QA
QA Summit:

SHIFT LEFT

Quality Assurance
Best Practices in
Digital Marketing

AbelsonTaylor

GA COMMUNICATION GROUP

"

You cannot inspect quality into a product. The quality is there or it isn't by the time it's inspected.

Harold S. Dodge, via W. Edwards Deming

"

Quality Assurance: We Struck a Nerve

Last October in Chicago, AbelsonTaylor and GA Communication Group co-hosted the first ever Quality Assurance Summit for digital marketing.

The original thought was to get 10 guys in a room to talk about the issues that affect the quality of digital projects. Well, we certainly struck a nerve with this topic. It turns out that everyone we spoke to has the same problems.

So, we ended up with over 50 marketing directors, QA professionals and digital directors from the leading healthcare companies and advertising agencies meeting all day at the Ritz-Carlton to try to figure out some best practices.

The Goal: Take a Holistic View of QA

The QA Summit was moderated by Joe Shields, Global Director, Campaign Management, AstraZeneca and included a presentation on the state of QA, an expert panel discussion and a client roundtable, as well as a group working session.

Presenters included Jim Spillson, Manager of Quality Assurance, AbelsonTaylor, as well as Elizabeth Estes EVP, Chief Strategy Officer, Ben Currie, Group Director, Digital Solutions, GA Communication Group, and Shachar Schiff, Principal, Bad Testing. Michael Morowitz, Senior Technology Director, R/GA Chicago was the keynote speaker.

Join the QA Conversation

This white paper is the product of a lot of blood, sweat, tears and laughter. But it's clearly not the end of the conversation. Please join us at stateofqa.com and through @StateofQA to help refine the best practices in quality assurance.

A Word of Thanks

Finally, we'd like to thank everyone who took time out of their busy schedules to make this summit a reality. QA is in a much better place due to your passion and honest insights.

Joe Shields
Global Director,
Campaign Management,
AstraZeneca

Jay Carter
SVP, Director of
Strategy Services,
AbelsonTaylor

Geoff Melick
EVP, Chief
Innovation Officer,
GA Communication Group

Jim Spillson
Manager of
Quality Assurance,
AbelsonTaylor

Ben Currie
Group Director,
Digital Solutions,
GA Communication Group

Michael Morowitz
Senior Technology
Director,
R/GA Chicago

Scott Hansen
VP, Executive Director,
Digital Creative,
AbelsonTaylor

Glitch Happens

Need proof that quality assurance in digital healthcare marketing has hit a nerve? Just take a look back at HealthCare.gov—the digital marketplace that launched, notably on schedule, only to become the most publicized and preventable software failure.

The site is intended to improve healthcare access, efficiency and quality. Instead, it's become a public service announcement on the state of quality assurance.

156 Weeks of Planning—And Only 2 Weeks of Testing at the End

The scope of HealthCare.gov was massive. The launch was highly anticipated. And as time to market approached, a disparity between project requirements, documentation and expectations continued to grow. Cross-functional teams spanning various government agencies and 55 contractors took 3 years (or 156 weeks) to concept, plan and develop the software. But proper testing didn't occur until 2 weeks prior to launch. From a QA perspective, the project was dead on arrival.

We're Not Just Testing Tech

Unfortunately, this scenario is all too familiar to digital healthcare marketers: the complex requirements, the lack of documentation, the nebulous stakeholders and responsibilities, the silos of communication, the late-breaking scope changes, the immovable deadline. Quality assurance starts way too late in the process—like at the end.

