

Three large, overlapping circles in shades of orange and yellow are positioned on the left side of the slide. The central circle is the largest and has a solid orange color. The two circles flanking it are slightly smaller and have a yellow-to-orange gradient.

Best Practices in Managing a Global SAS Programming Team

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September 2015

Why this Paper?



In the pharmaceutical sector, it has become the overall business model that companies utilize mainly contractor programmers or CROs to develop, maintain and support tools used for clinical data collection and cleaning, statistical analysis and reporting, regulatory submission and analysis result data web posting.

Programmers could be located globally and within different culture and time zones.

Managing a global programming team thus poses various challenges, especially with projects running in parallel with stringent delivery time lines.

This paper discusses the top **10 best practices** which have been used in managing a global team with 1 permanent and 13 contractor SAS standard programmers in GSK Vaccine (ex-Novartis Vaccine).

These best practices have resulted in timely deliveries of the following projects over the last 2.5 years :

- CDISC SDTM legacy data conversion for 150 trials
- ADaM implementation
- ClinicalTrials.gov (CTgov) and European Trials Database (EudraCT) web posting automation
- Unusual Pattern Analysis (UPA) automation

Best Practices:

1. Build Trust Among the Manager and the Programmers

Build Trust Among the Manager and the Programmers



- 70% of programmers work remotely, time clock systems wouldn't work, trust is the key!
- Evaluate performance based on number of deliverables, the quality and time spent on delivering these results.
- The manager is trustable, be available to give support at any time.



Best Practices:

- 1. Build Trust Among the Manager and the Programmers**
- 2. Setup Clear Directions and Goals to be Reached**

Setup Clear Directions and Goals to be Reached



- At the start of the project a team is formed in which clear goals and objectives are understood, supported and aligned.
- Avoid vague or too high level instructions.
- Team members work more efficiently when the synergy is created.
- Delegation is by no mean totally transferring the work to the team and freeing yourself for other tasks.
- Delegation should only start after the team goals and objectives, roles and responsibilities are discussed and agreed upon.



Best Practices:

- 1. Build Trust Among the Manager and the Programmers**
- 2. Setup Clear Directions and Goals to be Reached**
- 3. Be Keen in Utilizing Programmers' Strengths and Assign Them With the Most Suitable Tasks**

Be Keen in Utilizing Programmers' Strengths and Assign Them With the Most Suitable Tasks



- Focus on utilizing individual strengths, especially for time critical projects.
- Get to know and care about each programmer's career interests, short and long term personal goals.
- Team members are more motivated and perform better when the work is related to their interests and career growth.
- The above three points apply to both contractors and permanent programmers.



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- 4. Brainstorm and Inspire Innovation**

Brainstorm and Inspire Innovation



- We design new tools to improve efficiency and quality. Many new ideas come from the programmers.
- The manager inspires and embraces brainstorming and innovation, but should also know the business well, be able to speak the same language as the programmers and gain mutual respects.
- The manager should be a good listener, open minded, good at collecting useful ideas, summarizing and leading the team to reach the agreement.



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Emphasize Individual Ownership and Accountability for the Assigned Tasks



- One of key factors for project success are the commitments and sense of urgency that every programmer has for the assigned tasks.
- Train programmers on defined processes and procedures so they can independently perform the tasks.
- The programmers should be intimately familiar with their tasks and the steps to follow.
- The programmers take the ownership and accountability of the tasks assigned.



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- 6. Solving Conflicts in an Open and Sincere Way**

Solving Conflicts in an Open and Sincere Way



- Being aware of cultural and individual character differences, using open and sincere ways to handle conflicts.
- Focus on matter, e.g. the root cause of the conflict, but not on person, particularly avoid finger pointing to a person or generalizing issues.
- Advocate 1 to 1 or small pre-meetings because then team members tend to be more open and willing to speak out their real thoughts, concerns and wishes.
- Use meetings efficiently - use small pre-meetings to prepare proposals and think through all the details, use group meetings to present proposals and reach the agreement.



