

Achieve faster, more streamlined operations with Instrument Manager using Autoverification

Data Innovations Team:

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Introductions

Neal Davis

Manager, Implementation Consulting VA , AV alpha and beta-site consultant

Donovan Billy

Senior Laboratory Solution Consultant, AV beta-site consultant

Evelyn Harrison

Laboratory Solution Consultant, VA LIM for 17 years and AV beta-site LIM

Miranda Crawford

Laboratory Solution Consultant

Liesl Wilson

Laboratory Solution Consultant, VA LIM for 11 years and National AV Innovator

Challenges within the VA lab

Currently, every result must be individually reviewed by certified laboratory personnel and manually validated by keystroking initials in software before the information can be released to hospital clinicians (physicians and nurses).

This labor-intensive system is ultimately unsustainable due to several critical constraints



Insufficient and decreasing supply of Medical Technologists



Increasing demand for laboratory work caused by a growing & aging veteran population



Expanding laboratory test choices driven by technological advancements



Recurring regulatory requirements



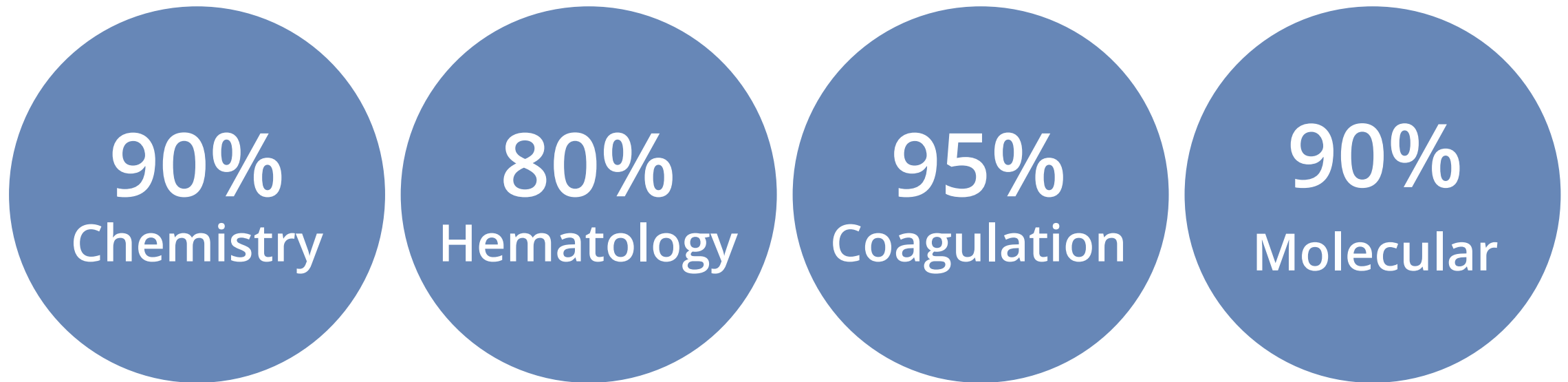
On-going budgetary and cost containment pressures

What is Autoverification?

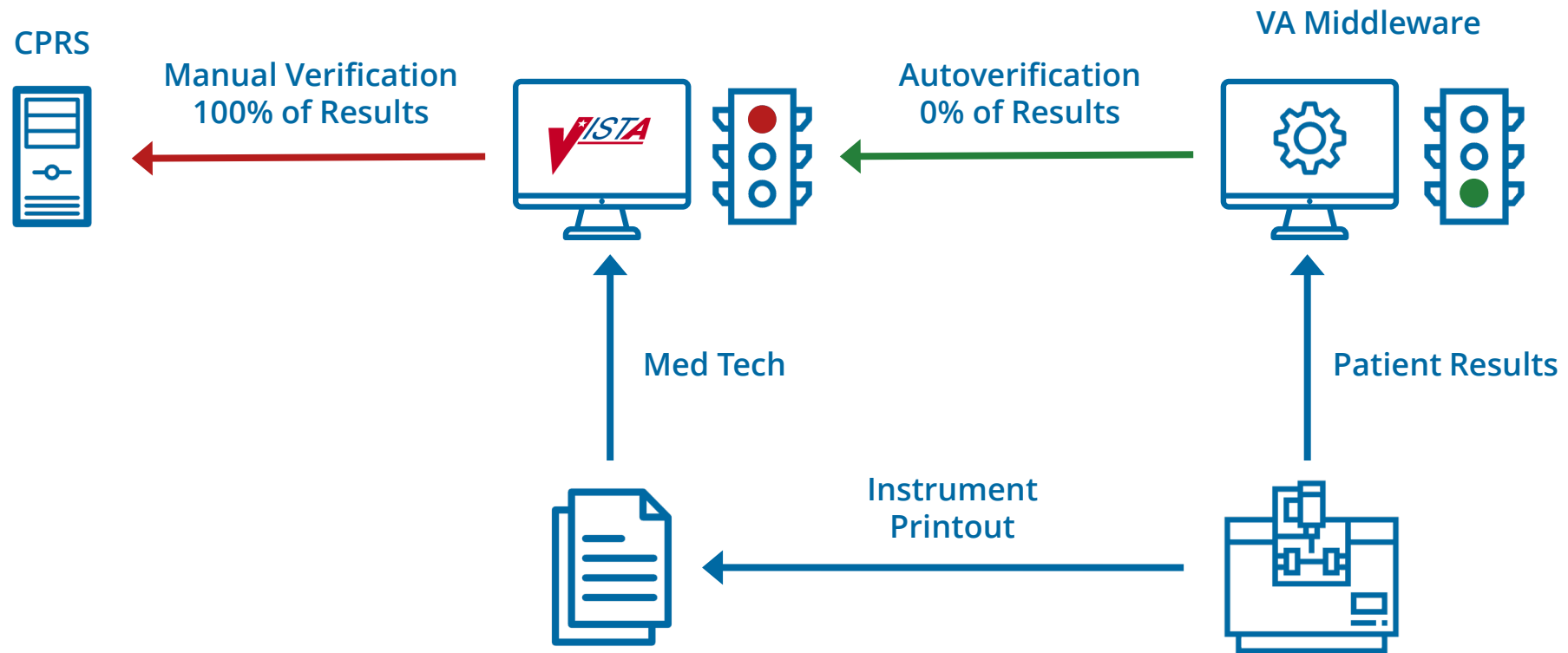
- Auto-verification uses software logic (rule algorithms or Boolean Logic (If...Then statements) to define “normal” and “abnormal” result criteria. The software automatically approves and instantly routes normal results to the clinician.
- The exclusion of normal results from the medical technologist’s workload, he or she can concentrate exclusively on abnormal results and provide diagnostics to the clinician more quickly.
- In both cases, results are released to clinicians with greater speed and efficiency, and with less potential for error.



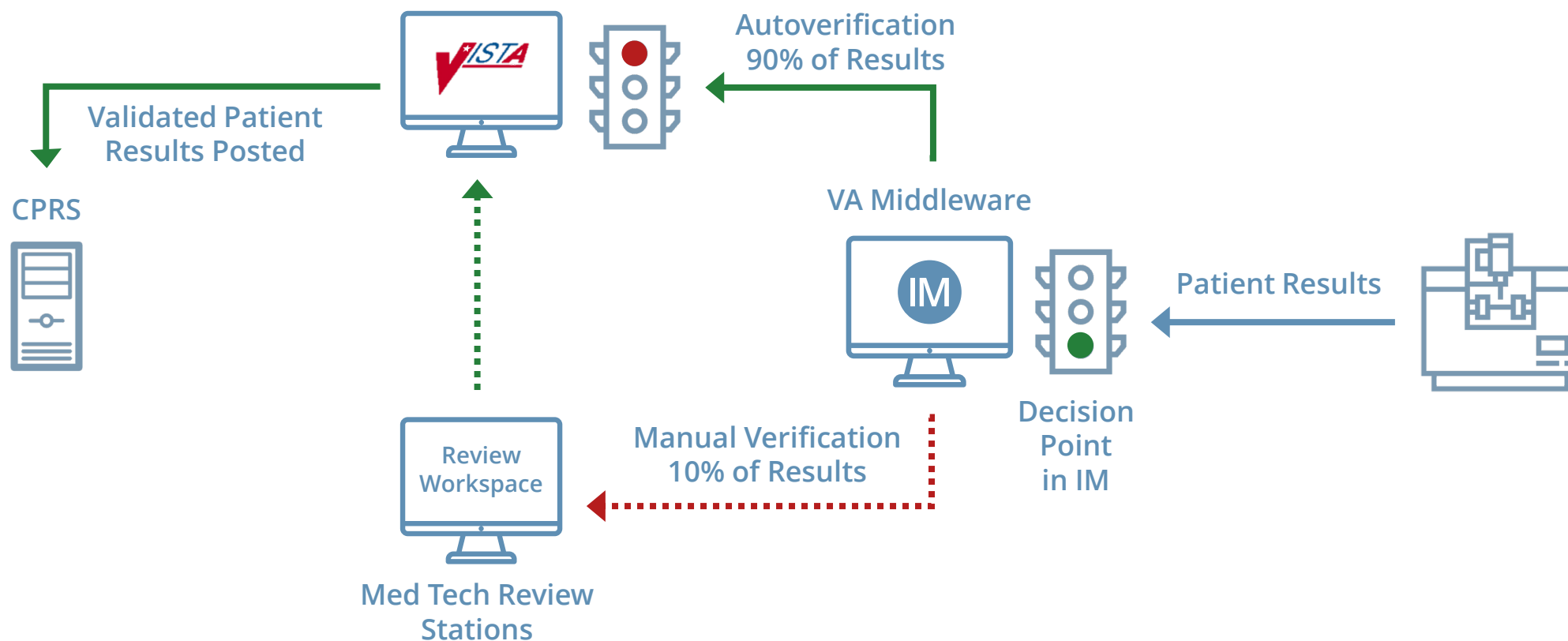
Autoverification rates commonly seen at VA sites



