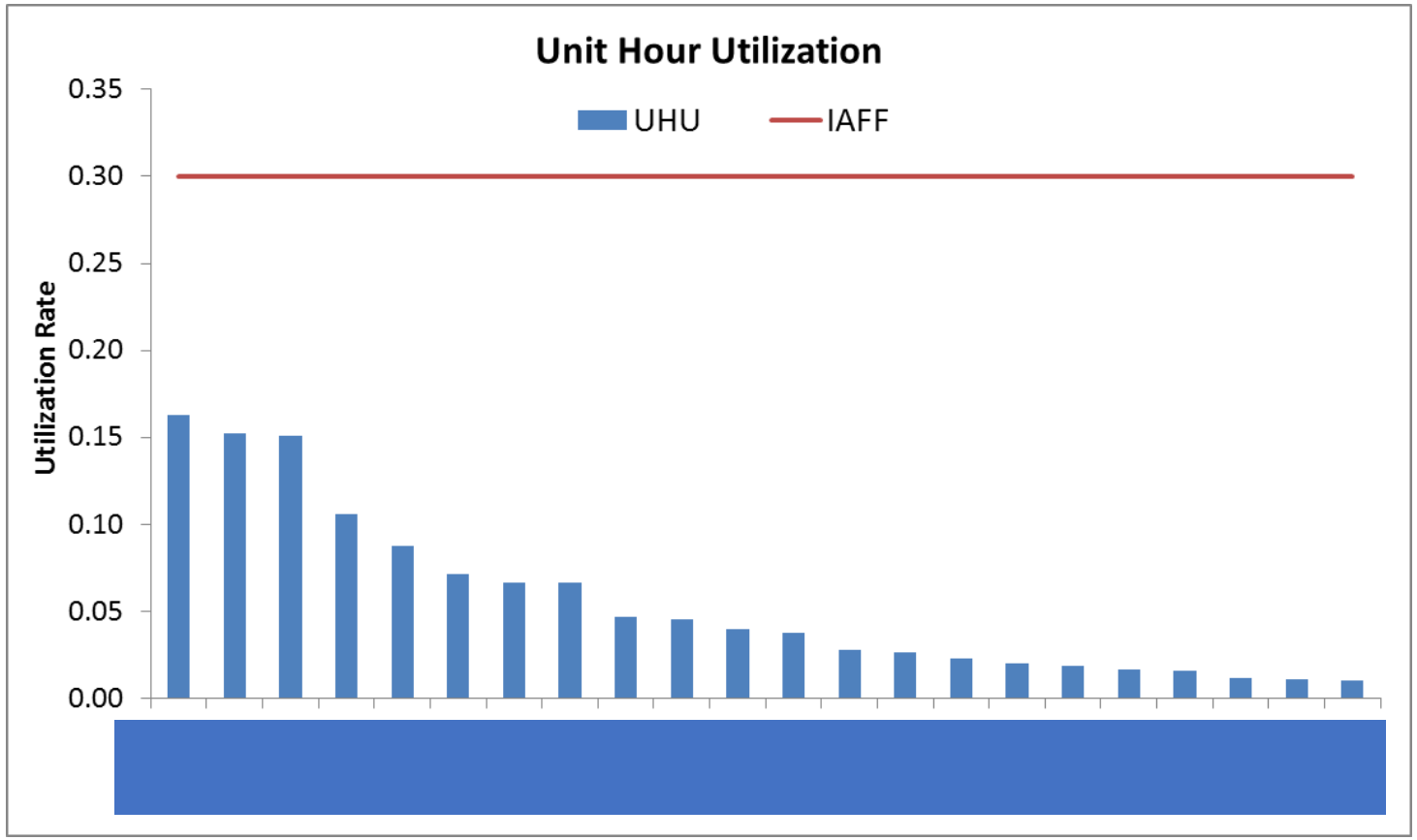


FRONT-LINE POLICE SERVICE NOT ONLY MEANS ***REACTIVE RESPONSE*** TO INCREASED ROUTINE AND EMERGENCY CALLS FOR SERVICE, BUT ALSO INCLUDES MORE ***PROACTIVE COMMUNITY-BASED CRIME PREVENTION ACTIVITIES, COMMUNITY PROBLEM IDENTIFICATION, ANALYSIS***, AND THE DEVELOPMENT OF PROPOSALS AND INITIATIVES FOR PROBLEM RESOLUTION.

WHILE ***CURRENT LITERATURE DOES NOT PROVIDE CLEAR INDICATION OF THE APPROPRIATE TARGET LEVELS*** FOR THE PROPORTIONALITY OF REACTIVE AND PROACTIVE UNIFORM PATROL FUNCTIONS, IT DOES EXPECT THAT A POLICE SERVICE WILL PROVIDE BOTH FORMS OF SERVICE.

FIRE: Time-on-Task

- Based on time-on-task for each unit
- From dispatch -> available
- Does not include reports, training, vehicle preparation, etc.
- ***A good measure of 'capacity' in the system***



Workload

- Do we have enough ”field” resources (patrol / fire units) to handle demand in the community?
  - How do you evaluate that?
  - What is the maximum workload you believe is ‘safe’?
  - Where are we at currently by your measure?
- Do your command staff ***and*** line personnel understand this metric?
- What is our minimum staffing?
  - By hour of day
  - How established
    - Policy
    - Contract
    - Past practice

Staffing

Work Week & Staffing Requirements – Fire Example

TABLE 13: WORKWEEKS INCLUDING OPERATIONAL PERSONNEL (80)