To manage the risks inherent in digital projects, it's critical that quality be an intrinsic part of the process. It has to be an attribute of the process, not an afterthought. Quality is the means and the end. And every team, every individual must have quality procedures built into what they do.
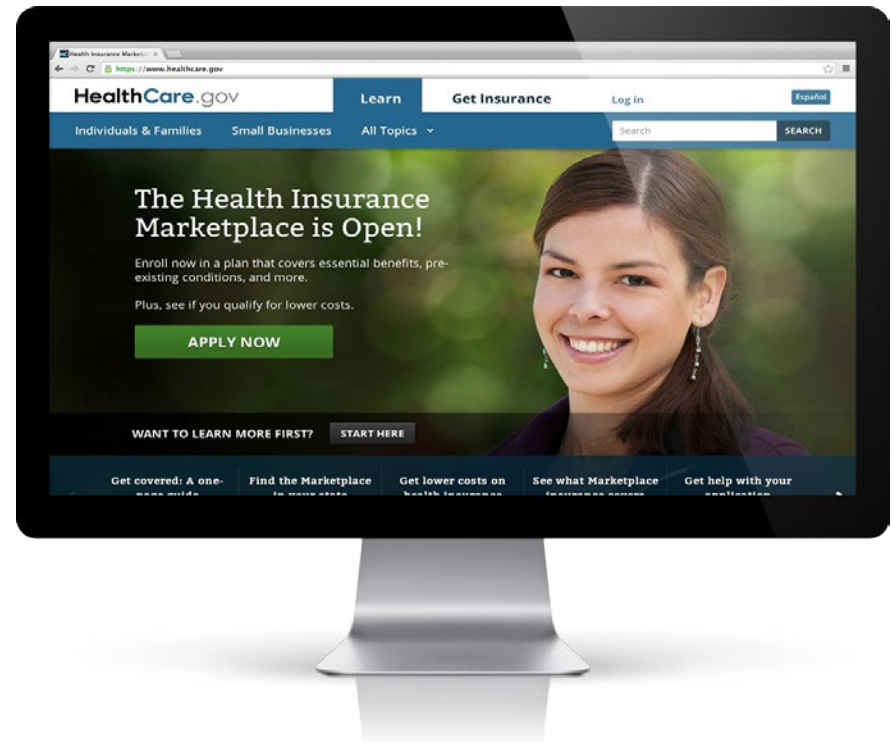
> "
> *Failing to plan is planning to fail.*
>
> *Alan Lakein*
> "

Quality Assurance—
It's Hard to Keep Up

Quality assurance is not just finding bugs in the code. It's the impact of flaws in direction—or misdirection if you will—that cause work to be scrapped or redone late in the process.

Quality assurance is keeping up with changes in hardware and software. In the last year, over 30 different digital devices, platforms, operating systems and browsers were released.

Quality assurance is staying current with how your target consumes digital media. For instance, a recent study of physician behavior by Epocrates found that there would be more digital doctors than non-digital doctors in 2014. That means that in the 2-year period between 2012 and 2014, there will be a complete flip in the ratio of connected clinicians from 20:80 to 80:20.

At the same time, something called an E-patient has appeared on the horizon, empowered by apps and social media, who is having his or her voice heard by healthcare companies.

When this accelerating velocity of change crashes into the typical development life cycle of digital projects—6 months to a year—one can clearly see why quality assurance struggles to keep pace.

> "
> *Testing is not assurance.*
>
> *Michael Morowitz,*
> *Senior Technology Director,*
> *R/GA Chicago*
> "

"Mobile Trends Report," Epocrates, 2013.

Looking for Problems in the Right Places

Research has shown that 56% of all digital project problems occur during the requirements phase of a project. 27% occurs during the design phase. Meaning that the majority of bugs happen before programming even starts.

However, the typical QA process doesn't even begin until after the programming portion of the project is complete.

That means that bugs that start early on in a project just sit there, costing time and money.

That's the trap

If you don't know what you're looking for, or even when or where you should be looking, why bother with quality at all? This leads to the common practice of just "looking at it before it goes out the door."

Without clearly defined quality assurance principles, processes, goals and metrics up-front, it's easy to see why everyone falls in the trap of only testing at the end.

