



Fannie Mae®

Beyond the Guide

Section 7

Corrective Action and the Action Plan

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Corrective Action and the Action Plan

Selling Guide D1-1-01

What does corrective action mean? Corrective action is the process of identifying and fixing the root cause of a problem to prevent it from happening again.

Common industry terminology for this process is problem-solving. This approach helps focus ideas, prioritize tasks, and allocate necessary resources to achieve goals. True corrective action goes beyond loan-level correction or system upgrades. It is a systematic method of using data to define the problem, assess the current state root cause(s), develop and execute solutions with defined success measures, and test and monitor the effectiveness of the implemented solutions.

What is an action plan?

Action plans are:

- tangible documents intended to identify the steps that need to be completed, track due dates and priorities, and record potential roadblocks and resources required
- required by Fannie Mae to be included in your monthly senior management reporting to help senior management know the progress of all your corrective action

Corrective action and action plans are *Selling Guide* requirements outlined in D1-1-01. This process is **not** optional. The *Selling Guide* also requires lenders' monthly QC reporting to include an action plan that addresses implemented corrective actions for top defect trends. The action plan needs to include corrective actions and intended remediation results.

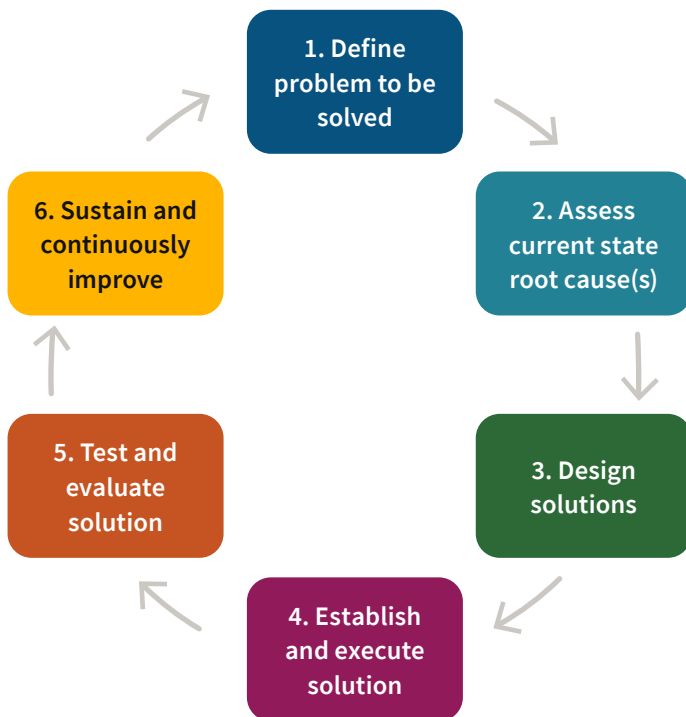
Shift the way we talk about corrective action

There is a distinct difference between filling in the blanks on the action plan document and completing all the steps necessary to effectively problem-solve and implement corrective action. Fannie Mae recognizes the need to shift the way we talk to lenders about corrective action, formerly referred to as action planning. The value is in the process of problem-solving while the action plan document facilitates communication and acts as an artifact to record previous and ongoing corrective action efforts.

Introducing the problem-solving process as a continuous cycle

Best practice organizations perform corrective action exercises as a regular ongoing process and are continuously working to address top defect drivers in their quality results. This approach reinforces an organization's commitment to producing high-quality loans.

Observations from the most recent loan volume surge (2019-2022) indicate that some lenders begin corrective action once a defect exceeds acceptable risk thresholds. By waiting, you greatly increase the risk of originating a stockpile of defective loans. Inaction can also cause the underlying issue to become pervasive and more difficult to remediate.



Stage 1: define the problem

“If I had an hour to solve a problem, I’d spend 55 minutes thinking about the problem and 5 minutes thinking about the solution”

– Albert Einstein

Gather and assess data – facts only

The most effective QC programs identify specific problems that enable your organization to take action to effectively mitigate risks and allocate resources accordingly.

Establishing a rigorous and disciplined approach to objectively analyze all factual data is necessary to reach unbiased conclusions. Do not fall victim to confirmation bias, which is best described as a tendency to look for, favor, and recall only information that confirms or supports previous beliefs or values. Resist coming to the table with “the solution” before reviewing the facts. It is crucial to leave opinions and assumptions out of this stage.