Average Workweek	40[17]	42	48[18]	56
Total Hours per FTE (Average Workweek x 52 Weeks)	2,184.00	2,184.00	2,912.00	2,912.00
Time-Off	328.10	328.10	328.10	328.10
Cycle / Kelly Time	104.00	0.00	416.00	0.00
Hours Worked Per FTE	1,751.90	1,855.90	2,167.90	2,583.90
Coverage Required (365*24)	8,760.00	8,760.00	8,760.00	8,760.00
Continuous Staffing Multiplier	5.00	4.72	4.04	3.39
Minimum Staffing for all Line Positions	80	80	80	80
Required Budgeted FTEs	**400.02**	**377.61**	**323.26**	**271.22**

Note: Based on 2017 time-off for FF, Lt & Captain positions

Staffing Requirements Police Example

- Assuming 52 weeks X 40 hrs. = 2080 hrs. / year

Figure 5: Average Hours Worked Annually Per Officer

	AVERAGE HOURS Per EMPLOYEE
Regular Hours	
Hours Worked	1,748
Training	60
Holiday	96
Vacation	101
Sick	87
Sub-Total	2,092
Overtime Hours	
Regular OT	54
Extra-Duty	28
Training	32
Sub-Total	114
Grand Total	2,206

Figure 8: Average Incidents per Hour - Police

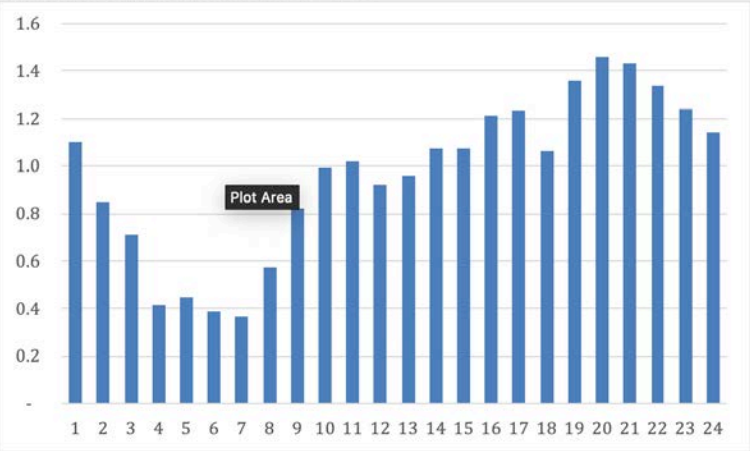


Figure 15: Average Incidents Per Hour - Fire

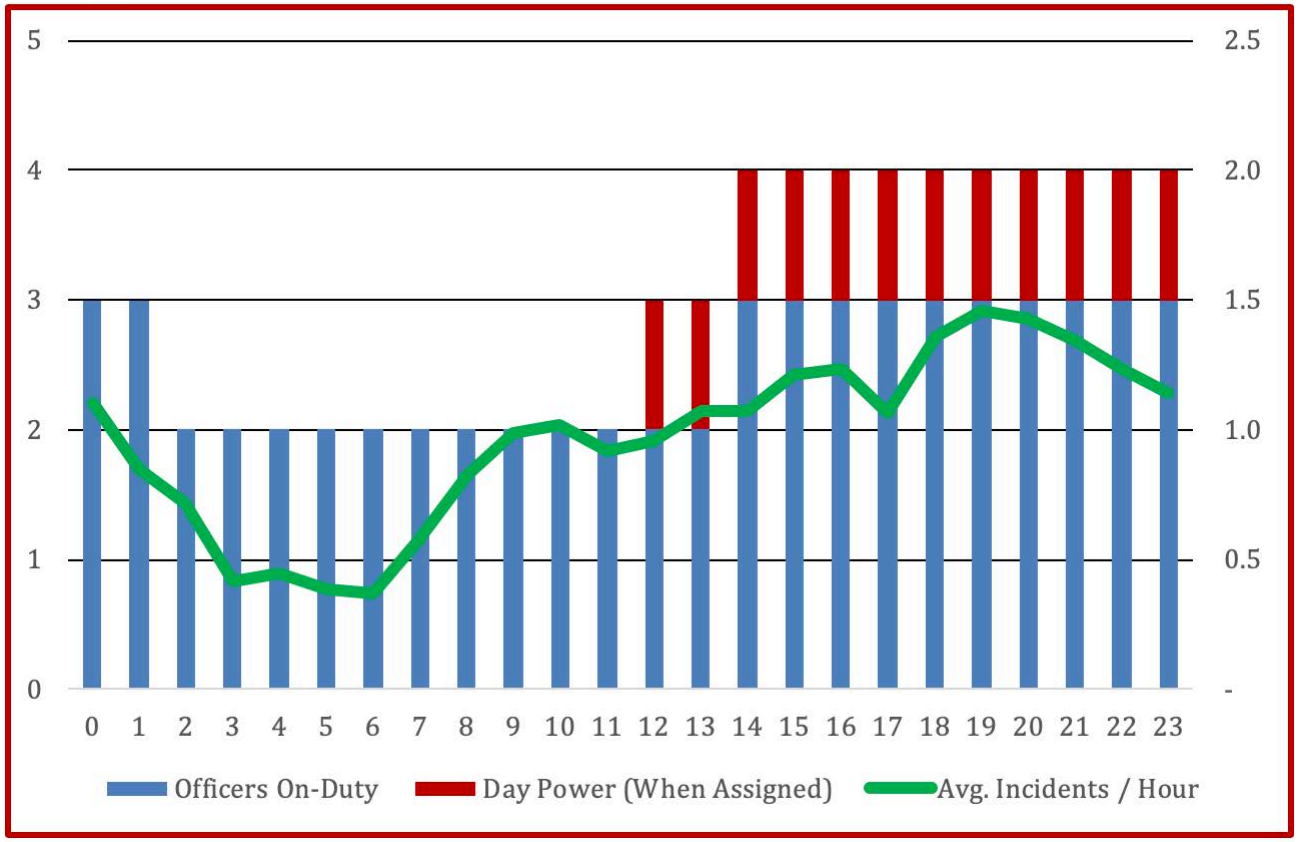
Temporal Distribution

- How does staffing align w/ demand?

