

**NICE**<sup>®</sup> & *Denise Amber Lee*  
FOUNDATION eBook

10 9-1-1 Quality Assurance  
Best Practices, Tips and  
Tools for Success



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Nathan Lee



Sherrill Ornberg, ENP, RPL



Eric Parry, ENP



Patrick Botz

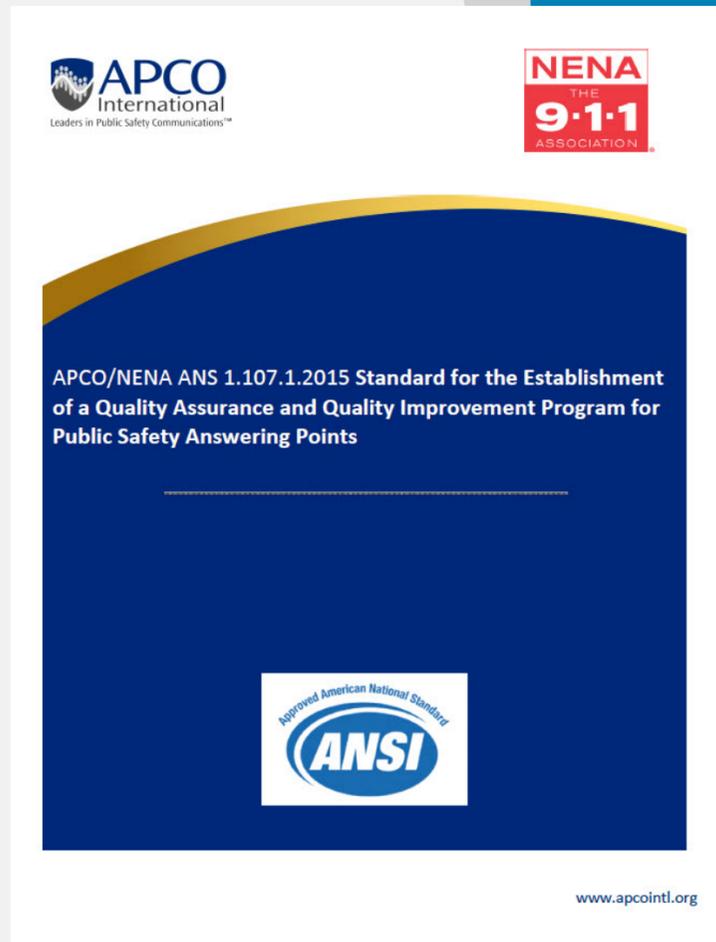
This eBook, published by NICE and the Denise Amber Lee Foundation, highlights ten best practices for 9-1-1 QA based on the new standard, and also based on input from several notable experts, including Patrick Botz, co-author of the book *'The High Performing PSAP: Best Practices for NG9-1-1 Recording and Quality Assurance'*; Eric Parry, ENP, who chaired the APCO/NENA Development Standards Committee Quality Assurance Working Group; and Sherrill Ornberg, ENP, RPL, who collaborated with other members of the Working Group to create the new national standard and whose primary contribution was the quality assurance review forms.

Together, NICE and the Denise Amber Lee Foundation have embarked on a nationwide '9-1-1 QA Every Day' initiative to see every PSAP employing consistent Quality Assurance processes.



April 2018 will mark the three year anniversary since NENA and APCO introduced the new standard for Quality Assurance and Quality Improvement (QA/QI) for PSAPs (APCO/NENA ANS 1.107.1.2015).

The idea behind the initiative was to “establish a long overdue quality assurance and improvement process for all of North America’s 9-1-1 PSAPs and their telecommunicators to ensure call taking and radio dispatch actions are delivered at the highest possible standard.”



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All of the training in the world is useless if the professional telecommunicator isn’t being continuously monitored and reinforced for proper procedures.

– APCO NENA QA/QI ANSI Standard Foreword

Tip

1

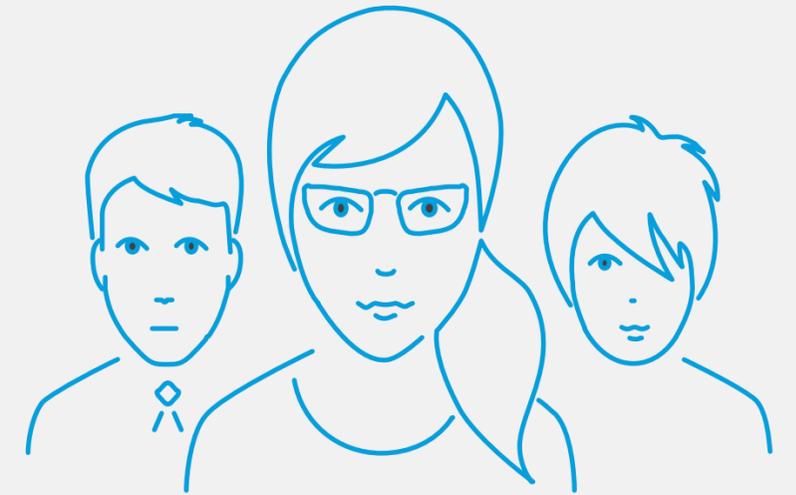
# How to Overcome Resistance to Your QA Program



# Tip 1 How to Overcome Resistance to Your QA Program

The key to overcoming fear and resistance to QA and monitoring is to involve telecommunicators in the planning process from the get-go, and elicit their input.