QC prefunding and post-closing reports, investor reports, and repurchase data all contain measurable, comprehensive, and complete factual data needed to identify and monitor risks within your organization. QC reporting converts factual data into concise, actionable information that identifies current and emerging risks for your business – leverage those results to define specific problems to solve.

State the problem specifically

Quantify the risk associated with the problem using language and metrics consistent with your organization’s risk parameters and thresholds. A well-defined problem statement articulates to stakeholders within your organization the scope, the current impact, and future consequences of failing to solve the problem.

Identify and activate responsible parties: stakeholder and subject matter experts

QC leaders are entrusted and relied on to quantify and articulate problems to senior management across the organization in an actionable and timely way – this is accomplished through effective QC reporting containing metrics that indicate when action is needed to address specific problems.



Once QC reporting is issued to senior management, QC’s role in the corrective action process becomes that of facilitator versus a responsible party. QC will support and collaborate with the business stakeholders when developing testing plans validating solutions’ effectiveness and impact once implemented.

Leadership responsible for loan manufacturing owns the risk associated with the identified problem; they are accountable to determine root cause(s) and develop and implement sustainable solutions to cure the problem. Senior management must first identify and activate the team of stakeholders and subject matter experts (SMEs) who will be responsible for solving the identified problem.

	Stakeholders	Subject matter experts
Definition	<ul style="list-style-type: none"> Anyone who is a part of, affected by, or a recipient of, a process or service 	<ul style="list-style-type: none"> A person who possesses a deep understanding of a particular job, process, software solution, or function
Roles and responsibilities	<ul style="list-style-type: none"> Authorize / support the problem solve Provide various levels of participation 	<ul style="list-style-type: none"> Provide insight to current processes and roadblocks Support smoother acceptance of change
Participant examples	<ul style="list-style-type: none"> Top and direct management Internal customers / resource managers Suppliers, vendors, and contractors 	<ul style="list-style-type: none"> Operations / underwriting team leads Loan officers / processors Closers / funders / post-closers System / technology

QC’s role is not limited to a facilitator and can extend beyond to add value as an effective challenger and thought leader in the problem-solving process. As effective challengers, QC can help frame alternative constructive ideas by uncovering gaps, risks, and disagreements while focusing on improving the initiative. Based on their expertise and industry perspective, QC can lead by offering unique guidance, inspiring innovation, and influencing more realistic and informed decisions.

Stage 2: root cause analysis

Root cause analysis (RCA) is the process of discovering the root cause of a problem to identify appropriate solutions and is a crucial step in ensuring the right changes are made to significantly reduce defects. The impact of poor root cause analysis can be devastating to your firm in the form of continued defects, non-value adding processes, revenue losses, and poor governance and controls.

Recognizing that there are *technical*, *human*, and *process* components to loan manufacturing, your RCA efforts should focus on gathering and assessing data from multiple sources, as well as by direct observation of processes. Data collection and analysis in this stage is different than in stage 1, where we used only QC and repurchase data, in that we are using different data sources and different means of data collection to narrow our focus to identify specific root causes.

For our purposes, *technical* data is defined as loan-level data housed in the loan origination system. This data can be extracted for analysis and provides a variety of loan-level characteristics and data points to assist in trending. This type of data is especially beneficial when analyzing defects impacting a large sample of loans. When analyzing this data, trends may emerge across product type, transaction purpose, property type, debt-to-income (DTI) ratio, origination branch, performer, etc.

Human error is a person’s mistake rather than the failure of a machine. It is a deviation from intention, expectation, or desirability. Human error is unavoidable and is a valuable source of data when performing root cause analysis. Often the “plan” can be satisfactory, but the performance can be deficient. A highly encouraged and extremely effective method of gathering this data is by reviewing the population of defective loans identified in your QC data. The review is performed at the defect level on every defective loan. The results from this step are foundational for the data analysis and aid in identifying skills deficiency, training and coaching opportunities, and procedural gaps.



Observing a *process* is another rich source of data for root cause analysis. It allows you to see the actual process, understand the work, ask questions, and learn. Discovering process design failures, gaps, non-adherences to established procedures or guidelines, variation in execution of procedures, and gaps in loan origination system or loan document management system functionality are all great examples of learning through observation. Often, defects observed in this manner result in policy, procedure, process, and systemic enhancements.