Power-Shifts & Peak-Hour Units

- Staggered start/end times for shifts
- Alternate shift schedules
  - 12-hour fire shifts during peak demand vs. 24-hour typical shift

Figure 10: Officers on Duty (Left Axis) w/ Avg. Incidents per Hour (Right Axis)



Staffing

- Do we have enough personnel?
  - How is it evaluated?
  - Static or Hourly?
- What are our leave usages?
  - By category?
  - By employee?
- How much overtime are we spending?
  - What generates the OT?
  - By category?

Policies & Procedures

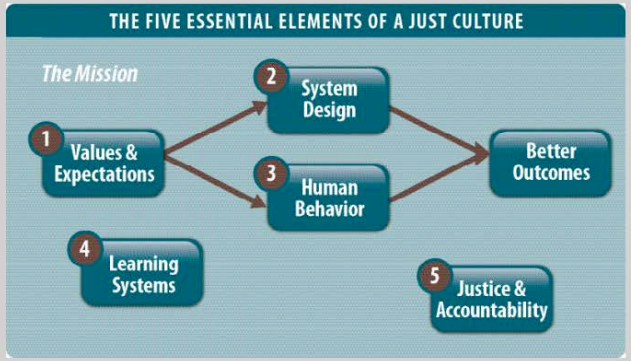
Policies & Procedures

- When evaluating issues within one of your agencies . . .
  - How do their policies & procedures address the issue?
  - How do other ‘best in class’ agencies address the issue?

- Deviations From ***OR*** Failures of Policy Must Consider the Following:
  - Is the policy/procedure written so it is usable and achieves it stated purpose?
  - Has staff been trained in the policy?
  - Did the policy deviation occur during a time-critical event where the member used recognition-primed decision-making (RPDM)?
  - Did the policy deviation occur during a non-time-critical event where a more classic decision-making process was or should have been used?

They Know What to Do . . . We Have a Policy on That

Just Culture



Communicate Values and Expectations

We cannot expect perfection from our leaders, associates or, physicians. Our success lies in recognizing that we are all imperfect and are continuously working toward improved reliability.

Design Safe Systems

Good system design will anticipate human error, capture errors before they reach the patient, and permit recovery when the consequences of our errors can cause harm. We must design systems that will help us make wise decisions within those systems.

Manage Behavioral Choices

We must anticipate that we will make mistakes and that even if we are highly skilled associates, we will drift from safe choices to unsafe choices.

Create Learning Systems

We can identify risk by observing the design of the systems in which we work, our behaviors, and the behaviors of those around us.

Create a Just and Accountable Environment

It is about holding one another accountable for the quality of our systems and our choices, and our efforts to continuously improve.

Human Error:

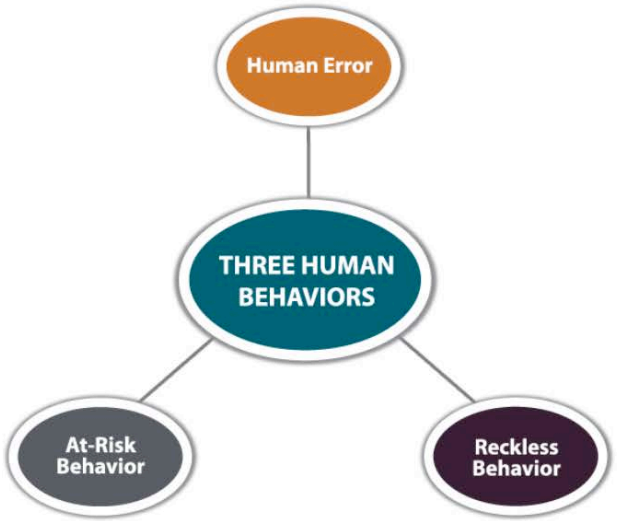
an inadvertent action; inadvertently doing other than what should have been done; a slip, a lapse, a mistake.

At-Risk Behavior:

a behavioral choice that increases risk where risk is not recognized, or is mistakenly believed to be justified.

Reckless Behavior:

a behavioral choice that consciously disregards a substantial and unjustifiable risk.



Continuing Training

- What requirements are in place for continuing professional training?
- Who develops & deliveries the curriculum?
- What topics are covered? How often?
- How is content delivered?

Policies & Procedures

- Review 'Table of Contents'
  - Assess date of adoption or update
- Discuss how often reviewed & revised
- Discuss internal processes for development & adoption

Accreditation

The Commission on Accreditation for Law Enforcement Agencies, Inc. (CALEA®), was created in 1979 as a credentialing authority through the joint efforts of law enforcement's major executive associations. The CALEA Accreditation program seals are reserved for use by those public safety agencies that have demonstrated compliance with CALEA Standards and have been awarded CALEA Accreditation by the Commission.

An all-hazard, quality improvement model based on risk analysis and self-assessment that promotes the establishment of community-adopted performance targets for fire and emergency service agencies.

Policies & Procedures

- Are we accredited?
  - When last done?
  - Do I have a copy of the report?
  - If not, is it in the strategic plan?
    - For when?
- Provide me an index of the policies & procedures – include latest revision date
- How are they reviewed / updated?
  - By whom?
  - How often?

Performance Measures

Limitations of Performance Measures

" . . . Lies, Damn lies, and Statistics."

Benjamin Disraeli (Mark Twain)

"Organizations lie to make themselves look better than they are otherwise entitled."

Bruce J. Moeller, 2001

"Internal goals set in the management of a company are usually a burlesque. . . .

A natural fluctuation in the right direction (usually plotted from inaccurate data) is interpreted as success.