Best Practices:

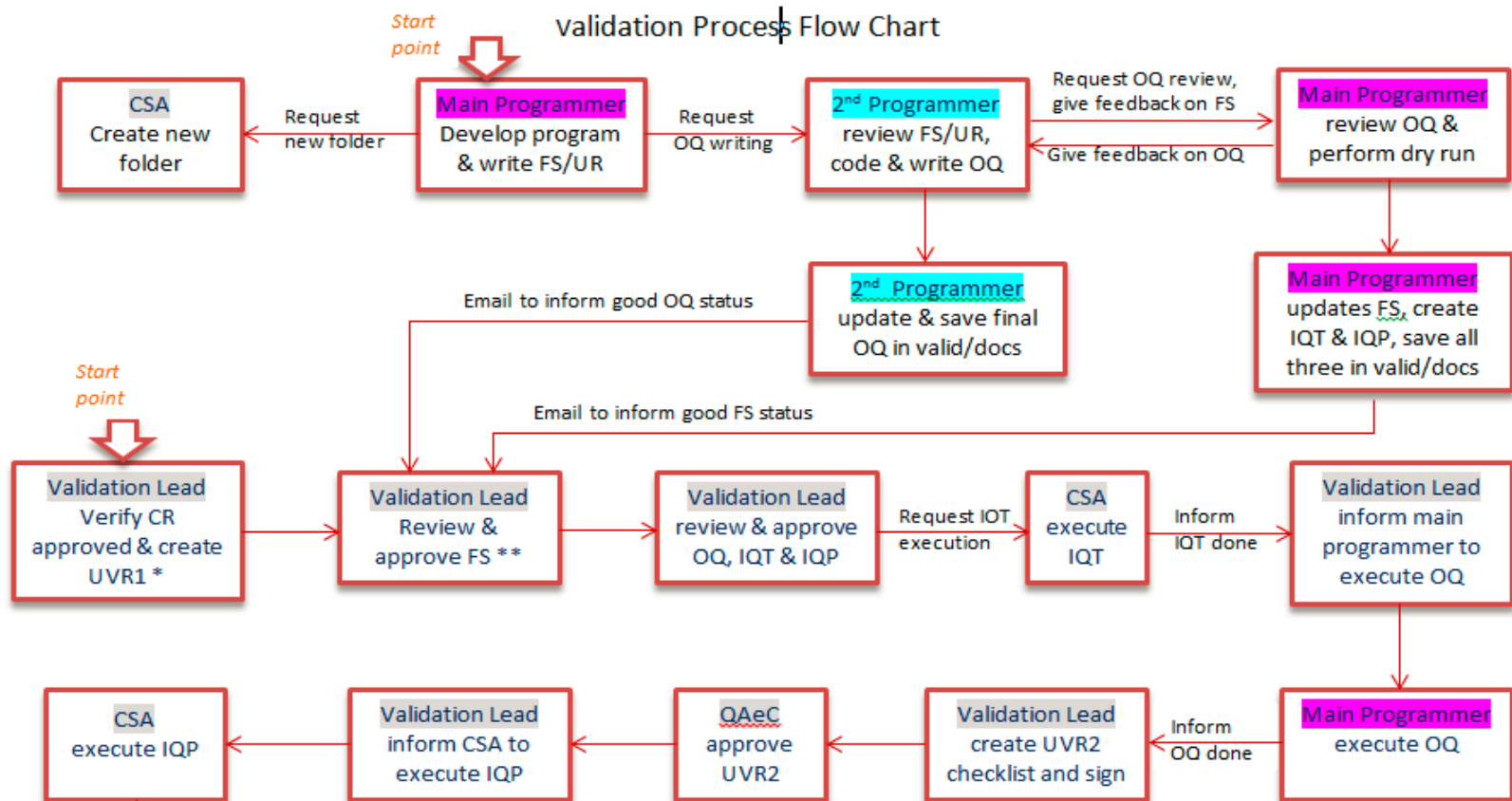


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One process example:



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Tracking Task Status With a Validation Tracker



A simple Validation Tracker is an very effective way to track program Validation status, work assignments and timelines.