Now that you have collected the data, what do you do with it? Data analysis is the practice of working with data to glean useful information. The more organized the data, the more likely you will be to identify all the root causes. Techniques such as sorting, pivoting, creating graphs, and quantifying defects will assist you in identifying trends and useful information. Successful organizations take a thoughtful approach to data collection and organization.

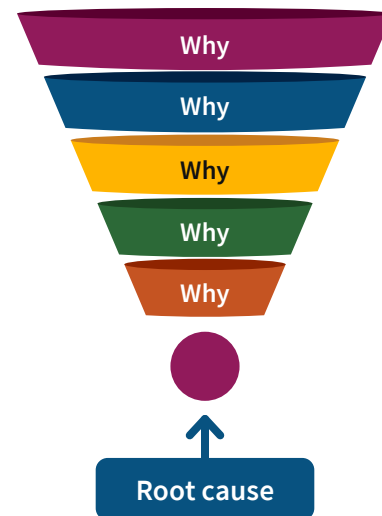
Once you have analyzed all your data, it's common for trends to become apparent and it can be tempting to start brainstorming potential solutions. Commit to the problem-solving process and avoid searching for solutions until you have determined the root cause or causes.

Finding the why?

Once the data has been analyzed, it is time to incorporate root cause analysis tools, which are methods used to identify and solve a given problem and also help to add structure and intention to your efforts.

Data analysis is the practice of working with data to glean useful information. The more organized the data, the more likely you will be to identify all the root causes.

Two popular root cause analysis tools are the 5 Whys and the Fishbone.