- ✓ Explain the objectives of the program
- ✓ Clarify exactly how they'll be monitored, what criteria they'll be measured on, how evaluations will be conducted, how the data will be used, and why it matters to them
- ✓ Get them involved in QA form design.
- ✓ Allow them to listen to their own calls and self-evaluate
- ✓ Phase the program in over a period of time, soliciting feedback and making adjustments along the way

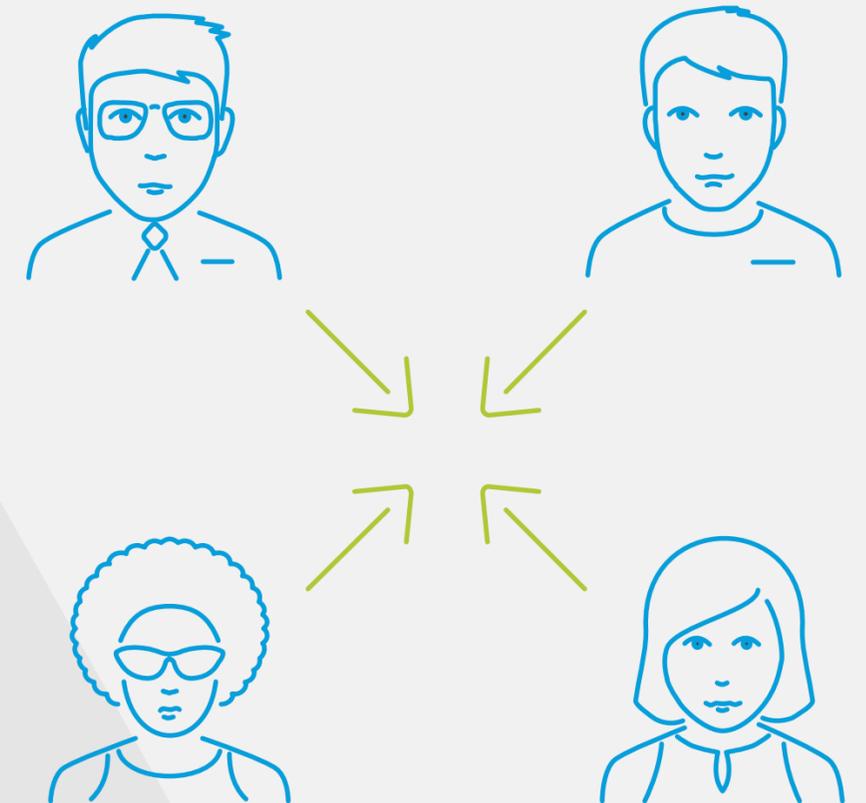


# Tip 1 How to Overcome Resistance to Your QA Program

According to Ornberg, your QA program will also have better odds of success if supervisors start out by selecting a couple of positive calls for each telecommunicator, so they are less fearful as they acclimate to the QA process.

Employees must believe that the program will be conducted with absolute objectivity and fairness, so make sure your PSAP uses the same criteria to measure everyone, all the time, and calibrates evaluators for consistency.

Finally, consider using QA forms during the hiring and onboarding process to help new employees better understand how they'll be measured and evaluated, and what knowledge, skills, and abilities are necessary to be a successful telecommunicator.



# Tip 2

## Selecting the Right Quality Assurance Evaluator (QAE)



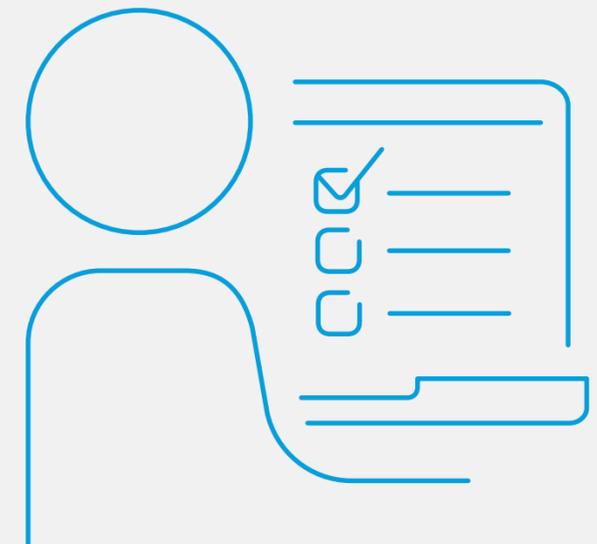
# Tip 2

## Selecting the Right Quality Assurance Evaluator



The responsibility for reviewing telecommunicator work performance and documenting compliance with your agency's directives and standards through evaluations ultimately falls on the Quality Assurance Evaluator or QAE. The person or people you select for this key role need to know your agency's policies and procedures inside and out, and be thoroughly dedicated to the advancement of your agency. I think that's probably the number one aspect of a QAE. There can't be friendship discounts. They need to exhibit a professional attitude and be thorough, consistent and objective."

– Sherrill Ornberg, ENP, RPL



Tip

3

How Many and  
Which Calls to Monitor

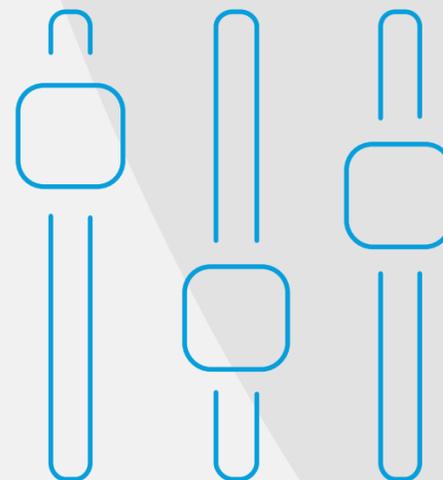
# Tip 3

## How Many and Which Calls to Monitor

The standard recommends that PSAPs review a minimum of 2 percent of all calls (including both call-taking and dispatching components). Ornberg, Parry and Botz all agree that random QA is the best approach. Don't just pick out bad calls or zero in on specific telecommunicators.