PROGRAM CATEGORY	PROGRAM NAME	CHANGE DESCIP.	VER.	TASK ASSIGNMENT	UVR1	UR/FS WRITING	PROGRAM STATUS	IQT	FS/UR & CODE REVIEW +OQ WRITING	OQ	UVR2	IQP	UVR3	PLANNED DELIVERY DATE
CDM PROGRAM	METADATA_RECON_REPO_RT.SAS	Create reconciliation listing table	1.0	FS, Pgm: John OQ Writing: Mike OQ exe.: John VTL: Paul	Approved	UR Approved	Programmed	Executed	Done	Executed	Approved	Executed	Approved	31-Jul-15
B&SR STANDARD PROGRAM	CDR_INTERMEDIATE_POOL_DATA.SAS	Different bug fixes	1.0.1	FS, Pgm: Anna OQ Writing: Andy OQ exe.: Anna VTL: Paul	Approved	In-Progress	In-Progress							4-Sep-15

Best Practices:

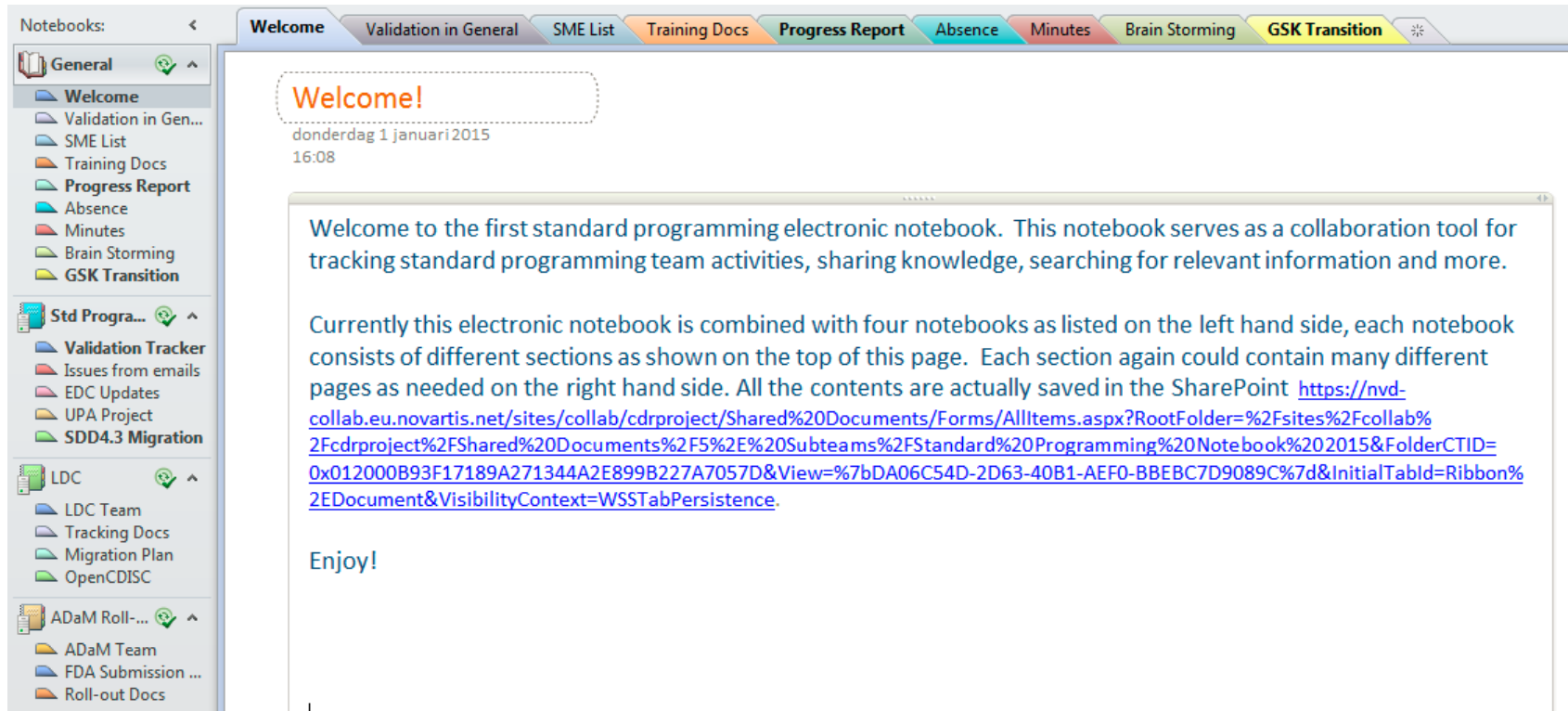


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- 9. Use Tools To Improve Communication and Work Efficiency**

Use Tools To Improve Communication and Work Efficiency



Use Microsoft Onenote as an effective collaboration tool.



Use Tools To Improve Communication and Work Efficiency



Use Microsoft Onenote as an effective collaboration tool.

Validation Tracker | Issues from emails | EDC Updates | UPA Project | SDD4.3 Migration

Search All Notebooks (Ctrl+E)

General

- Welcome
- Validation in Gen...
- SME List
- Training Docs
- Progress Report
- Absence
- Minutes
- Brain Storming
- GSK Transition

Std Progra...

- Validation Tracker
- Issues from emails
- EDC Updates
- UPA Project
- SDD4.3 Migration

LDC

- LDC Team
- Tracking Docs
- Migration Plan
- OpenCDISC

ADaM Roll-...

- ADaM Team
- FDA Submission ...
- Roll-out Docs

Example using GSK SDD custom macros

dinsdag 30 juni 2015
15:13

```
/* Building new CLASSPATH to let JAVA know where the Classes are stored (to be run only once in a SAS session!);
%LET _rt=/sddshared/SASWorkspaces/gsklibrary;
%LET _sep=%STR(;);
%LET newclass=!CLASSPATH;
%LET newclass=&newclass.&_sep.&_rt./SDD4_DEV/MACRO/LIB/LAST_JAR_VERSION/gskvx_sdd4_ext_macros.jar;
OPTIONS SET = CLASSPATH "%NRBQUOTE(&newclass)";

/* Include GSK SDD macro */