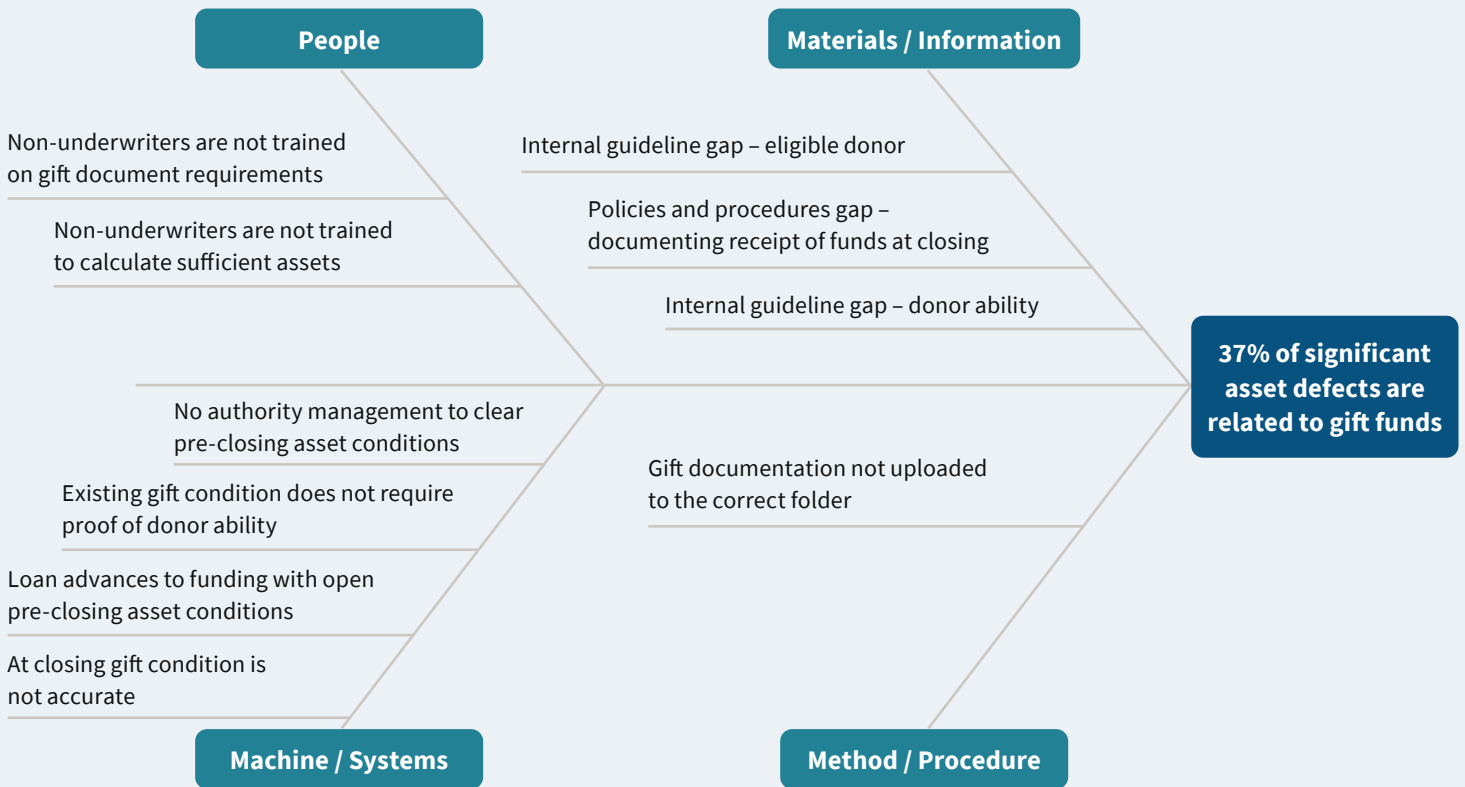


The 5 Whys problem-solving method is remarkably straightforward: when a problem occurs, you drill down to its root cause by asking “Why?” five times. Then, when a solution becomes apparent, you follow it through to prevent the issue from recurring. It’s not uncommon to ask more than five “whys”. Stopping too soon could prevent you from finding the true root cause. You may also end up with multiple series of “5 Whys”.

Define the problem: Undisclosed debt is causing ineligible loans	
1	Why is it happening? DTI is incorrect
2	Why is that? Not all liabilities are included in DTI at the time of funding
3	Why is that? Not all liabilities were open when the credit report was obtained
4	Why didn't we know about the debt? No inquiries on the credit report
5	Why is that happening? Credit report data is old

A Fishbone is a cause-and-effect diagram that helps in brainstorming to identify possible causes of a problem (often used for more complex problems) and in sorting ideas into useful categories. The categories are people, information, systems, procedure.

Assess current state root cause(s)



It is common to identify multiple root causes for any given defect. The action plan template is a very effective method of organizing, prioritizing, and tracking multiple root causes through solution implementation.

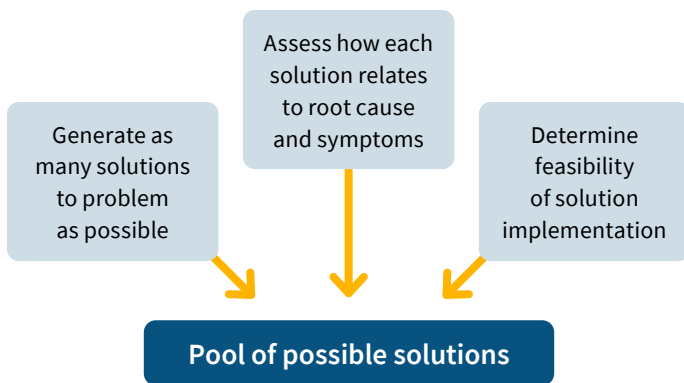
Stage 3: design solutions

The design stage of problem-solving has three phases:

1. develop potential solutions,
2. assess how each solution relates to the root cause(s), and
3. determine the feasibility of the solutions for prioritization and implementation.

Develop potential solutions

During the process of designing solutions, all business stakeholders and SMEs on the team should bring an open and creative mindset to the task. This is another opportunity for QC to engage as both an effective challenger and a thought leader. Each team member must focus on data gleaned from the current problem being solved. The current data and the root causes subsequently derived must be the basis for the possible solutions you design here. Resist the urge to fall back on prior control solutions developed for previous problems even if the problems were similar.



But there are a few things to keep in mind as you walk through this:

- *Include all involved stakeholders in generating possible solutions.* Have a diverse team. This stage works best with those with a more holistic view of the process generating the defects, like supervisors, mid-management, or technology. This does not mean SMEs cannot be a part of this step – let the problem and the process determine who is best for this exercise. The more diverse the group, the more likely they are to see something previously overlooked.
- *Find as many solutions to the problem as possible.* The best approach is to have a relaxed brainstorming session – make it fun! Avoid criticizing or rewarding ideas – this is not a competition. The objective is to open possibilities and break down incorrect assumptions about the problem. Encourage all participants to contribute fully - try to ensure everyone involved puts forth at least one solution. More options equal more potential for innovation.
- *Postpone evaluating solutions initially.* It is natural to end the brainstorming session once one or two promising ideas come forward, but you should be looking for the best solution. To find that, you need many options to pick from.