A fluctuation in the opposite direction sends everyone scurrying for explanations and into bold thrusts whose only achievements are frustration and more problems."

W. Edwards Deming, 1982

NATIONAL ORGANIZATIONS

Association of Public-Safety Communication Officials

Association of Public-Safety Communication Officials (APCO) International is the world's oldest and largest organization of public safety communications professionals and supports the largest U.S. membership base of any public safety association. It serves the needs of public safety communications practitioners worldwide, and the welfare of the general public, by providing complete expertise, professional development, technical assistance, advocacy and outreach.

FirstNet

FirstNet's mission is to develop, build and operate the country's first nationwide broadband network dedicated to public safety. Coordination of this effort and the implementation of Next Generation (NG911) is essential in creating a seamless emergency communication system that transmits critical information from the public – to 911 – and on to emergency responders .

Industry Council for Emergency Response Technologies

The Industry Council for Emergency Response Technologies (ICERT) represents the voice of the commercial sector on public policy issues impacting 911 and the emergency response system. Through advocacy, research and in coordination with the public sector, the Industry Council plays a vital role in the development and deployment of advanced communication alternatives.

International Academies of Emergency Dispatch

The International Academies of Emergency Dispatch (IAED) has its origins in the National Academy of Emergency Medical Dispatch that was created in 1988 as a standard-setting organization for the field of emergency medical dispatch. Since its inception, IAED has occupied two roles: one as a membership-driven association for the professional recognition of dispatchers and, the other, as an Academy that develops and maintains dispatch protocols and curriculum for member use in response to emergency calls for help.

National Association State 911 Administrators

The National Association of State 911 Administrators (NASNA) promotes information sharing amongst those states with programs dedicated to implementing 911 emergency telephone systems. NASNA serves as a resource to assist States with statewide implementation and maintenance, as well as identify and recommend minimum standards and appropriate legislation. Find contact information for individual State administrators here.

National Center for Missing and Exploited Children

The National Center for Missing & Exploited Children (NCMEC) opened in 1984 to serve as the nation's clearinghouse on issues related to missing and sexually exploited children. Today NCMEC is authorized by Congress to perform 22 programs and services to assist law enforcement, families and the professionals who serve them.

National Emergency Number Association

The National Emergency Number Association (NENA) serves its members and the greater public safety community as the only professional organization solely focused on 911 policy, technology, operations, and education issues. NENA works to develop and carry out critical programs and initiatives to facilitate the creation of an IP-based NG911 system.