Everyone involved in handling calls should be monitored, whether full time, temporary or volunteer telecommunicators.

The standard also recommends that all low frequency calls involving any high acuity or catastrophic events be reviewed, in addition to any other types of calls the agency deems important.



While all personnel should be evaluated weekly to ensure timely feedback, new hires should be evaluated more frequently.

- Patrick Botz



Tip

4

Review the Whole  
Call, Not Just the  
Intake Piece

# Tip 4

## Review the Whole Call, Not Just the Intake Piece

Perhaps no story illustrates more poignantly the critical need for a 9-1-1 QA/QI program than that of Denise Amber Lee. On January 17, 2008, Denise was abducted from her home in North Port, Florida. In the hours that followed, Denise managed to dial 9-1-1 using her captor's cell phone. At least four other calls to 9-1-1 were placed, one from her distraught husband and three from eyewitnesses. But despite all the calls, no help was ever dispatched.

According to Eric Parry, one of the things that sets the new standard apart is that it embraces QA for the entire call taking and call dispatch process.



“

One of the things that sets the new APCO/NENA QA standard apart is that it embraces QA for the entire call taking process. Typically quality assurance programs that are out there and commercially available only cover the call intake piece. What we decided to do here is cover the whole thing – stem to stern. So, we not only have processes in place for evaluating the three types of disciplines that come into our 9-1-1 centers, we also have evaluation templates for the dispatch piece as well.”

– Eric Parry, ENP



# Tip 4 Review the Whole Call, Not Just the Intake Piece

Reviewing the entire multimedia incident is critical.



“

It wasn't just the call-taking in the Denise Amber Lee tragedy, it was the dispatch portion that was missing.

- Sherrill Ornberg, ENP, RPL



The screenshot displays the NICE Inform R999.0 software interface. The main window shows a reconstruction timeline with a play button and a search bar. Below the timeline is a results table with columns for Resource, Start Time, Duration, and other details. Green callout boxes point to specific events in the timeline: 'Unit Dispatch', 'Unit On Route', 'Unit On Scene', and 'Scene Clear'.

Resource	Start Time	Duration	Ch	Order
Metro south	05/03/2013 1...	04:26:54	5	124256176
Intrusion audio	05/03/2013 1...	05:00:00	5	11308701
Intrusion Video	05/03/2013 1...	05:00:00	3	11308701
Traffic	05/03/2013 1...	00:00:25	21	7212
Metro south	05/03/2013 1...	00:00:25	5	7212
Traffic	05/03/2013 1...	00:01:18	21	7212
Metro south	05/03/2013 1...	00:01:18	5	7212

1. Correct greeting used whether emergency or non-emergency call?

No  Yes  N/A

2. Caller advised to call back if situation changes, if applicable?

No  Yes

3. Call taker took control to get information necessary?

No  Yes  N/A

4. Dead air kept to a minimum?

No  Yes  N/A

Tip

5

# Setting Up Forms and Scoring Calls



Setting up QA forms is more of a science than an art. Gray areas cause confusion.

### Align with Standard Operating Procedures

Align forms with your PSAP's SOPs. They should address the entire intake and dispatch process and focus on three key areas: adherence to SOPs/protocol compliance, call quality (customer service), and required telecommunicator knowledge and skills.

### Create Unique QA forms for Different Call Types

Law enforcement, fire/rescue and EMS calls each have different procedures, flows and protocol compliance requirements. Therefore, you'll want to create unique QA audit forms for each of these call types and also for different job responsibilities within each type (e.g. call taking vs. dispatching).

### Setting Up QA Scoring

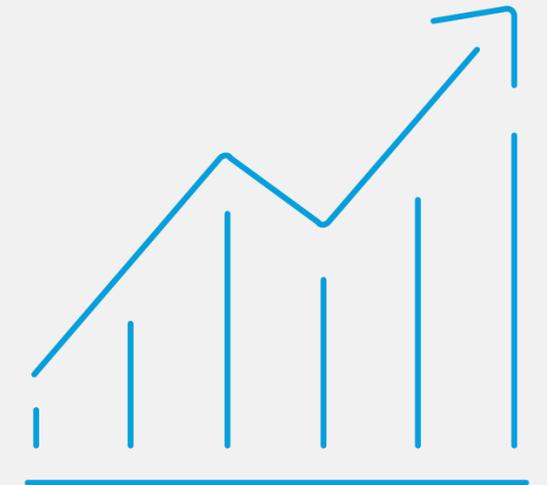
QA scoring is most effective when the questions are black or white. QAEs should only be able to select 'yes,' 'no,' 'refused' or 'N/A.' Determine a point value for each question, based on its relative importance. Include a checkbox for "exceeds requirements" to recognize top performers and "needs improvement") to identify training training/coaching gaps.

Target benchmarks: start lower, then ramp up

“

“Ultimately the target benchmark for a passing score for each evaluation should be 90 percent. Although I would very strongly recommend that PSAPs start at a much lower score, say 75 percent, when they roll their QA program out. As staff become acclimated to what’s expected from them, the acceptable score can be ramped up to 80 percent, then up to 85 percent, and so on.”