Current Workflow in many VA Labs

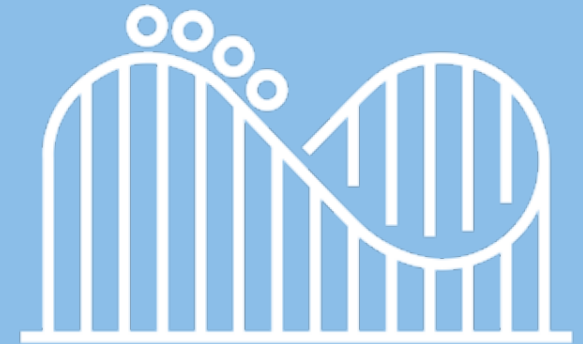


VistA Autoverification Workflow

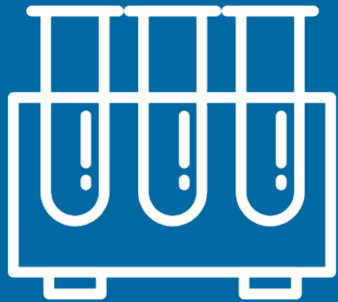


How did Autoverification Originate in the VA

- Grass roots effort by Med Techs
- 2013: Kansas City VA developed AV as a Class 3 solution
- 2014: Kansas City VA won the All Employee Innovations Competition to pilot the solution (similar to the new Shark Tank)
- Many LIMs in the nation gave support for the project and expressed their need for the solution. Thank you!
- 2015: Beta-sites tested AV Class 1 solution
- 2016: AV became part of the Core VistA package

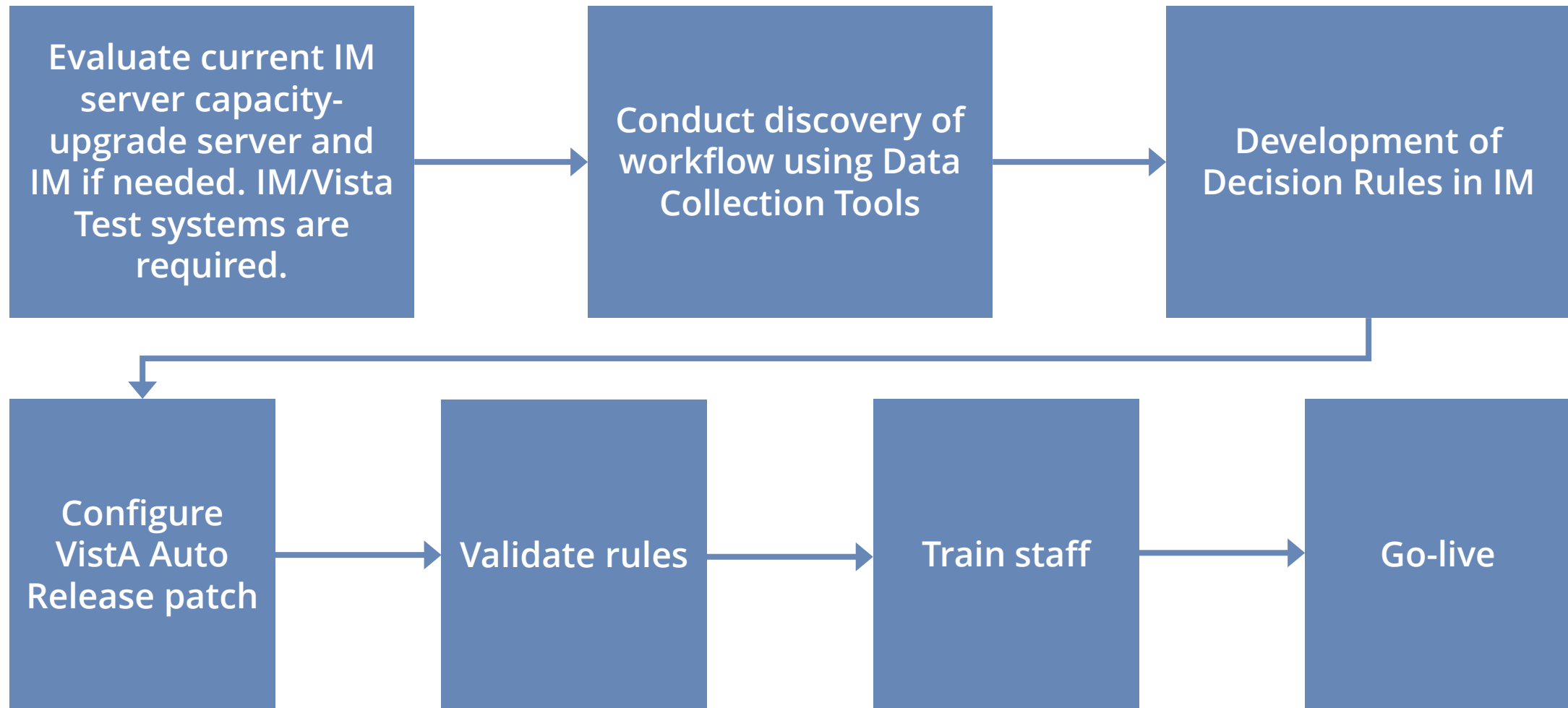


Why do you need AV?



- Shortage of Med Techs- USA Jobs currently has 77 Med Tech positions nation-wide
- Increase patient safety by standardizing the workflow
- Decrease TAT and move patients through the system
- Decrease send out costs by increasing in-house test menu availability
- Increase value added tasks- participation in validation, procedure writing, CAP preparedness, employee education
- Increase Med Tech student programs
- Greening the Government- Executive Order 13514 and GEMS Committee

How is AV Accomplished?



What does AV Look Like in Instrument Manager?

The screenshot displays the 'Instrument Manager by Data Innovations LLC for Veterans Affairs - [Rules Setup - ARCH ALL AV]' window. The interface includes a menu bar (System, Configuration, Diagnostics, Security, Specimen Management, SSR, DC, SR, MM, MA, Laboratory Intelligence, Reports, Window, Help) and a toolbar with various icons. The 'Tree View' pane on the left shows a hierarchical structure of rulesets. The main area displays the 'KCVAMC - i891 - Chemistry Autoverification Ruleset' with an 'If' condition and a 'Then' block containing 11 steps: 1 - Set Shift for Result Time, 2 - QC Processing / Biorad Integration, 3 - Evaluate Diluted Results, 4 - Error Flag Handling, 5 - Set Reference Ranges, 6 - Critical Result Flagging, 7 - Format Results for Vista, 8 - Specimen Integrity Check, 9 - i1000 Integrated Ruleset (Hep/HIV Evaluation), 10 - Reflex Testing, and 11 - Validate or Hold for Review. The 'Else' block is currently empty. The bottom status bar shows the user is logged on as 8164, the locale is KCVAMC, the license is IM-342633, and the customer is VAMC Kansas City. The date and time are 9/12/2016 at 9:13 AM.