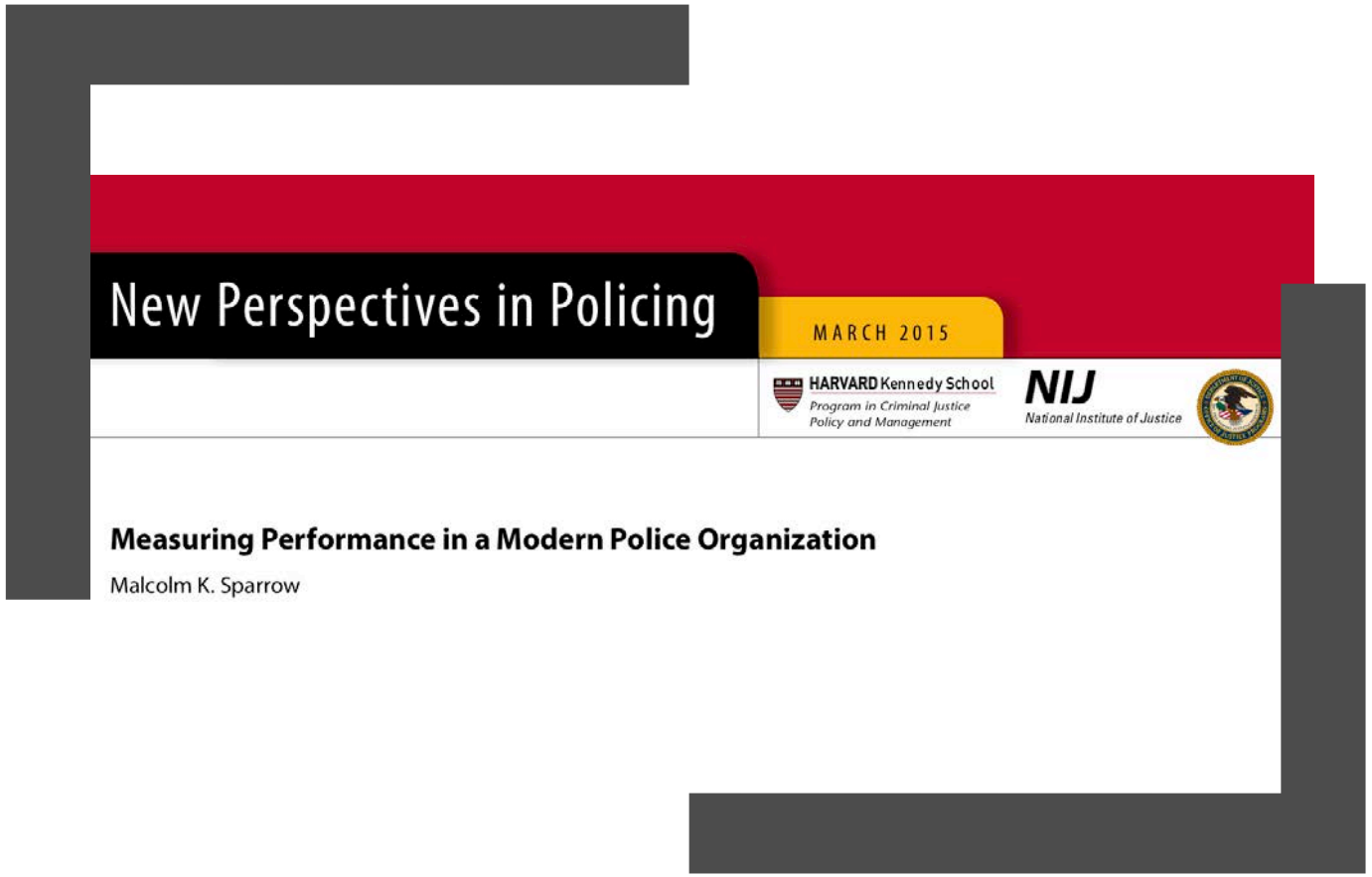
Next Generation 911 Institute

The NG911 Institute is a not-for-profit 501(c)(3) organization that works with the Congressional NextGen 9-1-1 Caucus to promote deployment of advanced and effective Next Generation 911 (NG911) services throughout the nation. Founded in 2003, the Institute has steadily grown in membership and influence as a valued resource for policy makers. This includes NG911 expertise spanning the public safety community and the service providers and vendors supporting 911 services.

www.911.gov

- Resources on:
  - Dispatch protocols:
    - Dispatch protocol include standardization, the ability to provide uniformed instructions and the ability to prioritize responses.
  - FirstNet
    - Nation's first nationwide broadband network dedicated to public safety
  - NG-911
    - Refers to an initiative aimed at updating the 911 service infrastructure to improve public emergency communications services in a growingly wireless mobile society. In addition to calling 911 from a phone, it intends to enable the public to transmit text, images, video and data to the 911 center
  - Standards, Policies & Procedures
    - Call answering times, system design specifications, etc.
  - Training Guidelines
    - NENA Education & Training Program
    - APCO Public Safety Telecommunicator Certification
    - IAED Emergency Telecommunicator Certification

Purpose of Police Measures



(1) Reducing criminal victimization.

(2) Calling offenders to account.

(3) Reducing fear and enhancing personal security.

(4) Guaranteeing safety in public spaces (including traffic safety).

(5) Using financial resources fairly, efficiently and effectively.

(6) Using force and authority fairly, efficiently and effectively.

(7) Satisfying customer demands/achieving legitimacy with those policed.

Table 1
Process Measures

Indicator	Definition	Source
Police policies	Do policies on use of force and traffic/pedestrian stops conform to national best practices?	Analysis of written policies
Training programs	Hours of academy and in-service training on use of force, stops, ethnic sensitivity	Analysis of training curriculum
Early warning system	Databases on, e.g., tracking citizen complaints received by officers, use of force, stops	Analysis of early warning system specifications
Transparency	Publishing of data on, e.g., crime complaints, arrests, stops, use of force, citizen complaints	Analysis of departmental reports, website
Community interface	Establishment of citizen advisory council, public attendance at open district meetings, citizen participation in anti-crime activities	Analysis of data from departmental records, observation of meetings

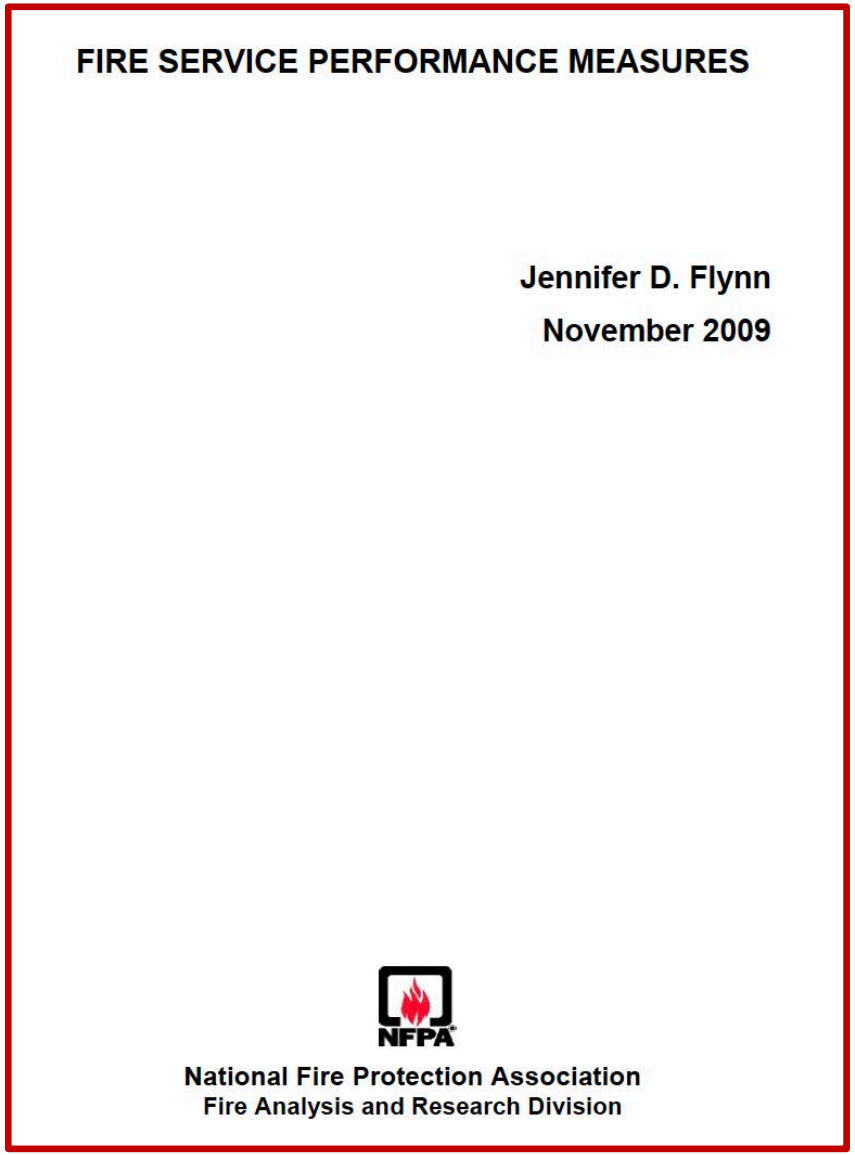
RAND Center on Quality Policing
A RAND INFRASTRUCTURE, SAFETY, AND ENVIRONMENT CENTER
TECHNICAL REPORT