– Sherrill Ornberg, ENP, RPL



# Tip 6

Accentuate the Positive



# Tip 6

## Setting Up Forms and Scoring Calls

According to Ornberg, in addition to using the QA process as a way to identify learning opportunities, PSAPs should leverage it as a way to reinforce good behaviors and recognize excellence.

One way to do this is to include an “exceeds standards” category on all evaluation forms. A supervisor can then send a message of appreciation to the telecommunicator and display a team alert to recognize a job well done.



## Creative ways to reward top achievers:



Callout in an employee publication



Opportunity to attend a regional or national APCO/NENA conference



Letter of commendation from a supervisor



Preferred parking spot



Pat on the back in an employee meeting

Another way to recognize excellent performance is to incorporate best practice calls into a curriculum to train other telecommunicators. The person handling the call benefits from recognition while also helping to inspire and educate others.

# Tip 7

## Add Screen Recordings to Enhance QA Reviews

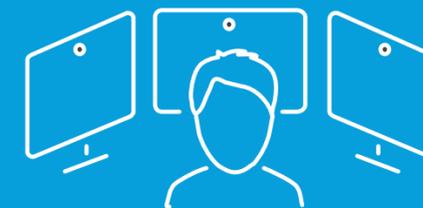
# Tip 7

## Add Screen Recordings to Enhance QA Reviews

Telecommunicators handle hundreds of different kinds of calls, all requiring different protocols and processes, and a host of systems. A single miss-step in following a protocol, a single miscommunication or system glitch could have disastrous consequences.

When issues do occur, it can be very difficult to get to the heart of the problem. Simply listening to the audio recordings and accessing the Computer-Aided Dispatch (CAD) details only paints a partial picture. On the other hand, recording and synchronizing voice and screen recordings can provide complete visibility into every facet of call handling, which leads to much deeper understanding.

Telecommunicators typically have between three to six screens running on their console. This usually includes CAD, GIS mapping software, call handling, 9-1-1 text messaging and other applications. Today's screen capture applications are able to record a telecommunicator's interactions with multiple monitors simultaneously.



# Tip 7

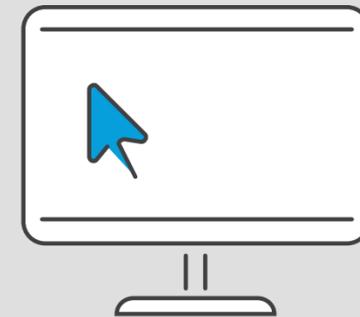
# Add Screen Recordings to Enhance QA Reviews

## Comprehensive

The new standard recommends that all parts of the incident communications be reviewed for quality assurance, including: call taking, dispatching, data entry (including CAD records and notes), post-dispatch instructions, pre-arrival instructions, answers to protocol/systemized interrogation questions, etc. QA software that includes synchronized playback of audio and screen recordings allows a supervisor to review all of these activities as part of a complete timeline and through one interface.

## Identify Skills Gaps and Discrepancies

You can also identify gaps between what was said and what was done by listening to the voice recordings and comparing them to the synchronized screen recording.



## Ensure Compliance

Protocols Screen recording can also help PSAPs ensure compliance. For example, an agency may have a protocol that requires telecommunicators to run a check to see whether or not a suspect in a domestic violence incident owns a gun. The results of that check would then need to be communicated to the responding officer, and entered into the CAD system as well (so the officer would also see it on his in-vehicle mobile device). Replaying the radio recording would confirm that the verbal communication took place, and the initial weapons check and subsequent entry into CAD could be easily confirmed through screen recording.