Instrument Manager by Data Innovations LLC for Veterans Affairs - [Rules Setup - ARCH ALL AV]

System Configuration Diagnostics Security Specimen Management SSR DC SR MM MA Laboratory Intelligence Reports Window Help

ARCH ALL AV

Panes

Tree View

Test / In Validation

- Outgoing request
- Incoming result
 - Before Message Queued Internally
 - KCVAMC - i891 - Chemistry Autoverification Ruleset**
 - If:
 - Then:
 - LI - Set Shift for Result Time
 - QC Processing / Biorad Integration
 - Step 1 - Evaluate Diluted Results
 - Step 2 - Error Flag Handling
 - Step 3 - Set Reference Ranges
 - Step 4 - Critical Result Flagging
 - Step 5 - Serum Indices Evaluation
 - Step 6 - Delta Check Flagging
 - Step 7 - Format Results for Vista
 - Step 8 - Specimen Integrity Check
 - Step 9 - i1000 Integrated Ruleset (Hep/HIV Evaluation)
 - Step 10 - Reflex Testing
 - Step 11 - Validate or Hold for Review
 - Else:

Live

Grid View Tree View

If:
Then:
Else:

Logged On User: 8164 Locale: KCVAMC License #: IM-342633 Customer Name: VAMC Kansas City

CAPS NUM INS

9/12/2016 9:13 AM

Rules with Value Lists

Instrument Manager by Data Innovations LLC for Veterans Affairs - [Rules Setup - ARCH ALL AV]

System Configuration Diagnostics Security Specimen Management SSR DC SR MM MA Laboratory Intelligence Reports Window Help

ARCH ALL AV Panes

Tree View

Value List Items

Row Enabled TestCode Sex AgeDyLow AgeDyHigh RefLow RefHigh

* <input type="checkbox"/>						
<input checked="" type="checkbox"/>	ACETA				10	30
<input checked="" type="checkbox"/>	ALT				8	40
<input checked="" type="checkbox"/>	ALB				3.4	5.0
<input checked="" type="checkbox"/>	ETOH				0	9
<input checked="" type="checkbox"/>	ALP				40	150
<input checked="" type="checkbox"/>	A1A				84	200
<input checked="" type="checkbox"/>	AFP				1.00	8.78
<input checked="" type="checkbox"/>	NH3				11	35
<input checked="" type="checkbox"/>	AMY				25	125
<input checked="" type="checkbox"/>	ANION				8	16
<input checked="" type="checkbox"/>	AST				5	34
<input checked="" type="checkbox"/>	BUN				9	25
<input checked="" type="checkbox"/>	BNP				0	100
<input checked="" type="checkbox"/>	CA				8.4	10.4
<input checked="" type="checkbox"/>	CO2				22	31
<input checked="" type="checkbox"/>	CEA				0	5
<input checked="" type="checkbox"/>	CL				98	107
<input checked="" type="checkbox"/>	CHOL				0	200
<input checked="" type="checkbox"/>	CKMB-MASS				0	6.6
<input checked="" type="checkbox"/>	CRP				0	0.5
<input checked="" type="checkbox"/>	CK	M			30	200
<input checked="" type="checkbox"/>	CK	F			29	168
<input checked="" type="checkbox"/>	CREAT	M			0.7	1.3
<input checked="" type="checkbox"/>	CRFAT	F			0.6	1.1

Grid View Tree View

If: (({Sex} = {Value List:Sex}) {OR} ({Value List:Sex} = "")) {AND} ((({Patient Age in Days} > {Value List:AgeDyLow}) {OR} ({Value List:AgeDyLow} = "")) {AND} (({Patient Age in Days} < {Value List:AgeDyHigh}) {OR} ({Value List:AgeDyHigh} = ""))) {AND} {Test Resulted} {Value List:TestCode})

Then: {Set} {Reference Range} {On Test} {Value List:TestCode} = {Value List:RefLow} - {Value List:RefHigh}

Else:

Tree View

Incoming result

Before Message Queued Internally

KCVAMC - i891 - Chemistry Autoverification Ruleset

If:

Then:

LI - Set Shift for Result Time

QC Processing / Biorad Integration

Step 1 - Evaluate Diluted Results

Step 2 - Error Flag Handling

Step 3 - Set Reference Ranges

If:

Then:

3.1 - Set Ref Range

3.2 - Evaluate Ref Range

3.3 - Set Non Numeric Ref Range

3.4 - Remove Ref Range for Fluid Tests

Else:

Logged On User: 8164 Locale: KCVAMC License #: IM-342633 Customer Name: VAMC Kansas City

9/12/2016 9:17 AM

IM Specimen Management Workspaces



- No longer review specimens in VistA using EA or EM
- Turn off automatic report printing
- Held specimens presented to technologist with continuous updating
- Only review held specimens
- Critical notification documented directly in the Workspace with provider contact information captured from test order
- Color coding for review prioritization- STATs, Critical, reflex, delta checks and integrity checks
- Automatic ordering of dilutions, repeats and reflex testing using rules.

Techs using IM Workspaces instead of VistA EA/EM Chemistry:

vhakanaplabdi1 - Remote Desktop Connection

Re-Transmit to Host

Click here to see a list of warnings...

Specimen Worksheet

Specimen Completion Status /

	Priority	Collection Date/Time /	Specimen ID	Ordering Physician	Rack
[-] Tests Held					
	R	9/12/2016 8:08:37 AM	2362560141	NAVICKAS,LEONAR...	T211
	R	9/12/2016 8:57:55 AM	2362560253	ALLEN,ACE,	T232
	R	9/12/2016 9:14:24 AM	2362560283	SPARKS,AARON,TH...	T212
	R	9/12/2016 9:25:01 AM	2362560330	BHATTI,SAJJAD,AKB...	T210

Patient Information

Ordering Provider: SPARKS,AARON,THOMAS,MD.
Date of Birth: 1/15/1949
Sex: M
Callback Info 1: DIGITAL PAGER (#.138) 374-8076
Callback Info 2: :
Specimen Comment(s):

Test Worksheet

	Result Date/Time	Test Code	Result	Reference Range	Test Dilution	Rerun	Previous Result	Abn Flag	Error Code(s)	Internal Comment	Test Comment(s)
*						<input type="checkbox"/>					
	9/12/2016 9:28:39 ...	AST	17	5 - 34	STANDARD	<input type="checkbox"/>	24		HOLD	OTHER TEST(S) HELD FOR REVIEW	
	9/12/2016 9:27:41 ...	BUN	64	9 - 25	STANDARD	<input type="checkbox"/>	69	H	HOLD	Range High,OTHER TEST(S) HELD FOR REVIEW	
	9/12/2016 9:22:48 ...	CA	7.8	8.4 - 10.4	STANDARD	<input type="checkbox"/>	7.4	L	HOLD	Range Low,OTHER TEST(S) HELD FOR REVIEW	
	9/12/2016 9:34:07 ...	CL	94	98 - 107	STANDARD	<input type="checkbox"/>	103	L	HOLD RERUN,ANION	Rerun Held,Range Low,ANION Integrity Check	
	9/12/2016 9:36:35 ...	CO2	16	22 - 31	STANDARD	<input type="checkbox"/>	20	L	HOLD RERUN,ANION	Rerun Held,Range Low,ANION Integrity Check	
	9/12/2016 9:26:51 ...	CREAT	8.69	0.7 - 1.3	STANDARD	<input type="checkbox"/>	8.20	H	HOLD	Range High,OTHER TEST(S) HELD FOR REVIEW	
	9/12/2016 9:33:07 ...	EGFR	6.1			<input type="checkbox"/>	6.6		HOLD	Critical Low,OTHER TEST(S) HELD FOR REVIEW	
	9/12/2016 9:33:07 ...	GLU	EXCEPTION	72 - 99		<input checked="" type="checkbox"/>	193		Exception-1051	Exception	1051 Unable to calculate result, absorbance exceed
	9/12/2016 9:49:24 ...	GLU	2046	72 - 99	1:5	<input type="checkbox"/>	193	H	HOLD RERUN,HH,Integrity Check	Held,Range High,Critical High,Possible IV Conta...	GLU Called to : at on: by:~Verbal confirmation
	9/12/2016 9:22:08 ...	K	5.4	3.5 - 5.0	STANDARD	<input type="checkbox"/>	3.4	H	HOLD	Range High,OTHER TEST(S) HELD FOR REVIEW	
	9/12/2016 9:34:07 ...	NA	129	136 - 145	STANDARD	<input type="checkbox"/>	141	L	HOLD RERUN,ANION	Rerun Held,Range Low,ANION Integrity Check	

Last Updated: 9/12/2016 10:11:16 AM

Logged On User: 8164 Locale: KCVAMC License #: IM-082329 Customer Name: VAMC Kansas City

9/12/2016 10:15 AM

10:15 AM 9/12/2016

Chemistry Dilution Handling

SYNGO Centaur Results

Edit Comment(s)...