Selected International Best Practices in Police Performance Measurement

Robert C. Davis

NFIRS
National Fire Incident Reporting System

- Data sources – limitations
  - Outcome vs. output
  - Reporting compliance
  - Limited ability to benchmark


FIRE SERVICE PERFORMANCE MEASURES

Jennifer D. Flynn

November 2009

NFPA

National Fire Protection Association
Fire Analysis and Research Division

PM2. Fire Rate

Measure	Discussion	NFIRS Variable
# of reported fires/1,000 population # of reported fires/1,000 buildings (by occupancy)	Fire prevention is an important function of fire departments. Ideally, the department would want to measure how many fires have been prevented, but that is not possible. Instead, fire departments can use fire rate measures of reported fires by population or by buildings.	NFIRS incident type 100-199 in the basic module captures structure fires, vehicle fires, and outside and other fires. Departments should use totals and stratify fire rates by category- structure, vehi stratification every measu incident calls

PM5. Civilian Fire Death and Injury Rate - Fire Incident Calls

Measure	Discussion	
# of civilian deaths (or injuries)/100,000 population # of civilian deaths (injuries)/1,000 fires	Fire rescue and public education programs affect these measures and can be evaluated by them. Death rates can be problematic f or analysis because most communities and even many states do not have enough fire deaths to compensate for generic fluctuations.	Casualty basic mc Civilian injuries a values. Remembe incident ty Stratify cat fires, vehicl other fires.

PM3. Response and Control Times - Fire Incident Calls

Measures	Discussion	NFPA Standards	NFIRS Variables
Times should be stratified into: 1. Turnout time 2. Travel time 3. Total response time 4. Time of control of fire* Average response time per fire incident call % of times that are less than "x" minutes % of times that are more than "x" minutes Average time to control spread or confirm spread has stopped, by size on arrival and type of occupancy *This is time from arrival to fire control, not the point in time where control occurs	Shorter response times can usually be expected in urban areas compared to rural areas, due to the size of the community, number of facilities, such as fire stations, population and resources within the community. This needs to be taken into consideration when comparing response time performance across communities.	NFPA 1710 (Career) recommends 80 seconds for turnout time for fire and special operations response For the initial arriving company, the fire department's fire suppression resources shall be deployed to provide for the arrival of an engine company within a 240-second travel time to 90% of the incidents. NFPA 1720 (Volunteer) makes recommendations for meeting objectives based on the population per square mile of the community.	NFIRS dates and times are numerically entered values in the basic module. Variables include: Alarm time Arrival time Time when fire is controlled These can be used to calculate: 1. Total response time (Arrival minus Alarm) 2. Time to control the fire (Controlled time minus Arrival) Specify incident type 100-199 for fires. Stratify incident type by category-structure fire, vehicle fire, and outside and other fire.

ePCR

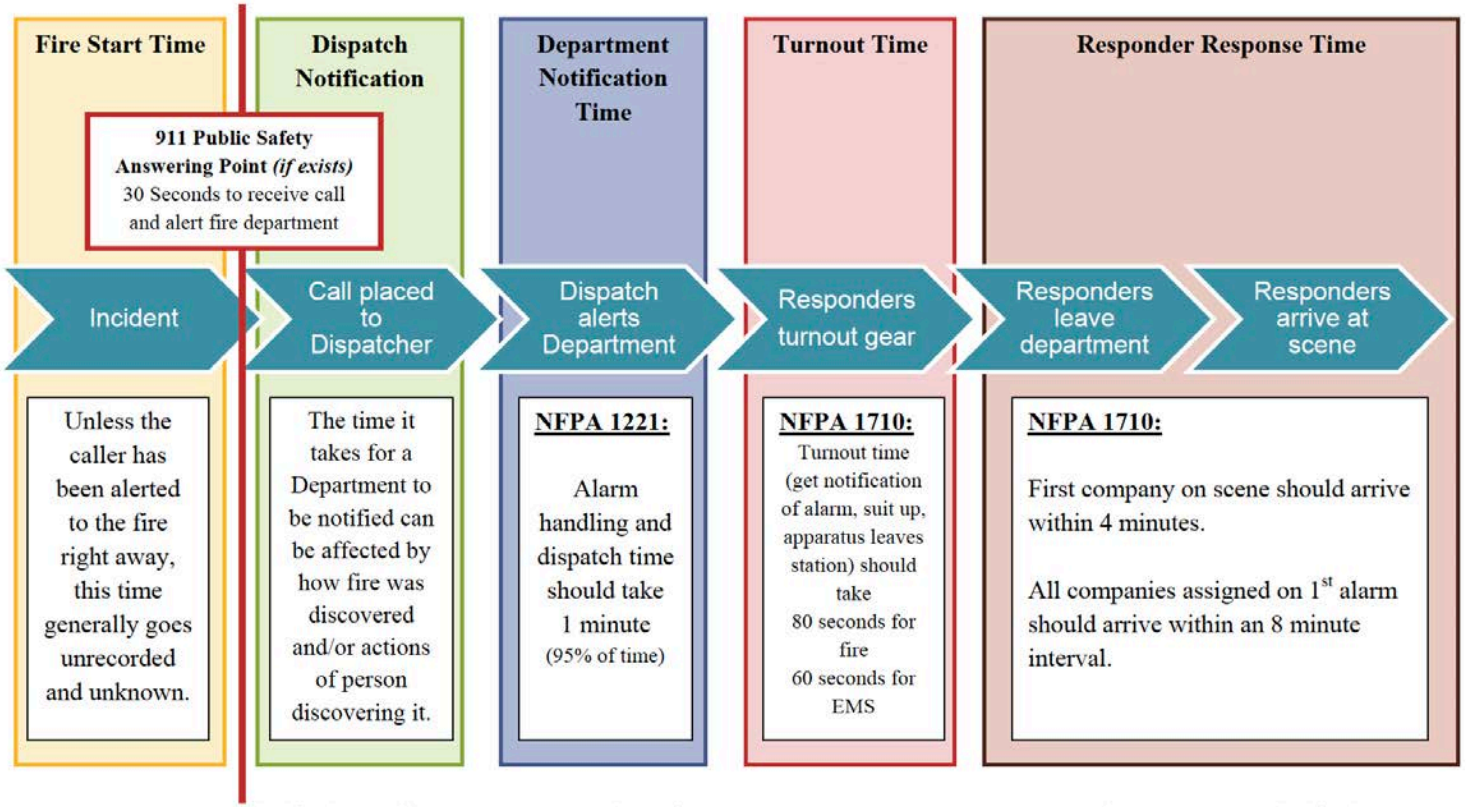
- Transport rates
  - Overall
  - Time of Day
- Levels of service
  - ALS vs. BLS