# Tip 7

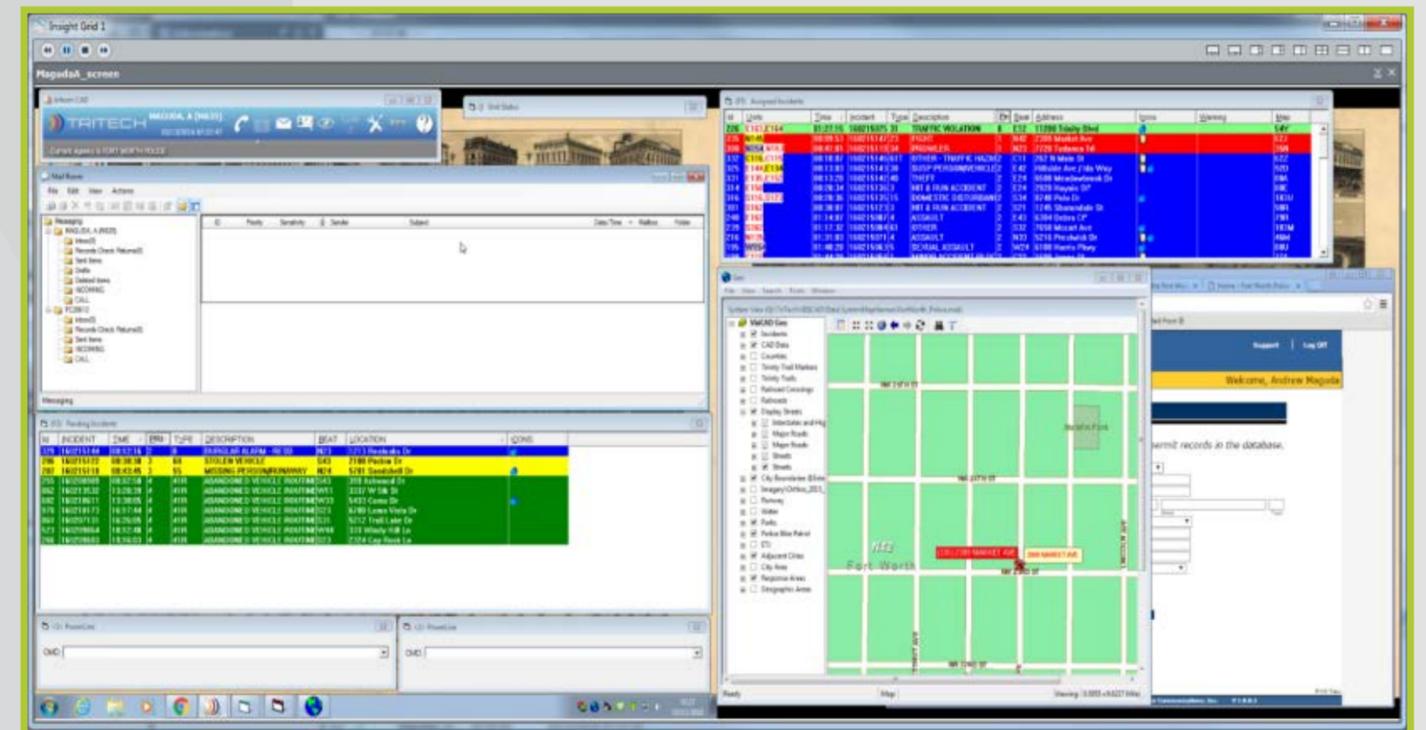
# Add Screen Recordings to QA Reviews

## Spot System Bottlenecks

Screen recording can help identify and isolate system problems that impact operator performance and ultimately service to your community. One PSAP that uses screen recording says that they were able to isolate issues with their CAD system that were subsequently corrected.

## Coaching and Skills Development

Complete, synchronized incident timelines that recreate every aspect of how a call was handled are beneficial for coaching and skills development.



# Tip 8

Ensure Timely Reviews  
and Employee  
Notifications

# Tip 8 Ensuring Timely Reviews and Employee Notifications

## Feedback should be timely



Ultimately Supervisors should never wait until the end of the month to do QA. Calls should be reviewed daily or at a minimum weekly.

Waiting until the end of the month leaves the door open for telecommunicators to make the same mistakes throughout the month. By identifying performance gaps and bringing them to the attention of employees sooner you can remediate them that much quicker through coaching or training.”

– Patrick Botz



Telecommunicators should also have the opportunity to review their evaluations and listen to their recordings prior to meeting with a supervisor. This will make the feedback session more effective and productive.



# Tip 9

Calibrate Often  
for Consistency

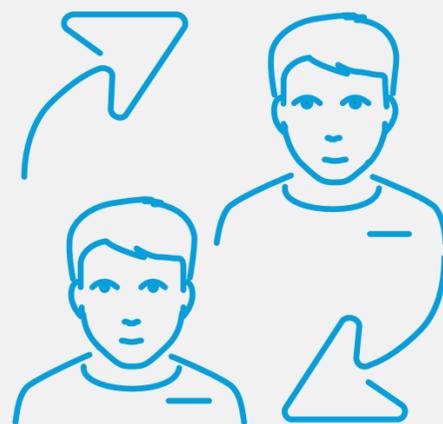
A black pen is shown writing the word "Consistent" in a cursive, handwritten style on a white notepad. The notepad is placed on a wooden surface. The pen is positioned below the word, with its tip pointing towards the end of the word.

Consistent

# Tip 9

## Calibrate Often for Consistency

Simply using the same criteria to evaluate everyone doesn't guarantee that QA evaluations will be consistent and objective. If you have multiple QAEs, each could interpret the evaluation criteria differently. That's why it's absolutely critical to create and document QA definitions, review those definitions with your QAEs and telecommunicators, and calibrate reviews on an ongoing basis.



If you have one QAE who's grading more generously and one who's grading more strictly your QA program will definitely fail, because you're going to have favoritism issues. Even if you just have one QAE, it's important to calibrate to make sure the QAE is in line with management's expectations."

– Sherrill Ornberg, ENP, RPL



# Tip 9

## Calibrate Often for Consistency



Tips from Botz to ensure your QAEs are evaluating fairly and consistently

### Proper QAE training

Evaluators need to be properly trained and periodically assessed to ensure that they are being fair and equitable, and scoring calls consistently, within an agreed-upon standard deviation across multiple QAEs.

### Frequency and timing

As a QA program is being rolled out, senior management should review QAE evaluations and calibrate them on a weekly basis, and as the program matures, transition to bi-monthly or monthly calibration reviews.

### Alignment with senior management

Senior management should select at least one call taking and one dispatching incident and score them, then ask the QAEs to do the same. If there are any outliers, management should then discuss and rectify any discrepancies in calibration sessions.

# TIP 10

Let Technology Do  
the Work for You



# Tip 10

# Let Technology Do the Work for You

Even today, with the availability of automated QA solutions, many PSAPs conduct their QA manually, using over-the-shoulder monitoring, manual call selection, and paper evaluation forms and reports. QA software solutions can eliminate paper and improve efficiency by streamlining every aspect of the QA process.