Workspace Edit View Format Action Help

Specimen Worksheet

Specimen ID /	Patient Name	SSN	Fluid	Priority	Specimen Comment(s)
1590673203	SZLUS,PLASHU...	101-18-1245	SER	R	
1590673214	TRSEDA,ALU...	101-21-7894	SER	R	
1590673221	UHKAHU,CRAD...	101-07-4574	SER	R	
1590673239	WHNHU,CKEY...	101-28-9873	SER	S	
1590673241	WHNHU,CKEY...	101-28-9873	SER	R	
1590683260	CLUTXY,ZDASX...	101-16-9502	SER	S	
1590683275	KDYFAHX,LUS...	101-29-1500	SER	S	
1590683276	ETWDX,TLJUL...	101-10-7600	SER	S	
1590683278	RKHUST,FDA...	101-20-1501	SER	S	
1590683291	BHYHSS,EHY...	101-31-9803	SER	R	

Patient Information

Patient Name: ETWDX,TLJULNXXYI SSN: 101-10-7600
 Location - Facility: 28SICU Patient ID: 119439
 Date of Birth: 2/13/1928 Collection Date/Time: 3/9/2019 4:00:00 AM
 Sex: M
 Ordering Physician: 280524-VA578,DOCTOR:XIV,CPRS, Callback Info 1: ::
 VISTA Comments: Callback Info 2: ::

Test Worksheet

Test Instrument ID	Test Name /	Result Date/Time	Result	Reference Range	Flag	Units	Test Status	Internal Comments
CNTR	THYR PEROXIDASE AB	3/9/2019 10:13:19 AM	1300.0	- 60.0	H	U/mL	Rejected	1st Auto Dilution on Instrument should be in progress...Range High
CNTR	THYR PEROXIDASE AB	3/9/2019 10:33:49 AM	1985.4	- 60.0	H	U/mL	Held for Verification	REJECT previous result then VERIFY THIS Valid Diluted Result...Range High.Repeat for No Result/Rejected.Repeat/Reflex Run
CNTR	THYROGLOBULIN AB	3/9/2019 10:33:34 AM	2100.8	- 60.0	H	U/mL	Held for Verification	REJECT previous result then VERIFY THIS Valid Diluted Result...Range High.Repeat for No Result/Rejected.Repeat/Reflex Run
CNTR	THYROGLOBULIN AB	3/9/2019 10:12:04 AM	500.0	- 60.0	H	U/mL	Rejected	1st Auto Dilution on Instrument should be in progress...Range High

Hematology

Instrument Manager by Data Innovations LLC for Veterans Affairs - [Specimen Management Workspace - Troubleshooting 3 - CBC-SLIDE Workspace]

System Configuration Diagnostics Security Specimen Management SSB QC SR MM MA Laboratory Intelligence Reports Window Help

Status Display Specimen Management Workspace X

Workspace Edit View Format Action Help

Troubleshooting 3 - CBC-SLIDE W Off Edit Comment(s) Retransmit to Host Edit Run Information

Specimen Worksheet

Specimen ID	Priority	Patient Name	Specimen Comment(s)
3083106003	R	CEUDTSDLY.SDHTEL.QX...	
3083106001	R	AAHOLYIHU.TSHQHY.TJK...	
3083106002	R	CULDF.CHUUN.PLNYH	
- SCAN			
3083106005	R	NDOXY.LILZ.ELUUDT	
- 11/7/2018			
- (none)			
3083118009	R	THUUAH.FAXUDL.CRYH	
3083118010	R	BUXXBT.XUXSEN.JLUAHYH	
- MDIFF			
3083118007	R	TEHHA.JELUAHT.Y	-Read Back and
3083118002	R	BUHZZHU.TLULE	
3083118003	R	CULDF.CHUUN.PLNYH	
- SCAN			
3083118008	R	TRJBHU.SHUUN.LRTSDY	
3083118004	R	CEUDTSDLY.SDHTEL.QX...	-WBC count corrected for Nucleate
3083118001	R	AAHOLYIHU.TSHQHY.TJK...	
3083118006	R	NDOXY.LILZ.ELUUDT	
3083118005	R	DHTCLUALDT.CXEYJ	Giant Platelets noted on Automate

Specimen Information

Specimen ID: 3083106005 Patient Name: NDOXY.LILZ.ELUUDT BENCH: SCAN Location - Facility: INF
Ordering Physician: KENNETH,G,MD Callback Info 1: Callback Info 2:

Run Worksheet

2: 11/6/2018 6:42:04 AM
Add PERIPHERAL DIFFERENTIAL-MANUAL Add PERIPHERAL SLIDE REVIEW-MANUAL Add PERIPHERAL DIFFERENTIAL-MANUAL Anemia Check for clots Specimen was a rerun-
3: 11/6/2018 7:32:38 AM

Test Name /	Test Status...	Result (2)	Reference Ran...	Error ...	Test Comment(s) (2)	Internal Comment(s) (2)	Test Instrument I...	Test Status...	Result (3)	Reference Ran...	Error ...	Test Comment(s) (3)	Internal Comme
- (none)													
- RUN COMMENTS													
- CBC													
WBC	Released	2.5	4.0 - 11.0	L		Range Low							
RBC	Released	2.55	4.70 - 6.10	L		Range Low							
HGB	Released	9.5	14.0 - 18.0	L		Range Low							
HCT	Released	27.8	42.0 - 52.0	L		Range Low							
MCV	Released	109.0	80 - 100	H		Range High							
MCH	Released	37.2	26 - 34	H		Range High							
MCHC	Released	34.1	33 - 37										
RDW	Released	19.4	11 - 15	H		Range High							
MPV	Released	7.7	7.4 - 10.4										
PLT	Released	56	150 - 440	L		Range Low							
- DIFF													
NEUT%	Released	55.8											
NEUT#	Released	1.4	2.0 - 7.0	L		Range Low							
LYMPH%	Released	23.5											
LYMPH#	Released	0.6	1.0 - 3.0	L		Range Low							
MONO%	Released	16.5											
MONO#	Released	0.4	0.2 - 1.0										
EOS%	Released	2.5											
EOS#	Released	0.1	- 0.7										
BASO%	Released	1.7											
BASO#	Released	0.0	- 0.2										
- FLAGS													
TEST FLAGS	Rejected	Present				Anemia							
- MORPH													
ANISOCYTOSIS							CELLAVISION	Released	3	- 1	H		Range High
HOWELL JOLLY BODIES							CELLAVISION	Released	1	- 0	H		Range High
Hypochromasia							CELLAVISION	Released	2	- 0	H		Range High
MICROCYTOSIS							CELLAVISION	Released	2	- 0	H		Range High
PLATELET ESTIMATION							CELLAVISION	Released	2	Significantly ...	- Normal	L	
POIKILOCYTOSIS							CELLAVISION	Released	2	- 1	H		Range High
SICKLE CELLS							CELLAVISION	Released	2	- 0	H		Range High
- OTHER													
Nbr of WBC Cells to Collect							CELLAVISION	Rejected	105				

Patient Information

Patient Name: NDOXY.LILZ.ELUUDT
SSN: 101-18-3786 Date of Birth: 11/5/1979
Sex: M Location - Facility: INF
Ordering Physician: KENNETH,G,MD
Callback Info 1: Callback Info 2:
Collection Date/Time: 11/6/2018 6:26:11
Vista Specimen Comments:

Last Updated: 11/21/2018 12:23:01 PM Last Action Performed: Reject Run 5

Logged On User: 22847 Local: PRESCOTT VAMC License #: IM-344318 Customer Name: Test System - VAMC Prescott, AZ

11/21/2018 12:24 PM

Integrated Cell Counters

Instrument Manager by Data Innovations LLC for Veterans Affairs - [Specimen Management Workspace - Troubleshooting 3 - CBC-SLIDE Workspace]

System Configuration Diagnostics Security Specimen Management SSB QC SR MM MA Laboratory Intelligence Reports Window Help

Status Display Specimen Management Workspace...

Workspace Edit View Format Action Help

Troubleshooting 3 - CBC-SLIDE Workspace Off Edit Comment(s) Retransmit to Host Edit Run Information...

Specimen Worksheet

Specimen ID	Priority	Patient Name	Specimen Comment(s)
(none)			
3083043001	R	AAHOLYIHU.TSHQHY.TJX...	Giant Platelets noted on Automate
3083043002	R	BUHZHU.TLULE	
3083043003	R	CULDF.CHUUN.PLNYH	
3083043004	R	CEUDTSDLY.SDHLTEL.QX...	
3083043005	R	DHTCLUALDT.CXEY.I	
11/1/2018			
MDIFF			
3083058001	R	FAHZDYF.CXEY.T	
11/5/2018			
MDIFF			
3083095001	R	BUHZHU.TLULE	
11/6/2018			
(none)			
3083106004	R	DHTCLUALDT.CXEY.I	RBC: Nothing... just wanted to add
3083106001	R		
3083106003	R	CEUDTSDLY.SDHLTEL.QX...	
3083106001	R	AAHOLYIHU.TSHQHY.TJX...	
3083106002	R	CULDF.CHUUN.PLNYH	
SCAN			

Specimen Information

Specimen ID: 3083095001 Patient Name: BUHZHU.TLULE
Ordering Physician: KENNETH,G,MD Callback Info 1: : BEN