PM12. Patient Treatment Measures

Measures	Discussion	NFIRS Variable
% of patients that required BLS % of patients that required ALS % of patients that refused treatment % of patients transported from scene in fire service ambulance or apparatus % of patients that were treated on scene	These measures identify the demand for EMS services based on patient data. A more detailed measure would examine the % of patients requiring transport to hospital by symptom of patient or cause of injury. Time it takes to transport patients can be a contributing factor in the level of treatment needed or the status of the patient. Analyzing patient treatment measures along with transport time paints a clearer picture of performance.	EMS and transport is captured in actions taken codes 30-39 in the basic module. The number of people needing EMS or transport is not captured on the basic module NFIRS. However, departments can use incident totals, as an alternative to people. Remember to limit analysis to incident type 300-399 for EMS incidents. The EMS module in NFIRS captures patient status-improved, remained same, worsened. This variable can be used in concert with measures of patients treated on scene and level of treatment required.

Career Agencies

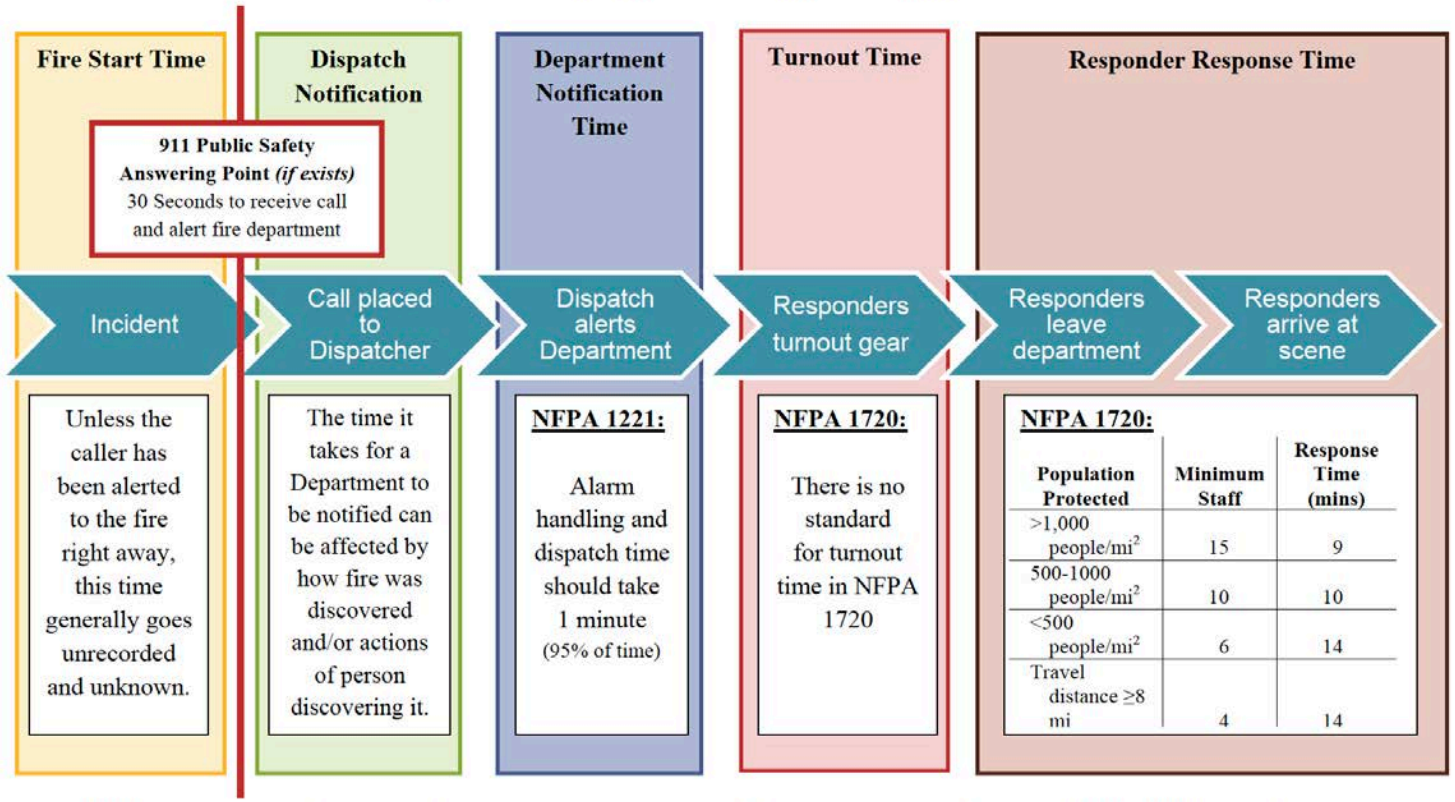
Figure 2. Incident Development and Response Timeline and NFPA 1221 and 1710 Recommendations for Career Firefighters