The screenshot displays the NICE Inform™ Evaluator software interface. The main window is titled "shooting event evaluation" and shows a "14 results" view. The interface is divided into several sections:

- Text Conversation (49 messages):** A list of messages from a call on 11/19/2013 at 10:47:00 PM, including "16 ST SHOOTING HURRY" and "911, where on 16th did this happen?".
- Map:** A map showing the location of the event, with a red pin and a yellow line indicating a route.
- Results Table:** A table listing 14 results for various resources, including "ARAPAHOE - 16S...", "Phone Positio...", "16ST MALL N...", "Primary Polic...", "POLICE AIR ONE", and "Fire Radio Ch...".
- Performance Evaluation:** A form titled "Awaiting review - Score: 100%" with five questions for evaluation:
  1. Was the address/location confirmed? (No/Yes)
  2. Was the telephone number confirmed? (No/Yes)
  3. Did the call taker confirm whether weapons were involved or present at the residence? (No/Yes)
  4. Did the call taker confirm whether drugs or alcohol were involved? (No/Yes/Not Applicable)
  5. How accurately were the details entered into the CAD System? (100% correct, Mostly correct with some minor errors, Mostly correct but with 1 significant error, Multiple significant errors)

# Tip 10 Let Technology Do the Work

## Automated call scheduling rules

Set up rules in the QA system to select a specific number or percentage of calls (for each telecommunicator for a specific time period). Automating this process means QAEs get a true random sample. You can further refine automated call selection based on other criteria: call length, time of day, day of week, originating locations or call type.

The screenshot shows the 'Schedules' window in NICE Inform. The 'Schedule name' is 'Call Taker - Daily QA'. The 'Evaluations created' is set to 'Daily'. The 'Evaluation form' is 'RS Test Form'. The 'Preferred call duration' is 'Medium (2-10 minutes)'. The 'Evaluating user' is 'Smith, Richard (rsmith)'. The 'Next evaluation creation date' is '20 February 2014'. The 'Number to generate per user per month' is '3'. A list of users is shown on the right: Schwab, Rochelle (rschwab), Jones, Thomas (tjones), Wolter, Kevin (kwolter), St. Pierre, Terry (tstpierre), and Gutteridge, David (dgutteridge).

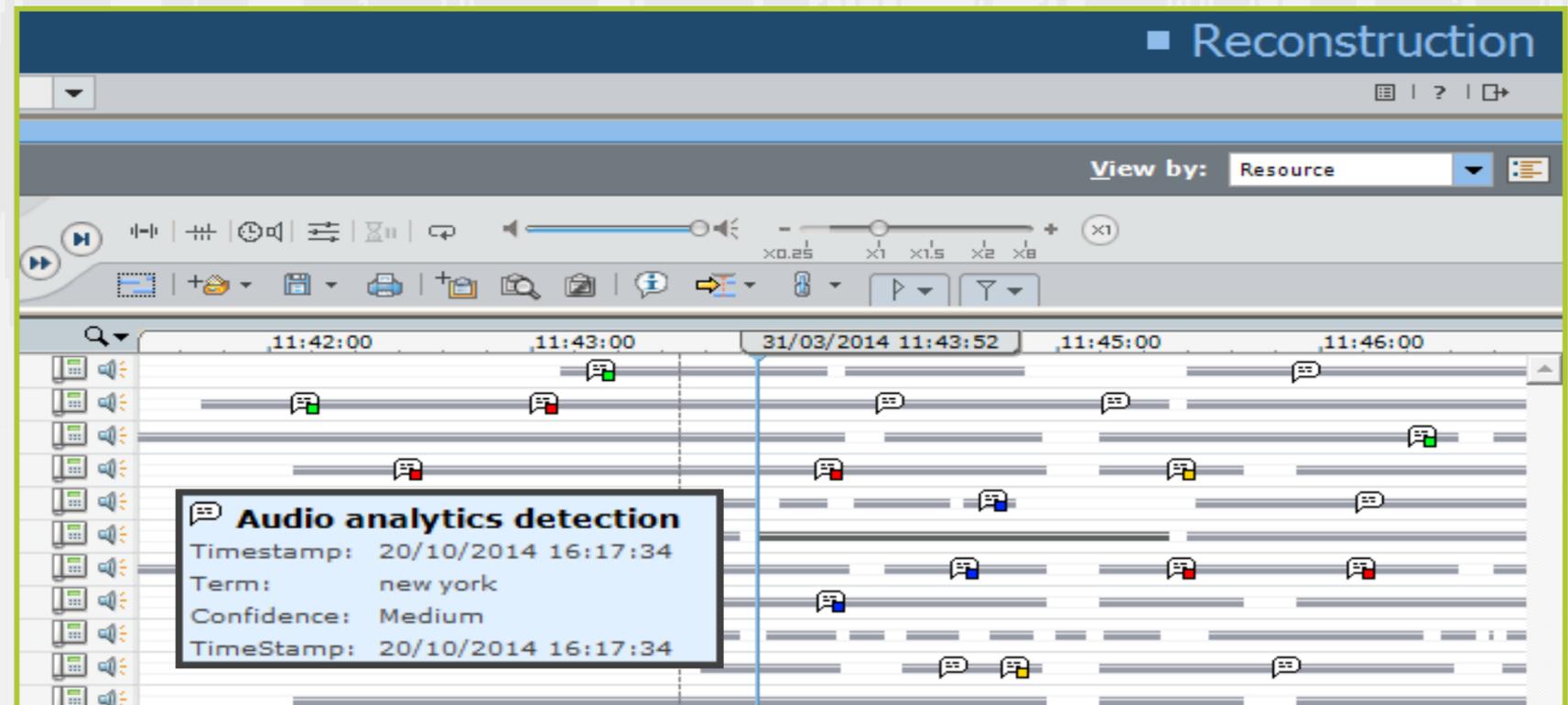
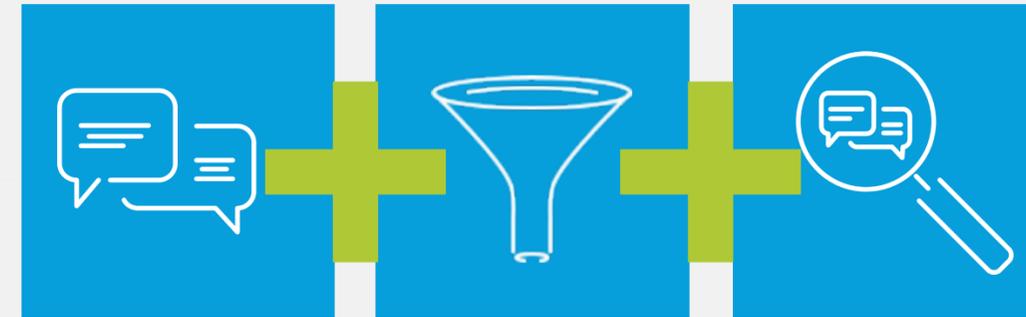
The screenshot shows the 'New Evaluation Schedule Wizard' window in NICE Inform. The 'Schedule name' is 'Call Takers'. The 'Desired number of evaluations to generate per user every month' is '4'. The 'Preferred call duration' is 'Any'. The 'Create' dropdown is set to '1st day of the month'. The window has buttons for '<< Back', 'Next >>', 'Cancel', and 'Help'.