Assessing solutions to root causes

Once a robust pool of possible solutions has been created, compare each solution to the root cause(s) for the problem being solved. During the creative process of brainstorming, it is easy to have some solutions that do not line up with the root causes, which is ok.

Reintroducing the root causes after the brainstorming session allows for thoughtful consideration of whether each solution could effectively address the root cause of the problem. Remember, the root causes the team drafted are what is believed to be causing the problem. If a potential solution does not align with the root cause(s), it should be set aside but not discarded. This step is especially important for additional problem-solving in the future.

Determine solution feasibility

Solution feasibility is the last step in design solutions. This information is needed to prioritize desired solutions and gain stakeholder buy-in. Multiple factors can be considered in this analysis but these three are some of the most common:

- implementation time/effort,
- implementation costs, and
- dependencies.

Having the feasibility of each solution defined at this stage helps the team organize and identify solutions requiring temporary work-arounds due to delayed implementation. Any solution that will be delayed beyond an acceptable time limit must have a manual work-around implemented that can reduce defects until the ultimate solution is deployed.

For example, it is easy and low-cost to update policies and procedures, and conduct training, but unlikely to eliminate human error, so you may decide to add system hard stops. Since adding the system hard stops will take more effort (higher cost, higher effort, and policies and procedures dependent), a manual work-around to conduct processor/closer training in combination with creating a gift funds requirement checklist for closers (both low-cost and low effort) may be a great work-around to gain some quality lift while the system enhancements are being built.



Stage 4: establish and execute solutions

Prioritize solutions for implementation

Prioritize solutions aligned with your organization's overall quality and risk mitigation goals, which can be achieved by thoughtful consideration of the solutions identified and quantified feasibility of implementation and effectiveness.

Ensure solutions are appropriate based on the scope of the problem you are attempting to cure. This phase is a natural progression of the root cause analysis and solution design efforts you have completed so far, since much of the basis for solution prioritization is established as part of the solution design. Some guidelines to prioritize possible solutions include:

1. cost to implement
2. time to implement
3. effort to implement
 - a. development effort
 - b. operational effort
 - c. implementation effort
4. sustainability

Gaining approval and buy-in from your collective problem-solving team is critical, since no one knows the process and the problems better than the SMEs and no one understands the big picture better than your stakeholders.

Establish an implementation plan

The goal of an implementation plan is to ensure that your team can answer who is responsible for what, when it is due, and how the solutions will be performed. In the simplest terms, it is the action plan that turns your solutions into concrete tasks. A well-designed implementation plan keeps everyone on track.

Before assigning an implementation date to your solution, consider all tasks that must be done to implement your solution. Determine which tasks can be completed concurrently and which tasks will have dependency on other tasks when developing your implementation plan. For optimum results, calculate the time required to complete individual tasks and the cumulative time needed to complete all tasks required to implement a solution.

Lastly, determine who will be responsible for what. Assigning responsibility for the solution is different than assigning responsibility for individual tasks. In most cases, two distinct groups will contribute to and have varying levels of responsibility for implementing a solution: action owners and stakeholders.

Action owners are responsible for completing tasks. When assigning action owners, match individuals with the necessary skill set required to complete the given task. Based on the solution's complexity, multiple tasks performed by various action owners may be needed to implement one solution.

Stakeholders are responsible for making sure that the action owners are on track to complete all tasks and the solution implementation time frame will be met. To ensure accountability, no more than one stakeholder should be assigned to a solution.

Track solutions in your action plan (template)

From the moment we defined the problem to solve to where we are right now, the determined root causes, defined solutions, assigned stakeholders, and key dates must be captured in the action plan template. Whether your organization utilizes Fannie Mae's action plan template or chooses your own design, ensure it sufficiently documents the stages, actions, responsible parties, and dates associated with the problem-solve process.



Fannie Mae offers an action plan template on our Loan Quality webpage for your reference.