Source: NFPA 1221: *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems* and NFPA: 1710 *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments.*

Volunteer / Combination Agencies

Figure 3. Incident Development and Response Timeline and NFPA 1221 and 1720 Recommendations for Volunteer Firefighters



Source: NFPA 1221: *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems* and NFPA: 1720 *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments.*

Performance Measures

- What have we used historically?
  - How many years of data do we have?
  - Do we evaluates trends?
- Do we measure ‘high priority incidents’ separate from all incidents?
- How often do we assess our performance?
- Who do we share our performance measures with?
  - Rank & file members?
- Do we consider statistically significant changes – or is it just variance in the data?

Concluding Thoughts

Don’t Swing at Pitches in the Dirt”

“Internal goals set in the management of a company are usually a burlesque.
. . .

A natural fluctuation in the right direction (usually plotted from inaccurate data) is interpreted as success.

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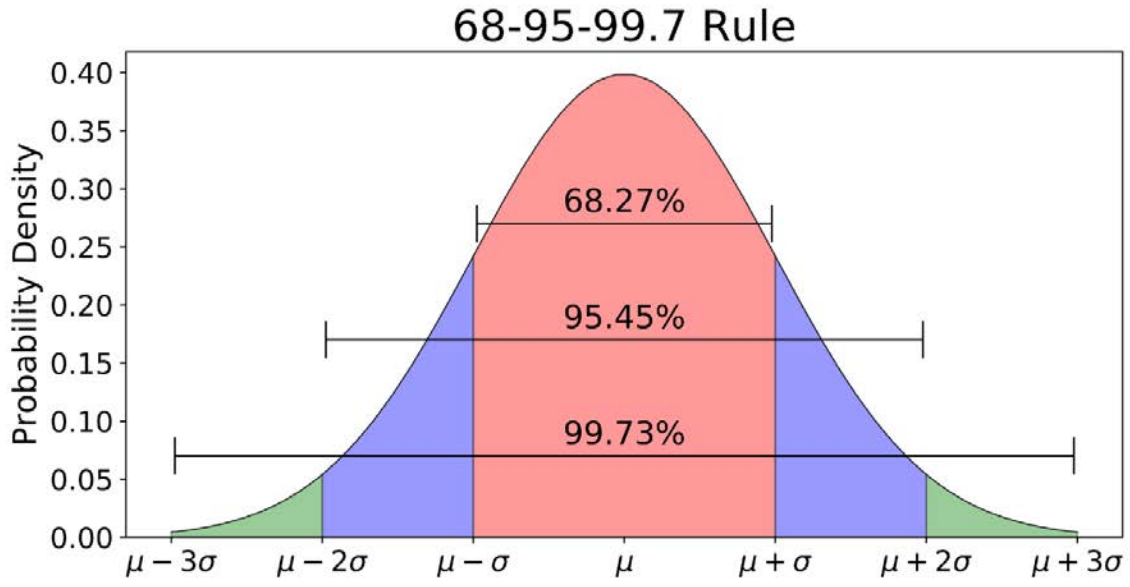

Inclusive Leaders:

Are Your Chiefs the Best Fit for the Agency?

- Leadership that assures that all team members feel they are treated respectfully and fairly, are valued and sense that they belong, and are confident and inspired.
- Teams with inclusive leaders are 17% more likely to report that they are high performing, 20% more likely to say they make high-quality decisions, and 29% more likely to report behaving collaboratively.

Bourke, J & Espedido, A (March 2019). Why Inclusive Leaders Are Good for Organizations, and How to Become One. Harvard Business Review. Accessed at https://hbr.org/2019/03/why-inclusive-leaders-are-good-for-organizations-and-how-to-become-one# on May 11, 2019.

Inclusive Leaders:

Do Your Chiefs Exhibit These Qualities?

These are the six traits or behaviors that we found distinguish inclusive leaders from others:

- **Visible commitment:** They articulate authentic commitment to diversity, challenge the status quo, hold others accountable and make diversity and inclusion a personal priority.
- **Humility:** They are modest about capabilities, admit mistakes, and create the space for others to contribute.
- **Awareness of bias:** They show awareness of personal blind spots as well as flaws in the system and work hard to ensure meritocracy.
- **Curiosity about others:** They demonstrate an open mindset and deep curiosity about others, listen without judgment, and seek with empathy to understand those around them.
- **Cultural intelligence:** They are attentive to others' cultures and adapt as required.
- **Effective collaboration:** They empower others, pay attention to diversity of thinking and psychological safety, and focus on team cohesion.

Bourke, J & Espedido, A (March 2019). Why Inclusive Leaders Are Good for Organizations, and How to Become One. Harvard Business Review. Accessed at https://hbr.org/2019/03/why-inclusive-leaders-are-good-for-organizations-and-how-to-become-one# on May 11, 2019.

Show-Up & Observe

When Arriving On-Scene

- Ask . . . Where is the command post?
- Ensure . . . Any group on-scene also has a presence in the Command Post
- Inquire . . . What do you need?
- Understand . . . What is the plan?

As the Incident Progresses

- Evaluate . . . Is the incident Escalating, Stable, or Diminishing?
- Observe . . . Communications among Participants; Level of Calmness & Confidence

Bruce J. Moeller, PhD

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