# Tip 10

# Let Technology Do the Work for You

Use audio analytics to monitor 100% of calls for compliance to protocols

Use audio analytics to ‘listen’ to 100 percent of 9-1-1 calls and isolate problem calls (e.g. containing unacceptable language), or to detect the presence or absence of keywords / phrases to determine if protocols were followed.



# Tip 10

# Let Technology Do the Work for You

## Playback and review call recordings within your existing applications

Thousands of PSAPs nationwide now use protocol-driven software – like Priority Dispatch’s AQUA and APCO 9-1-1 Adviser – to guide telecommunicators through responses for police, fire and EMS calls, and to evaluate those same calls after-the-fact. Having call recording integrated directly into the Priority Dispatch software interface can cut QA review time in half because QAEs can automatically pull up all calls and review them in one interface.



The screenshot displays the Priority Dispatch AQUA software interface. The main window shows a 'Case Evaluation Basics' form for case # 2014105106, dated 6/1/2014 at 11:22:57. The caller is identified as 'HBNENNETT - Holly Bennett' and the complaint is 'AJUNT IS HAVING A STROKE'. The interface includes a navigation menu on the left with options like EMD, EPD, EONS, Case List, and Reports. A toolbar at the top contains various icons, including a red-bordered 'Audio' icon. An inset window titled 'Audio Search' is open, showing search criteria for start and end dates and times, and a table of search results.

StartTime /	EndTime	id
2015-01-15T00:00:18	2015-01-15T00:05:19	IdP1ib9/vCe9wok
2015-01-15T00:47:33	2015-01-15T00:52:34	K29D9guy0Ujg4AY
2015-01-15T00:52:48	2015-01-15T00:57:49	Q1FqLPDymu7Djn74
2015-01-15T00:58:03	2015-01-15T01:03:04	OpG2Bc5S450JmQku
2015-01-15T01:03:18	2015-01-15T01:08:19	msEghIDhbrvMr2D

## Pre-programmed QA templates and evaluation form builders

Start from a library of pre-built forms or use form builders to quickly create QA forms for different protocols, roles and incident types, first setting up form sections and questions, then assigning weighting factors. The QA software automatically tabulates the scores as evaluations are completed.

The screenshot displays the NICE Inform R7.1 software interface. The main window is titled "NICE Inform™" and includes a menu bar with options: Monitor, Reconstruction, Organizer, Reporter, Evaluator, and Administration. The "Evaluator" tab is active. On the left, there is a sidebar with "Evaluations" and "Screen Example" sections. The central area shows "8 results" for a specific evaluation, with a "View by: Resource" filter. Below this is a "Results Table" with the following data:

Resource	Start Time	Duration
David Smith - ...	30/03/2014 1...	00:01:09
David Smith	30/03/2014 1...	00:01:08
R11308701V0...	30/03/2014 1...	00:00:59
TG5 - West	30/03/2014 1...	00:00:06
TG7 - NEast	30/03/2014 1...	00:00:13
TG5 - West	30/03/2014 1...	00:00:07
TG5 - West	30/03/2014 1...	00:00:06
TG7 - NEast	30/03/2014 1...	00:00:14