Where problems originate
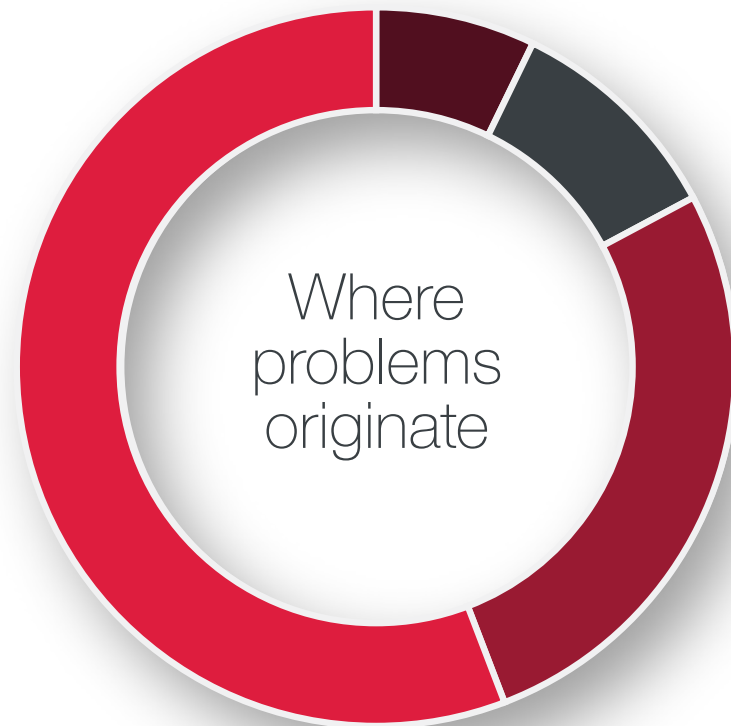
Requirements	Design	Code	Other
56%	27%	7%	10%

CrossTalk Magazine—*The Journal of Defense Software Engineering*

The Cost of Quality

Quality begins with the strategy. It includes customer considerations, on-target messaging, intuitive interface design, product branding and airtight code.

The earlier you find a problem, the less it will cost to fix. If we find an issue in the requirements phase, the cost to fix is measured in the time it takes to edit a requirements or specifications document.

If we find that same problem during the testing phase—requiring new content, new functionality, new code, new compatibility testing—it can easily cost 10 times as much to fix, maybe more.

The cost of quality isn't the price of creating quality products or services. It's the cost of NOT creating quality products or services. Every time work is redone, the cost of quality increases.

> *Problems found at the end cost 10 times more to fix than problems found in the beginning.*
>
> *Jim Spillson, Manager of Quality Assurance, AbelsonTaylor*

Cost to fix a defect		Time detected				
		Requirements	Doc/Creative	Development	Testing	Post-release
Time introduced	Requirements	1×	3×	5–10×	10×	10–100×
	Doc/Creative	–	1×	10×	15×	25–100×
	Development	–	–	1×	10×	10–25×

QA Is More Than Tech and Code

In the end, quality assurance is more than checking for glitches in the code.

Quality assurance is protecting the value of your brand. Every mistake that goes live leads to a decreased user experience by your target because it affects load time, how email replies are handled and how easy or difficult forms are to fill out.

In other words, defects erode the relationship your target has with your brand.

> "
>
> *Quality is not somebody's department. It's not a made-up job. It's the cost of entry in business.*
>
> *Joe Shields, Global Director, Campaign Management, AstraZeneca*
>
> "

Shift Left: Quality Assurance From the Start

The concept of Shift Left is more than an adjustment to a timeline. It's more than finding glitches in the code.