%INCLUDE '/sddshared/SASWorkspaces/gsklibrary/SAS_PRG/MACRO/STANDALONE/GSKVXSDD/20150331/gskvx_sdd_object_upload.sas';

/* Running GSK SDD macro */
%gskvx_sdd_object_upload(source=&root/sas7bitm/my_container_ok.sas7bitm,
    target = /GSKVX/Files/NVX_PROTO/analysis/v72/v72p12e2/final/dev/sas7bitm,
    version = minor,
    comment = ,
    overwrite = y)
```

HP

New Page

- SDD4.3 training materials
- Run program in repository
- Run job in sdd4.3 and save output in repos
- Brief workflow on SAS programming
- Notes from Pilot studies (v59_67, v72p12e2)
- Programming SDD4.3 vs 3.5
- Standard utility change tracker
- Important notes from visiting Xavier (SDD4)
- Libname statements
- Example using GSK SDD custom macros
- TypeError: Error #1009
- x-GSK users usage
- FW: SDD4.3.2 Dev Env: trainings sessions pl
- LINKS for Utility List & Trackers
- RE: SDD4 issues -> Workspace versions of

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- 10. Celebrate the Achievements and Praise the Performers**

Celebrate the Achievements and Praise the Performers



- Celebrate achievements and acknowledge good performance.
- Be generous in showing manager's gratitude to the team.
- use 1 to 1 meetings to express manager's personal appreciation to the team member for his/her great contribution.
- For underperformers, face to face, hart to hart conversation about the root cause of poor performance is the key for a constructive conversation and asking for performance improvement.
- Be soft on the person and hard on the matter – to reduce the tension during the conversation.



Managing a global of SAS programming team proves to be challenging, however, with the right mindset, methodology and hard work, we can turn the team into a pool of intelligence, a team with high energy and high capability to deliver any product needed in a speedy and quality manner.

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