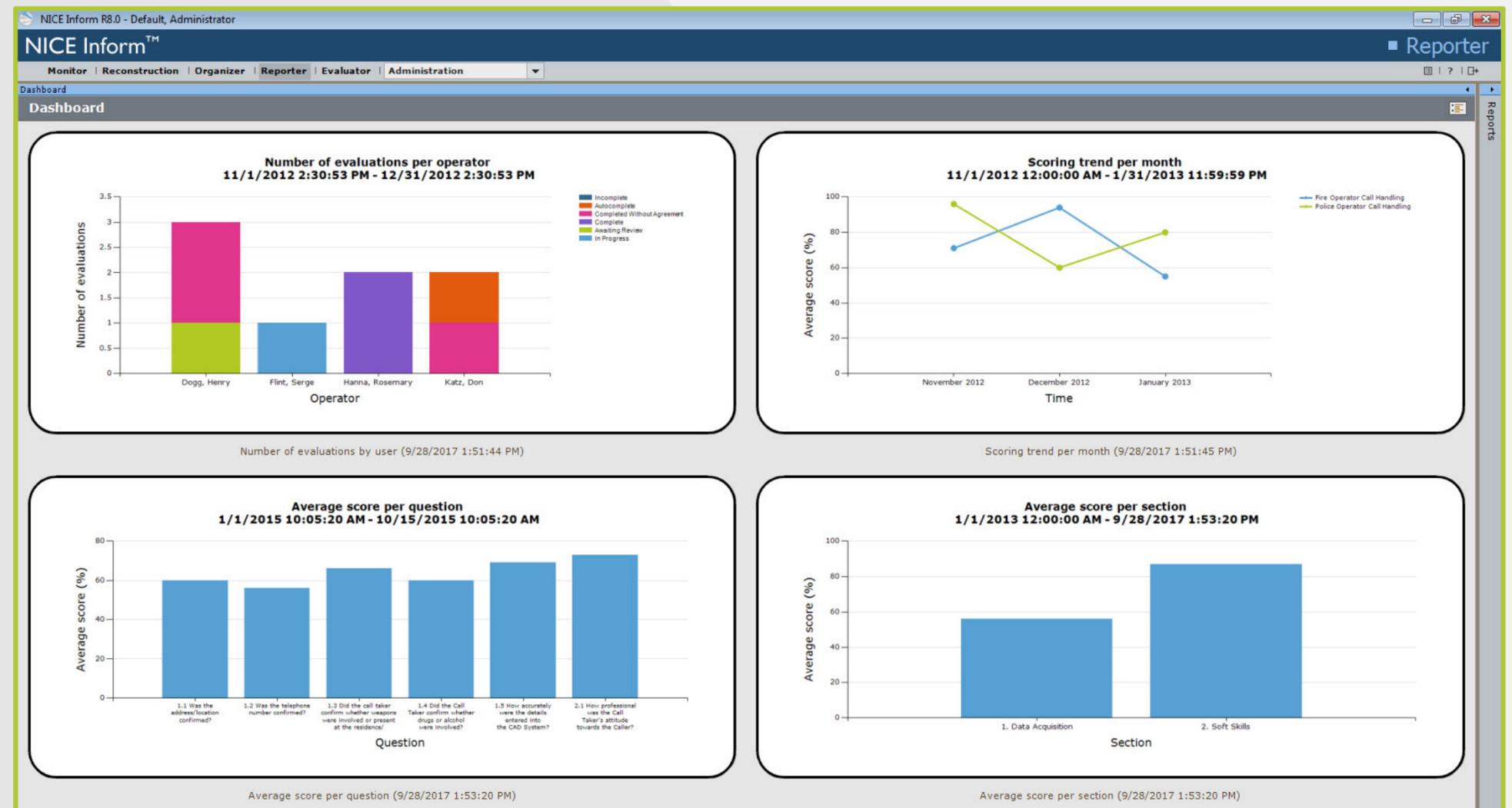
On the right side, there is a form titled "In Progress - Score: 25%". The form has tabs for "General", "Evaluation", and "Notes (0)". The "Evaluation" tab is active, showing a list of evaluation items:

- 1 Location
  - 1.1 Verified Address:  No  Yes  N/A
  - 1.2 Entered Address Correctly:  No  Yes  N/A
  - 1.3 Entered Location Field Correctly:  No  Yes  N/A
- 2 Caller Information
  - 2.1 Verified Phone Number:  False  True  N/A
  - 2.2 Entered Phone Number Correctly:  False  True  N/A
  - 2.3 Entered Caller Name:  No  Yes  N/A

There are "Save" and "Cancel" buttons at the top of the form. A "Section note" field is visible below the evaluation items.

## Automated reporting

The beauty of electronic scoring is that it also makes it possible to automatically generate reports which highlight performance metrics and trends. These insights can then be applied to improving performance via one-on-one coaching sessions, or training on a broader scale.



“

QA review is often the only mechanism that management has to be cognizant of the quality or lack of quality in their workforce communications. When correctly implemented, a QA/QI program provides an eye-opening experience for all involved, which can lead to a superior level of service to both, the public and first responders.”

– Nathan Lee, Founder, Denise Amber Lee Foundation



# Ready to improve your QA program? We're here to help.

## NICE

NICE is the world's leading provider of mission-critical communications recording, quality assurance and incident intelligence solutions. NICE Inform captures manages and synchronizes multimedia call, radio and text communications to provide a complete, true record of emergency incidents. NICE Inform is Next Generation 9-1-1 ready, supports digital, IP and P25 recording, and is open standards for hardware platform flexibility and ease of integrations. More than 3,000 NICE Inform systems are deployed worldwide.



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## Denise Amber Lee Foundation

The mission of the Denise Amber Lee Foundation, a 501c3 non-profit, is to promote and support public safety through uniform training, standardized protocols, defined measurable outcomes and technological advances in the 9-1-1 system. Established in June 2008, in response to the murder of Denise Amber Lee, the foundation seeks to use the emotional power of this senseless tragedy to promote and encourage the use of technology, training, and procedures to reduce the occurrences of human error. Expert Quality Assurance offerings include QA Program Consulting and 3<sup>rd</sup> Party QA Services.



[www.DeniseAmberLee.org](http://www.DeniseAmberLee.org)

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[LEARN MORE](#)

## APCO/NENA Standard for the Establishment of a QA/QI Program

Available free for download [here](#).