1 - DEFINE PROBLEM TO BE SOLVED						2 - ASSESS ROOT CAUSE(S)		3 - DESIGN SOLUTIONS			4 - ESTABLISH AND EXECUTE SOLUTIONS								
Issue Number	Define Problem	Priority	Status	Date Opened	Defects Observed		Root Cause	Area Responsible for Solution	Solution Owner(s)	Solution(s)	Priority	Status	Solution Implementation Target Date	Target Metric(s)					
					Internal Reports	Investor Reports													
1	37% of significant asset defects are related to gift funds	High	In Progress	5/15/22	Yes	Yes	80% of the gift fund defects did not document the transfer at closing	Deficient staff training regarding new policies/procedure	Training Department	C.Brown	Training for all Closers/Funders	High	In Progress	7/10/22	100% of impacted staff attend training and pass a knowledge test with 95% accuracy				
								Missing or vague at close conditions related to gift funds	Underwriting	B.T.Builder	Update "At Closing" Gift Fund condition to reflect updated requirements.	High	In Progress	8/1/22	Prefunding sample defect rate < 1% of all asset defects				
								No checks in place to prevent loans from funding with open At Close conditions	Closing	M.Mouse	Second-level review to prevent loans from advancing until systemic control is active	High	In Progress	7/10/22	100% of at closing conditions cleared prior to funding				
								No checks in place to prevent loans from funding with open At Close conditions	IT	D. Explorer	System enhancement to prevent loans from funding that contain open "At Closing" conditions	High	In Progress	8/1/22	100% of at closing conditions cleared prior to funding				
							15% of the gift fund defects did not document donor ability	Processor cleared At Close condition without proper authority						Low	Not Started				
								Missing or vague at close conditions related to gift funds						Low	Not Started				
5% of the gift fund defects are due to ineligible gift donor	Internal guideline gap regarding donor ability requirements						Low	Not Started											
	Internal guideline gap regarding eligible donor criteria						Low	Not Started											

Stage 5: test and evaluate solutions

Testing the performance of your solution(s) and evaluating the results of the test are critical elements of an effective problem-solving program. Without testing, it is difficult or impossible to understand what is working and what needs improvement. This stage is also important to monitor the process after implementing a solution to ensure no new problems emerge.

Effective problem-solvers create testing plans before implementing solutions. Testing plans establish the testing parameters, define success measures, and align resources where needed. Leveraging a testing plan will help you align your project goals with your strategic objectives and provide a clear way to track and communicate your progress and achievements.

Action items to consider including in your testing plan:

1. establish targets for determining success
2. define area(s) responsible for conducting the test
3. determine if the solution will require a pilot test or an in-production test
4. determine if a full-file review or component review is necessary

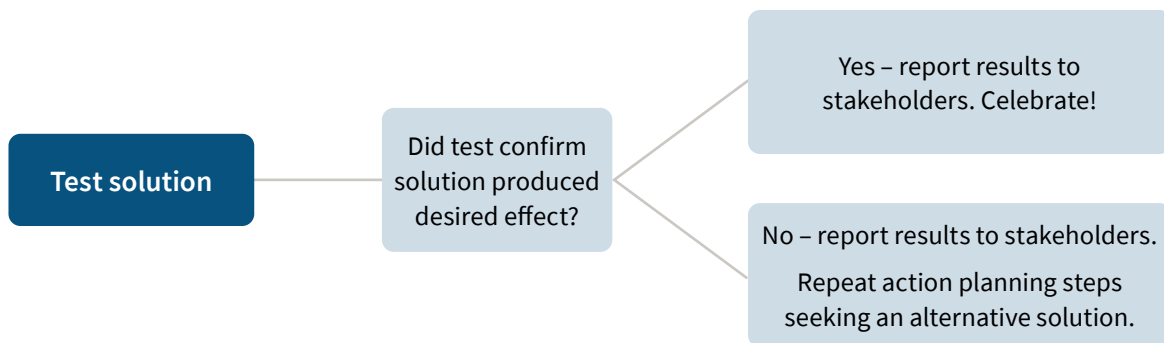
5. determine whether a new defect category or subcategory needs to be established
6. define the frequency and duration of the test
7. determine who will oversee the testing feedback loop
8. define when the results will be available
9. define who needs to receive the results

Success measures are another important part of this phase and offer visibility into whether our solution appears to be generating improvement. Measuring is simply the act or process of comparing objects or events with respect to a particular factor. Common measurements include time, money (cost or revenue), quality, satisfaction, productivity, and resources.