Run Worksheet

1: 11/5/2018 1:14:51 PM
Add PERIPHERAL DIFFERENTIAL-MAN

Test Name /	Previous ...	P...	Test Instrument I...	Test Status...	Resu...
CBC					
WBC	5.2	1... 2		Released	15.5
RBC	5.10	1... 2		Released	5.20
HGB	16.6	1... 2		Released	15.5
HCT	52.8	1... 2		Released	47.9
MCV	103.7	1... 2		Released	92.1
MCH	32.6	1... 2		Released	29.9
MCHC	31.5	1... 2		Released	32.5
RDW	17.3	1... 2		Released	15.2
MPV	9.9	1... 2		Released	9.1
PLT	216	1... 2		Released	212
DIFF					
NEUT%	61.8	1... 2		Rejected	92.7
NEUT#	3.2	1... 2		Rejected	13.0
LYMPH%	28.1	1... 2		Rejected	7.0
LYMPH#	1.5	1... 2		Rejected	1.1
MONO%	4.8	1... 2		Rejected	8.9
MONO#	0.2	1... 2		Rejected	1.4
EOS%	4.3	1... 2		Rejected	0.1
EOS#	0.2	1... 2		Rejected	0.0
BASO%	1.0	1... 2		Rejected	0.3
BASO#	0.1	1... 2		Rejected	0.0
ATYP LY%					
BAND%					
GIANT PLATELETS					
SMUDGE CELLS					
FLAGS					
TEST FLAGS				Rejected	Pres
MORPH					
ACANTHOCYTES					
ANISOCYTOSIS					
MICROCYTOSIS					
PLATELET ESTIMATION					
POIKILOCYTOSIS					
OTHER					
Nbr of WBC Cells to Collect					

Cell Counter

HEME CELL COUNTER Send Data Through System Save Run Data to SM Clear All Data Disable Cell Counter Keys

Specimen Information

Specimen ID: 3083095001 Total Absolute Count: 15.5
Instrument ID: REMISOL Total Number of Cells to be Counted: 100
Operator ID: 22847 Number of Cells Counted: 0
Comments: Error Key: Del

Test Code	Result	%	Absolute	Units	Test Comment(s)	Shortcut Key
MDIFF						
NEUT	0.0%	0.00				Num 1
BAND	0.0%	0.00				Num 2
LYMPH	0.0%	0.00				Num 3
MONO	0.0%	0.00				Num 4
EOS	0.0%	0.00				Num 5
BASO	0.0%	0.00				Num 6
ALYMPH	0.0%	0.00				
META	0.0%	0.00				
MYELO	0.0%	0.00				
PROMYE	0.0%	0.00				
PROLYM	0.0%	0.00				
PROMON	0.0%	0.00				
PLASMA	0.0%	0.00				
BLAST	0.0%	0.00				Num 7
NRBC						
WBCEM						
SMUDGE						
TOXIC						
RBCCM						
MICRO						
MACRO						
ANISO						
POIK						
HYPD						
POLY						
ACANT						
BASOSTIP						
BURR						
HUB						
OVALO						

Patient Information

Patient Name: BUHZHU.TLULE
SSN: 101-10-3786 Date of Birth: 3/28/1987
Sex: F Location - Facility: LAB A
Ordering Physician: KENNETH,G,MD
Callback Info 1: :
Callback Info 2: :
Collection Date/Time: 11/5/2018 1:08:29
Vista Specimen Comments:

Last Updated: 11/21/2018 12:23:01 PM Last Action Performed: Reject Run 5

Logged On User: 22847 Locale: PRESCOTT VAMC License #: IM-344318 Customer Name: Test System - VAMC Prescott, AZ

11/21/2018 12:25 PM

Is AV Affordable?

- You OWN your Instrument Manager and may only need to add modules. Unlike vendor contracts that expire every 5 years IM will not “walk out the door”. Once modules are purchased it only requires a nominal Maintenance & Support fee.
- AV is typically accomplished one workflow at a time and is implemented incrementally.
- Start small and learn how the entire process works and continually add departments. Contract a consultant to show you the ropes.
- Plan ahead so funding can be evaluated on a yearly basis for additions to your Instrument Manager such as Lab Intelligence, Moving Averages or connections.
- Once you learn how to implement AV there may be departments you want to tackle on your own.



Advantages of IM



- VA owned not leased
- IM software is TRM approved
- IM has VistA interoperability
- Original AV solution
- IM is used in all VA facilities giving you a peer group for support

What about Cerner?

Per Dr. Icardi IM will be a “multiplexer with Cerner”. That means all lab connectivity will continue to go through Instrument Manager interfaced to the Cerner LIS.

How do you prepare for Cerner?
When Cerner begins your facility migration start evaluating your skills in moving IM to the Cerner platform.

Is Cerner helping you connect IM to the new LIS?

Do you need help from DI for the migration?

What else can DI/IM do for you?



Blood Bank Instrumentation Interfacing with VBECS

Microbiology Instrument Interfacing



EP Evaluator- Helps make 6-month correlations easier.



Moving Averages- the ability to monitor instrument deviations, using daily patient workflow to signal instrument malfunction. Providing increased patient safety and early notification that QC cannot.



Lab Intelligence- the ability to gather metrics data directly from IM. Auto updates or real-time data mining.



TAT; Percent AV; Numbers and draw locations of hemolyzed specimens, QNS, and contaminated specimens; Workload, shift and employee productivity counts; Critical Value counts- missed notification documentation

Thank you to VA sites using MA and Lab Intel that contributed screenshots

VAMC Kansas City

Louisville

Hines

Tennessee Valley

Prescott

Marion, IN

Denver

Southeast Louisiana

EP Evaluator

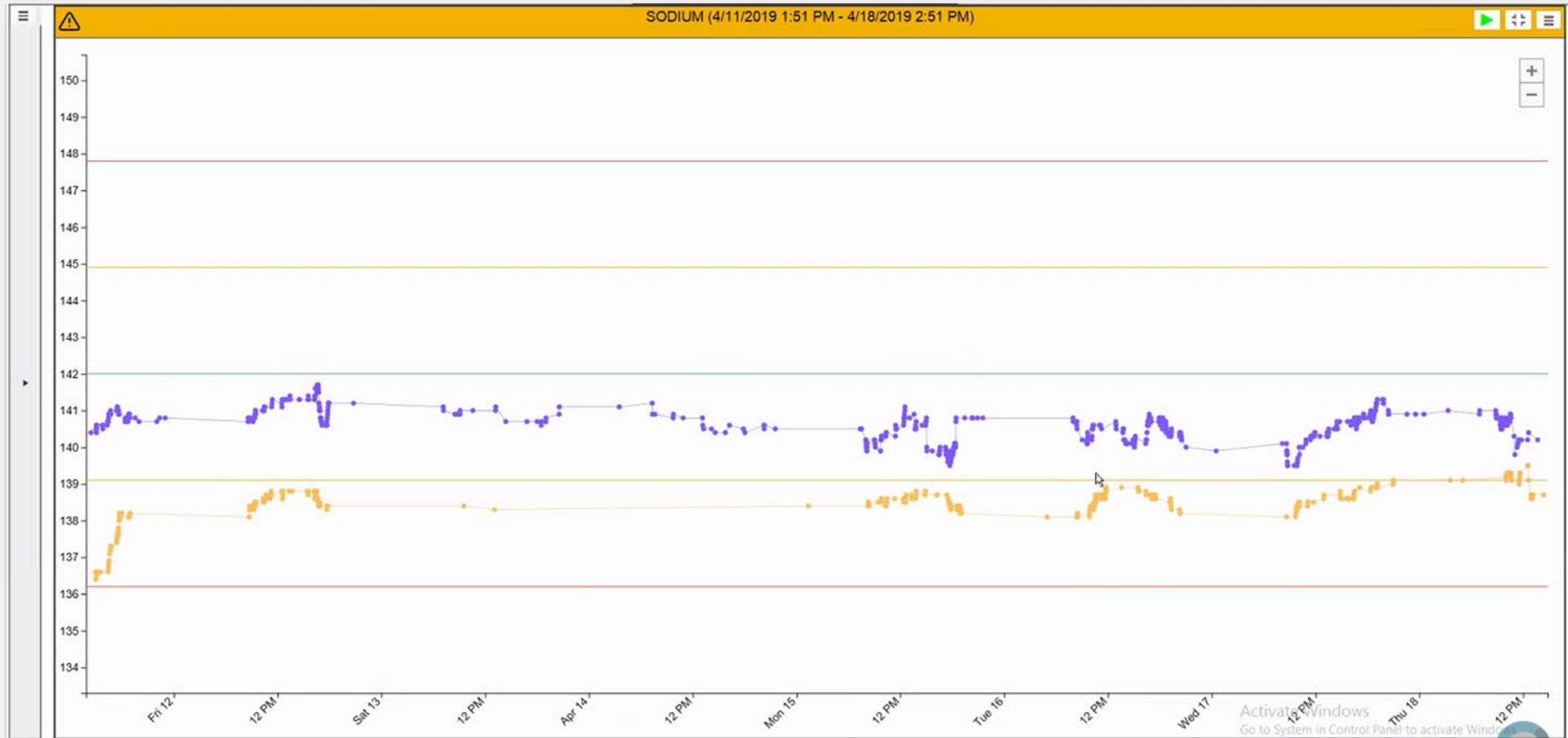


Sample Reports

The Standard for Quality Assurance software designed to evaluate and measure the clinical laboratory performance and provides clear, concise, 'inspector-ready' reports meeting all CLIA, CAP, JCAHO, and COFRAC requirements.

