Risk Based Surveillance
Getting more for less

Risk Based Surveillance Workshop - Lima, Peru - 19 & 20 March 2018
Prescriptive Surveillance

3 most common methods of resource allocation:

One size fits all

Based on size

Completely random
Only 201 Unsatisfactory
Barely 64 properly closed
4 hours  
2 inspectors  
8 man-hours

742 Satisfactory inspections  
8 man-hours/inspection  

5933 man-hours
US forced to import bullets from Israel as troops use 250,000 for every rebel killed

250,000 : 1 Ratio
What about traffic growth?

Air transport is a growth market

60% growth over the last ten years

More than double since 9/11
According to figures released by the Department of Defense, the average number of rounds expended in Vietnam to kill one enemy soldier with the M-16 was 50,000. The average number of rounds expended by U.S. military snipers to kill one enemy soldier was 1.3 rounds. That's a cost difference of $23,000 per kill for the average soldier, vs. $0.17 per kill for the military sniper.
So, how we turn this 250,000 : 1 Ratio into this 1.3 : 1 Ratio?
Copying those who know
Risk Based Surveillance

One size fits all  Based on size  Completely random  Risk Based
Risk Based Surveillance

Resource allocation based on individual service provider risk profile = **EFFICIENCY**
Risk Based Surveillance Procedures

Must be performed by teams
Must be based on consensus
Must complement not replace
Must be applied gradually
Must be revised periodically
1. Risk Based Surveillance Planning
   *To whom and how much?*

2. Risk Based Surveillance Execution
   *What and why?*

3. Findings follow-up and control
   *Now what?*
1. Risk Based Surveillance Planning

To whom and how much?

- Safety Performance Level
- Operational Complexity Level

<table>
<thead>
<tr>
<th>Activity Type</th>
<th>Related Population</th>
<th>Minimum Activities</th>
<th>Periodicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route Inspection - Cabin</td>
<td>Stations</td>
<td>8</td>
<td>2 months</td>
</tr>
<tr>
<td>Route Inspection - Flight Deck</td>
<td>Stations</td>
<td>8</td>
<td>2 months</td>
</tr>
<tr>
<td>Ramp Inspections</td>
<td>Aircraft</td>
<td>13</td>
<td>1 month</td>
</tr>
<tr>
<td>Station Inspections</td>
<td>Stations</td>
<td>8</td>
<td>2 months</td>
</tr>
<tr>
<td>Check Pilot Inspections</td>
<td>Check Pilots</td>
<td>3</td>
<td>4 months</td>
</tr>
<tr>
<td>Base Inspection</td>
<td>-</td>
<td>1</td>
<td>18 months</td>
</tr>
</tbody>
</table>
2. Risk Based Surveillance Execution

*What and why?*

It’s all about DATA

Risk Based Prioritization

90% preparation
10% execution
3. Findings follow-up and control

Now what?

States to implement suitable means to ensure:

- Easy and fast consultation of findings status
- Timely resolution of open findings
- Timely warnings are received when deadlines are about to expire
- Timely warnings are received when deadlines expire
- Easy and comprehensive data analysis for trend identification
Surveillance metrics

How well are we doing

Set of 3 complementary metrics as part of State SSP:

- Surveillance Compliance Rate (1.0)
- Finding per Inspection Ratio (1.0)
- Closed findings rate (1.0)

States to set annually SMART targets
“The highest type of efficiency is that which can utilize existing material to the best advantage”.  

(Jawaharlal Nehru)