Loan manufacturing quality is typically measured by using a defect rate percentage. While we recommend establishing success metrics at the solution level, improved defect rates that are tied to your problem are the ultimate measure of success. Developing a target defect rate and aligning that target to your testing plan is foundational. Reduced defect rates may be an early indication a solution is working, but don't be lulled into a "set it and forget it" mentality; remain diligent in overseeing the progress of the solution by continuing to evaluate the results from the testing.

Monitoring is also an important step in our testing plan. Monitoring is the periodic assessment of activities related to our solution and is conducted to track the progress of the implemented solution. Monitoring can also be an early warning system that identifies, sooner rather than later, potential issues. After a solution has been reached and success measures have been established, it is important to evaluate the results to determine if the solution we implemented was the best possible solution to the problem.

What if your test doesn't resolve the issue? Problem-solving is also testing and learning, so if little or no progress is made toward reaching the goal, you shouldn't feel discouraged. If the solution doesn't appear to be working, it's simply time to reevaluate the approach. The solution may need a small adjustment. When solutions don't work as planned, review your data and alternative solutions and implement a new plan.



Stage 6: sustain and continuously improve

Continuous improvement

Improvement must be a constant part of our work. Having and maintaining a problem-solving discipline with fully documented action plans can deliver rewards every time you exercise it.

Culture is what makes organizations function in a certain way and comes from values set (who they are) to achieve its core mission (where they're going). These guiding values create a culture that directs employees' actions on a day-to-day basis. A strong corrective action culture is paramount for sustained success and is a priceless investment to navigate an ever-evolving environment. But an effective corrective action program doesn't occur organically and is not self-sustaining. Complete buy-in from leadership and management is necessary to build a culture where 'doing it right when no one is looking' is the standard.

The more your firm uses problem-solving discipline, the more everyone becomes familiar with the process, and the process becomes easier since everyone already knows what to expect.

Sustain

Once a solution has been implemented and tested, and has demonstrated sufficient improvement, it is critical to ensure the new improvement can be sustained. It would be nice to assume that tested solutions will always maintain their expected level of quality, but life happens — staff changes, volume fluctuates, and systems get updated. All these factors (and more) can disrupt your processes and may result in a departure from your newly established level of quality.



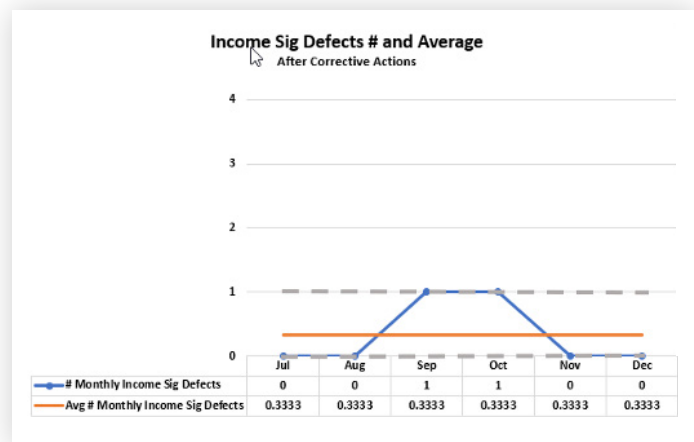
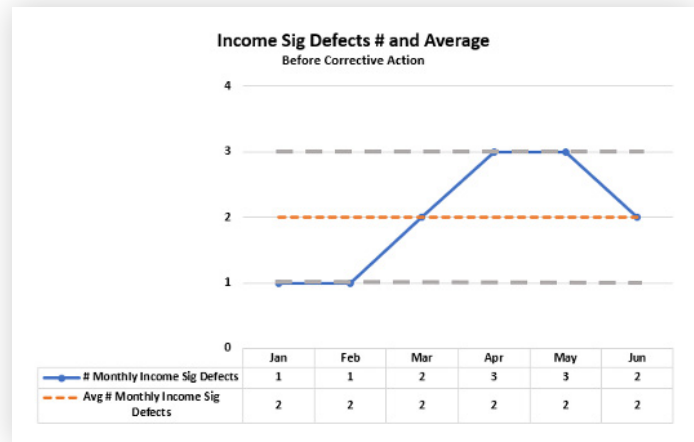
To prevent that from happening, you must implement a few safeguards to ensure you know how to control your new quality level, including:

- create a method of monitoring for changes in quality,
- establish tolerances or thresholds that, when breached, trigger actions, and
- draft an escalation plan that identifies responsible parties and actions needed when breaches occur.