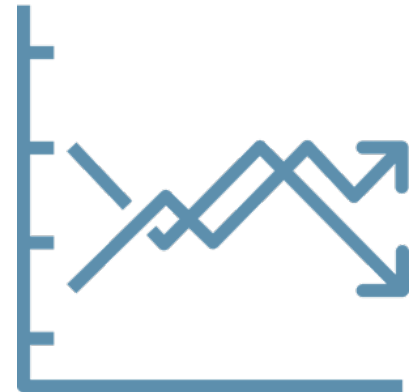
Google EP Evaluator Data Innovations or select the linked icon to the left.

Moving Averages (MA)

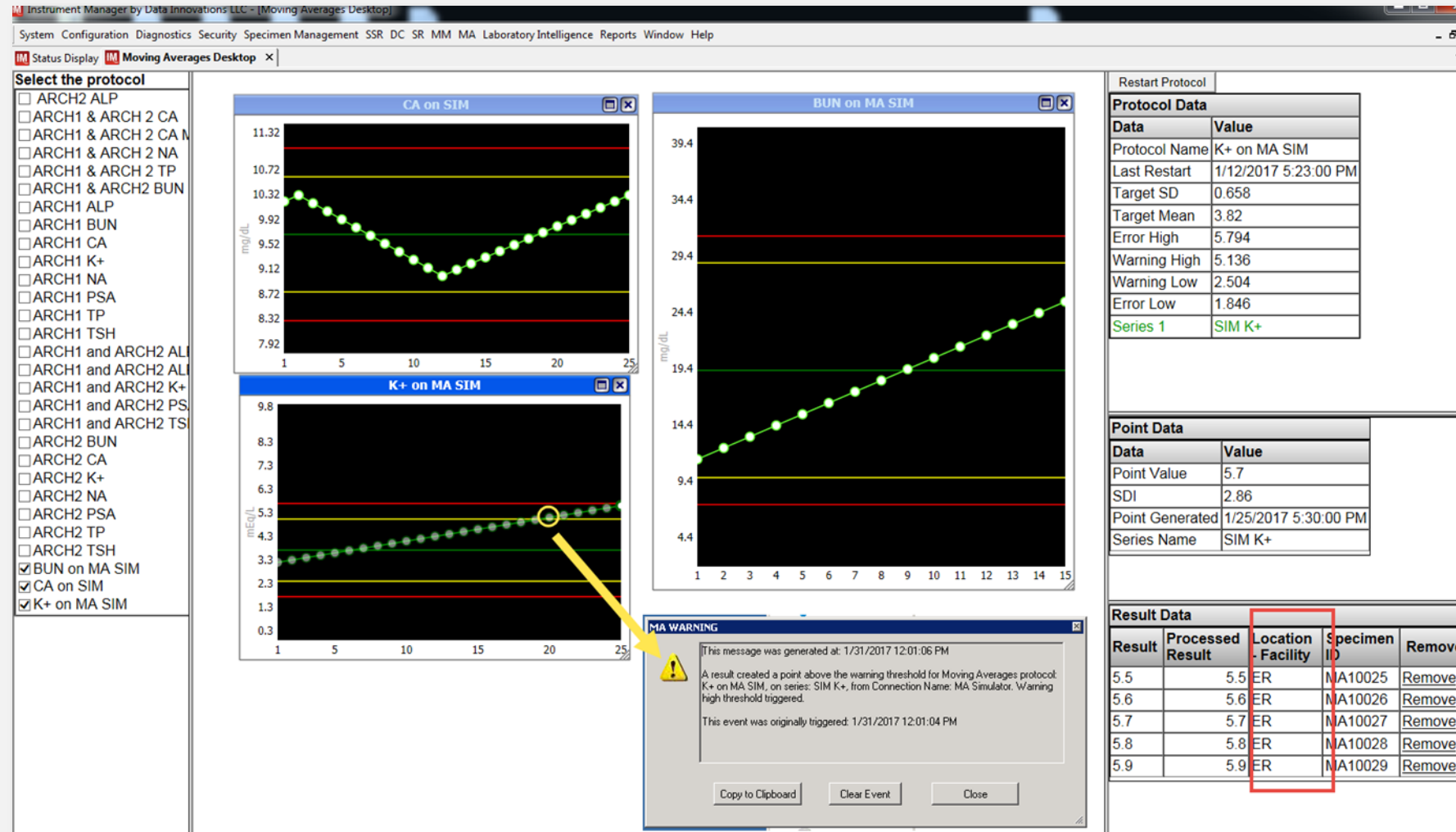


Moving Averages (MA)

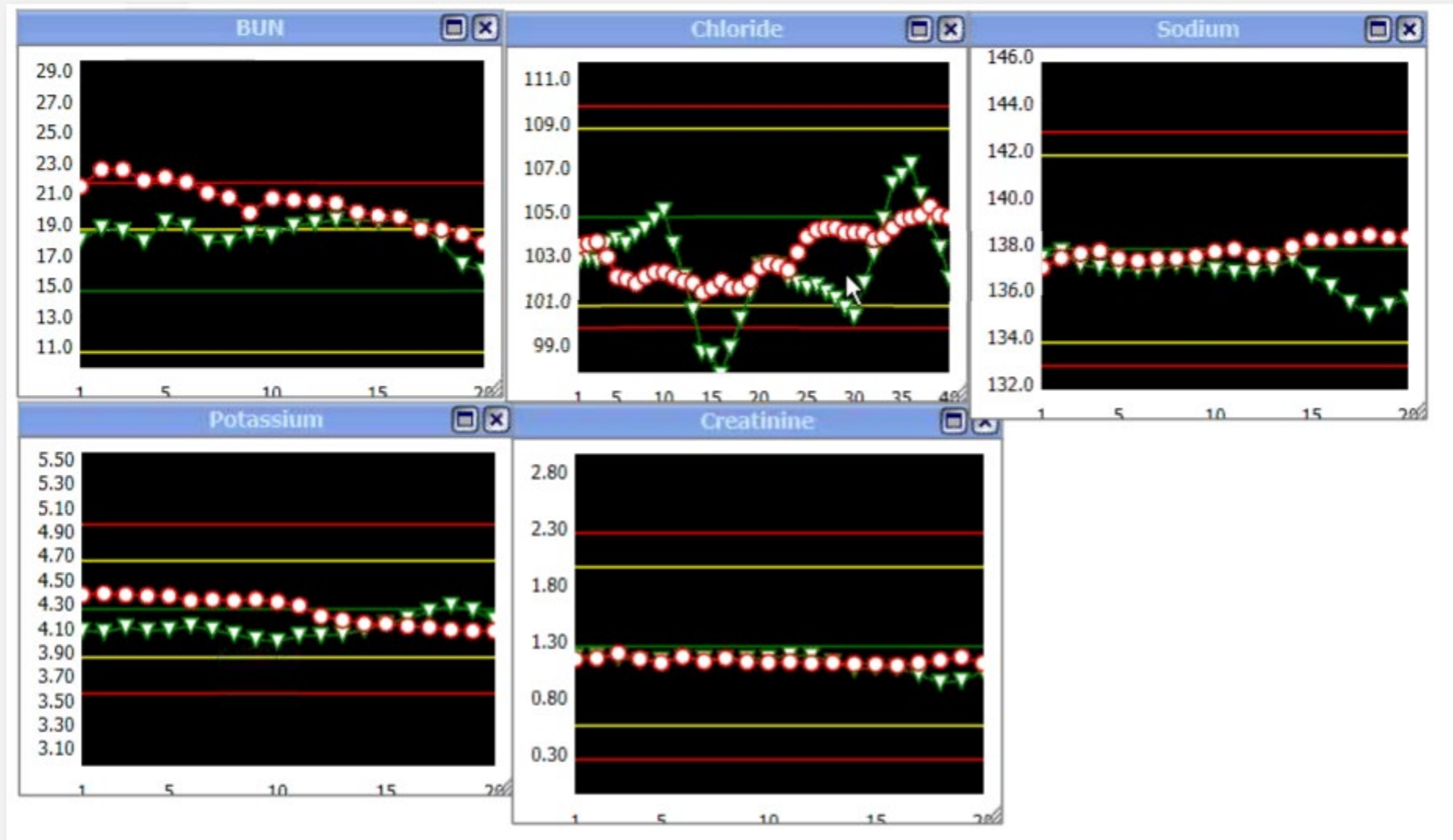
- Sodium protocol maximized with a date range.
- With the protocol maximized, you have the ability to:
 - View data points plotted outside of your current X-axis time range.
 - Compare data points between two or more instruments.
 - Click a data point to open a window that displays the raw results data.
 - Pause and restart data refreshing.
 - Export point data.
 - Generate a PDF report with a picture of the section of chart you are reviewing, protocol configuration and series details, a list of results used to calculate the data points, and a text box for typing in comments.



MA Protocol Data



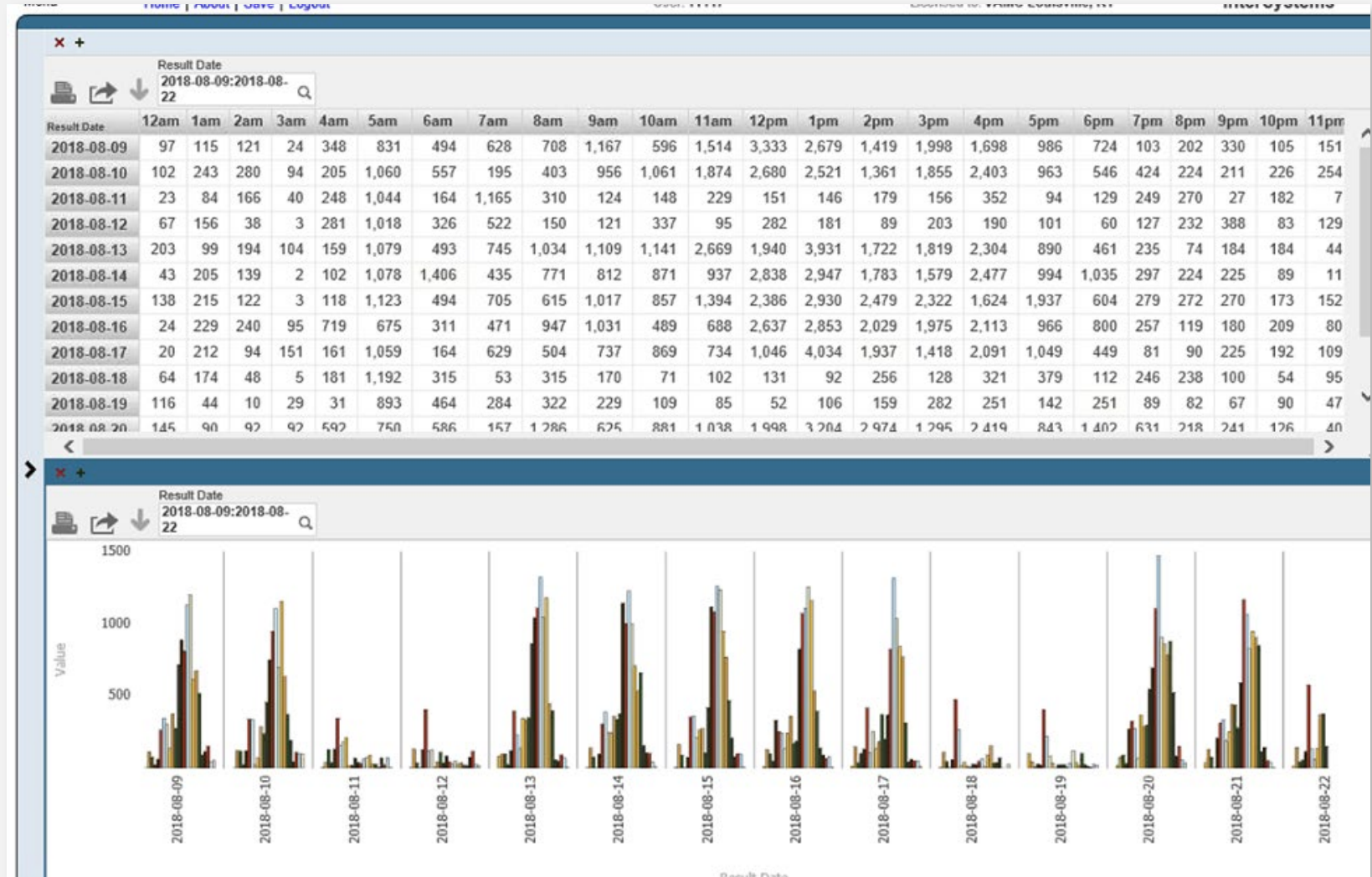
Multi Assay MA on Multiple Instruments



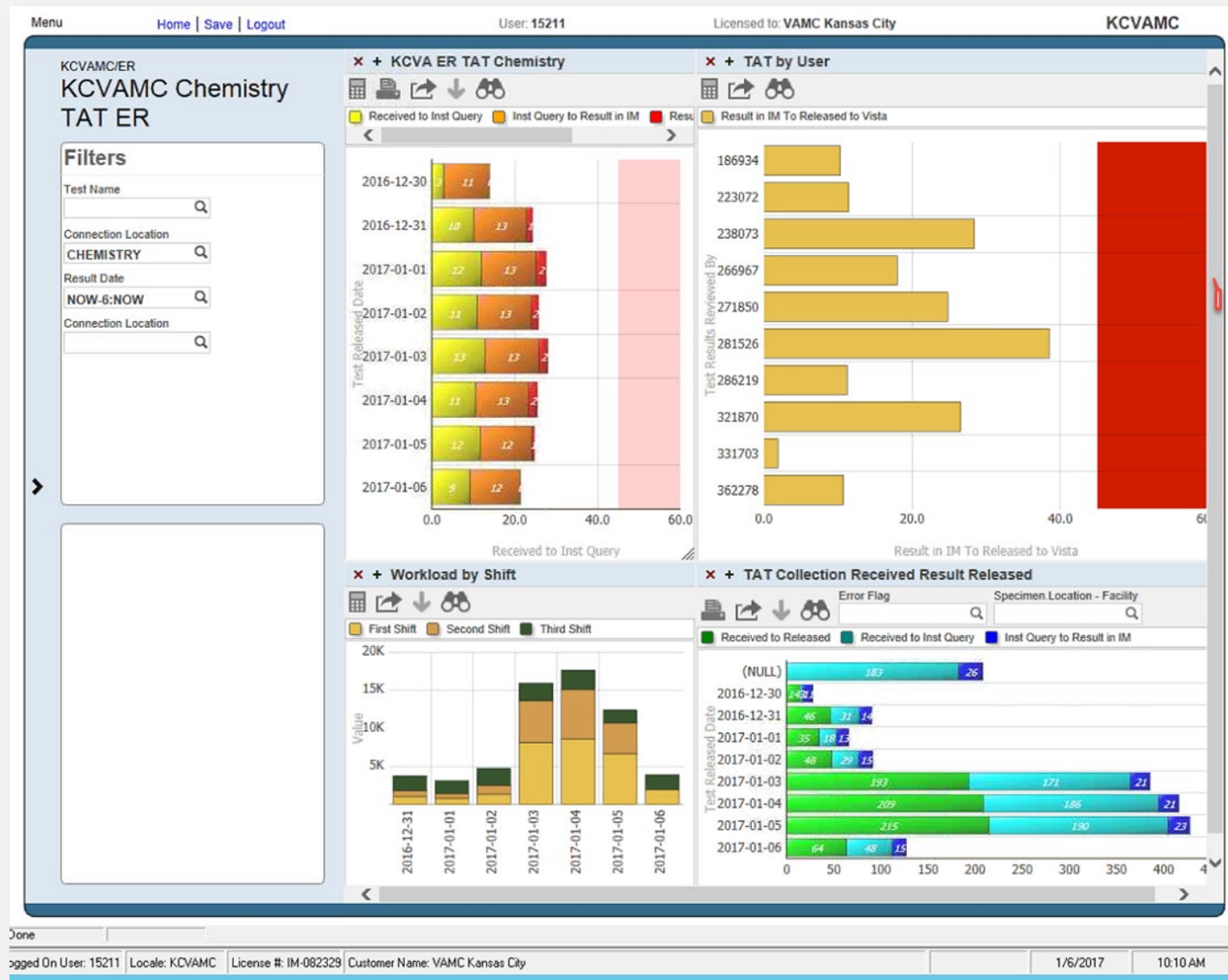
Laboratory Intelligence- Widgets

Some Laboratory Intelligence pivots require the setup of rules in order to work properly; however, many pivots do not require any rules at all, such as workload and turnaround times.