Monitor and control

To effectively monitor and control your new processes requires establishing acceptable ranges of quality metrics that will indicate when quality is deteriorating to a level requiring action. QC is generally focused on maintaining overall defect rates below target thresholds, which are typically expressed as a percentage (defect rate) of the population reviewed. This method works great because your company will already have target defect rates established by senior management. It is far less likely that lenders will have targets or thresholds defined at the category or subcategory level. If the problem being solved is for a specific type of defect, the overall target defect rate will not be sufficient to adequately monitor these defects. You must define a metric that will allow you to successfully monitor for the specific defect just solved. One method is to create control charts.

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Control charts can be viewed as three-dimensional line graphs containing three data elements from charted occurrences over time:

1. The average (mean) number of occurrences over a period
2. The upper control limit, or threshold, representing the maximum range of expected defects
3. The lower control limit, or threshold, representing the minimum range of expected defects

The illustrations above show two graphs; one reflects the occurrence of defects prior to the problem-solve and the other reflects the occurrence of defects after the problem-solve. The graph on top shows that the defect occurrences ranged from 1 to 3 per month over a six-month period. The average number of defects during this time was 2 per month.



The upper and lower limits can be the highest and lowest number of monthly occurrences during that time. The output quality of the new process is now 0.33 or 1 every three months. The new control limits for this defect would be 1 and 0. Now that the control limits are known, you can consider what should be expected over time going forward. Since only 1 defect is expected every three months, one option would be to establish a control limit where any six-month period that shows more than two defects for this defect type requires the closing and underwriting managers to review the loans for process gaps or failures and report their findings to QC. That could be triggered by two defects in a month or one defect each month for three months. This control range would force review earlier if more defects are observed and later if fewer defects are observed.

Escalation plan

To keep quality within tolerance limits requires more than monitoring. An escalation plan must be in place to address the who, what, and when for taking corrective action in the event defects exceed expected levels. QC and the business will need to collaboratively complete this plan.

Things to consider are:

- Does one breach require action or does close monitoring take over until a predetermined number of breaches occurs?
- Who is tasked with monitoring: the business, prefunding, or post-closing QC?
- Who is responsible for launching action when the predetermined number of breaches occurs? Are multiple parties engaged in monitoring (e.g., the business and prefunding QC, or prefunding QC and post-closing QC)?
- Is the review process early enough to identify defects at or near the point of occurrence? The earlier process failures are discovered and addressed, the fewer loans will be at risk.

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Ask yourself

- Does our QC program currently have a formal corrective action process that is kept up-to-date through periodic reviews and leverages the Fannie Mae action plan template?
- Are outstanding corrective action plans actively managed to drive remediation of observed defects, prevention of recurring defects, and reduction of repurchase risk?
- Do we have dedicated corrective action stakeholders from all key business groups?
- How effective are our root cause analysis practices?
- Do we routinely seek to obtain data from all three sources when finding the root cause?
- Could we benefit from the structure of a root cause analysis tool?
- Do we have the right people performing root cause analysis?
- Do we utilize a testing plan to support solution(s) testing?
- How effective are our testing plan practices?



- Do our QC reports reflect an increase in gross or net defects? If so, does our action planning strategy address the following:
 - Are timelines set to track when we expect to see improvements?
 - Has a responsible party for the actions been identified?
 - Do we retest a control after implementation?
- Was the solution that produced the desired level of quality the final solution or a temporary work-around?
 - If it was based on a temporary work-around, declaring the problem solved is premature. Sustained improvement is highly dependent on the sustainability of the solution. That means the solution used to achieve the improvement was a permanent solution and not a work-around.
- When an implemented solution does not fix the issue or yields less than expected progress, is it possible the fix compromised a process further down the manufacturing process? Consider how to watch for and capture those results.

Next steps

Effective corrective action is a key element in an organization’s QC program, enabling lenders to improve their loan quality and maintain low defect rates. Your QC program is incomplete without a formal process for acting on your QC results.

Pablo Picasso once said, “Action is the foundational key to all success.” So, no action means no success.

Resources

[Selling Guide D1-1-01](#)

[Selling Guide D1-3-06](#)

[Fannie Mae Action Plan template](#)

[Loan Quality page](#)