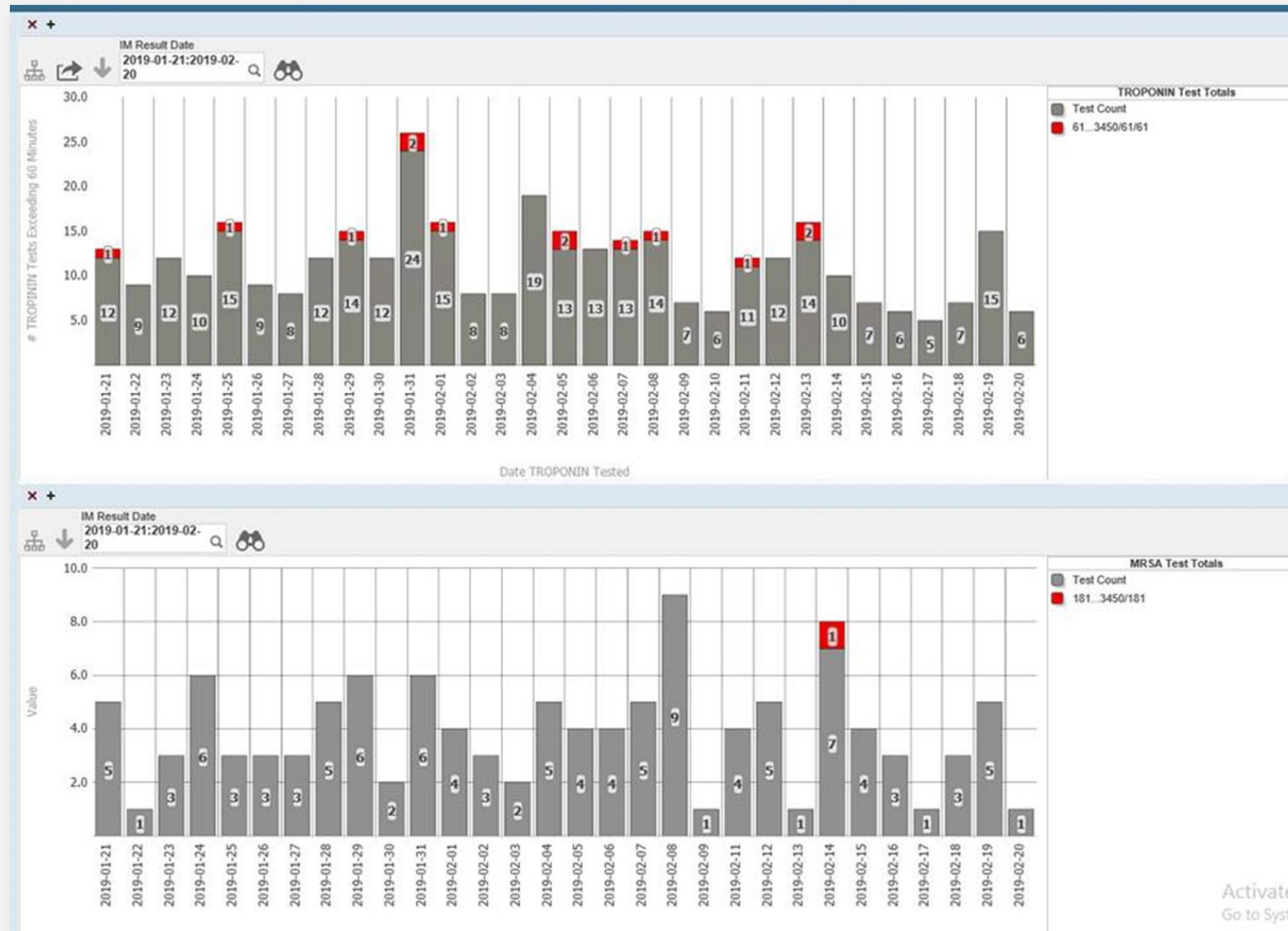
Test
Results/Day/Hour-
Widget



Dashboards: Supervisor Reports



Dashboards



Troponin Test Counts with TAT exceeding 60 Minutes in red
MRSA Test Counts with TAT exceeding 180 minutes in red.

Dashboards

Daily and a weekly view of autoverification statistics
(the first bar in each includes the go-live date):

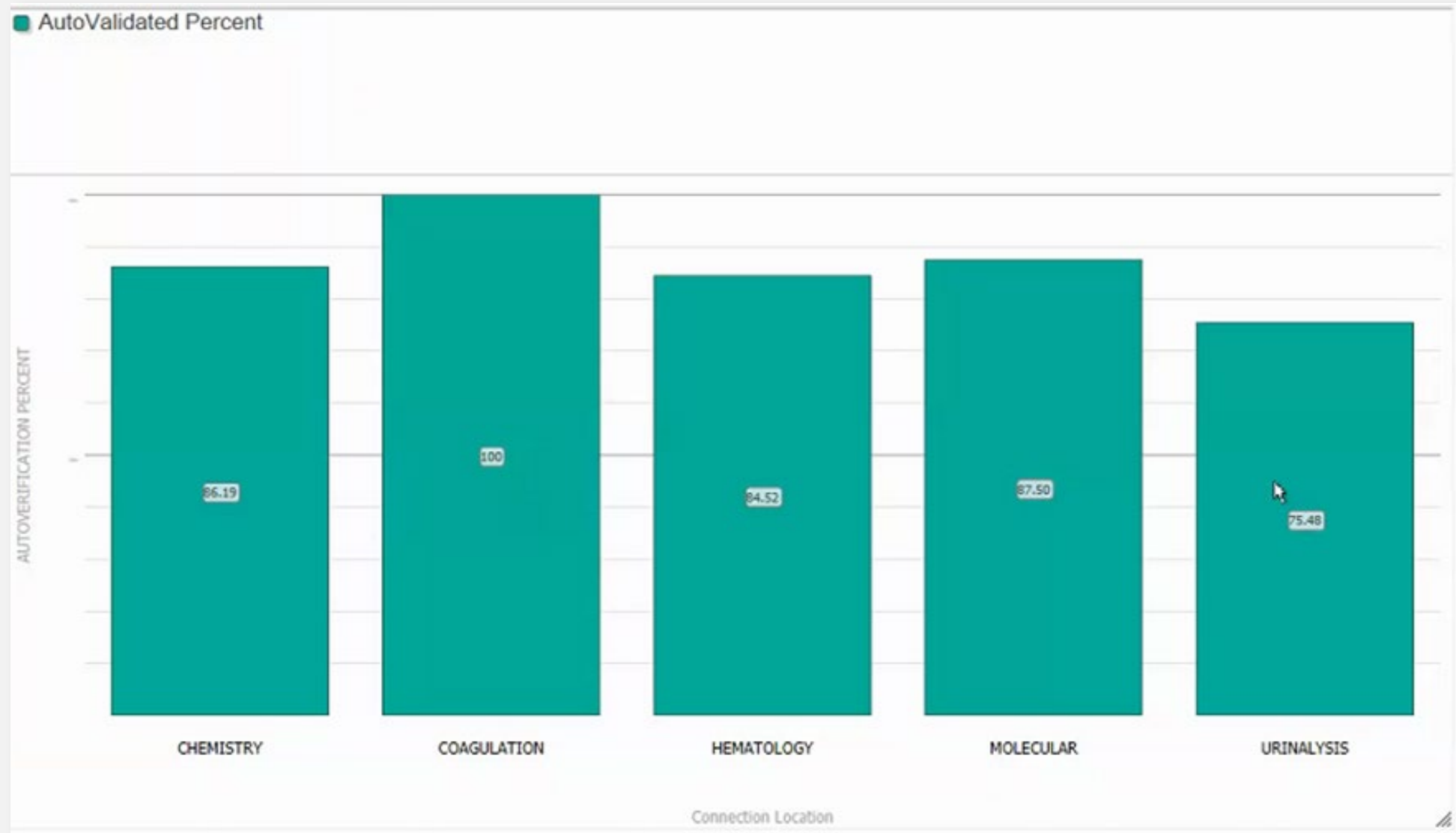


Total Laboratory autoverification statistics

This dashboard requires autoverification rules to be in place.



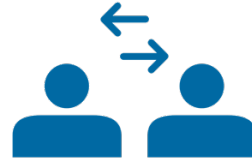
Drill Down on Dept Percent AV



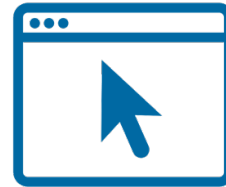
Percent AV Meter- Daily, Monthly and by Department



Finding More About Autoverification, MA, Lab Intelligence



Reach out to the national LIM email group and talk with peers who are already using the solutions.



Visit DI Website-
<http://www.datainnovations.com/>



Contact your Sales Representative
via email at [northamerica-
sales@datainnovations.com](mailto:northamerica-sales@datainnovations.com)

How Can You Present the Topic for Internal Discussions?



Please contact Sales if you need help formulating a proposal. We can provide examples, quotes or further information.

Questions?

Thank you for your time!

Liesl Wilson, Laboratory Solution Consultant

lwilson@datainnovations.com

802-598-4080