Shift Left operationalizes the idea that quality assurance starts at the beginning, during the planning stage of a project. And that quality assurance is present during every subsequent step of the way.
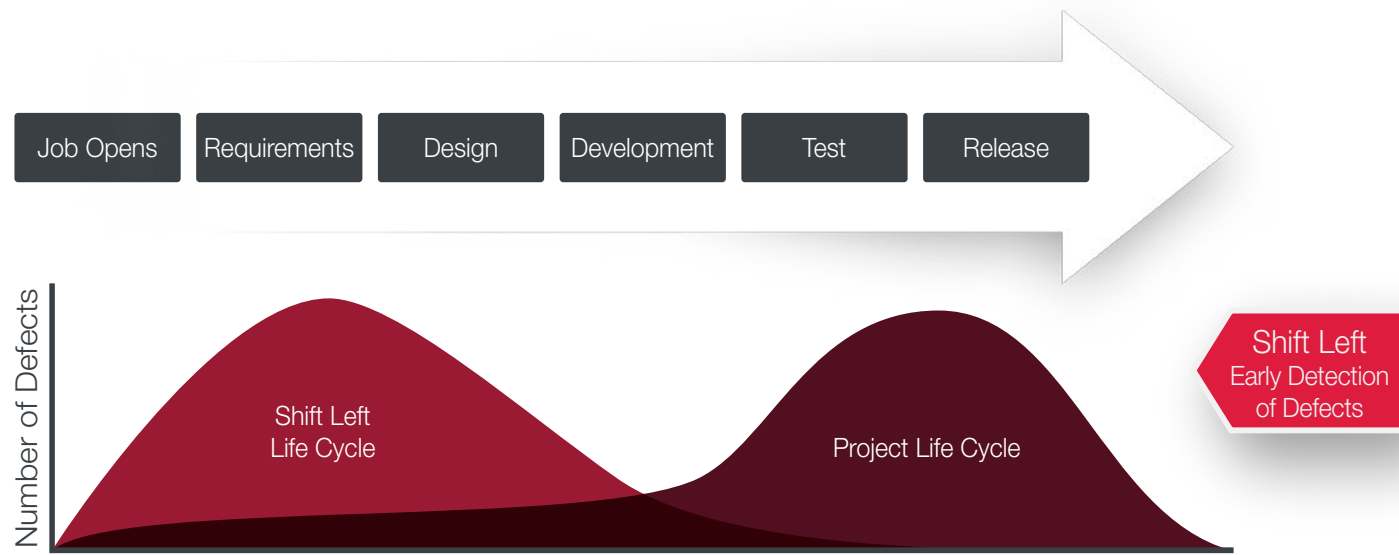
The goal of Shift Left is to be more nimble, accurate and inventive when creating digital projects. If we're looking for defects up-front, we can catch them and move on. That's nimble. If we catch defects as they occur, we improve accuracy. Finally, if we're both nimble and accurate, we allow ourselves the opportunity to be more inventive—creating better

communications, better interface design, and projects that benefit both our clients and customers.

The Benefits of Shift Left

The benefit of Shift Left is that we can now set and meet expectations for successful quality assurance across every browser, every operating system and every device. And for every brand.

And we can be efficient because doing it right, at the right time, is faster than finding and fixing the problems just days before launch.

| Job Opens | Requirements | Design | Development | Test | Release |

Number of Defects

Shift Left
Life Cycle

Project Life Cycle

Shift Left
Early Detection
of Defects

5 Ways QA Challenges Clients and Agencies

It all starts with the fact that we don't have a consensus-driven definition of what quality means. Talk to an account person, a creative, a technologist, a brand manager—they all have different definitions of quality.

For the software engineer, quality can be measured by defect density. For the creative, it's that the interface looks and functions properly. For the brand manager, quality revolves around messaging, timeline and budget. For the customer, it's all about having a painless experience with your digital asset.

These disparate views of quality assurance put the project and participants at risk: budgetary risk, timeline risk, client expectation risk and customer satisfaction risk.

1 Creative Client Service Focus

Clients don't approach agencies for technology. Clients are looking for strategy, service and creative.

So, the first challenge is that the people we talk to on the client side are not usually technologists. They are CMOs. They are marketing directors. They are brand managers.

What does that mean to the concept of quality assurance?

It means that no agency is going to win business solely based on QA. Conversely, there is a real chance that an agency will lose business because of bad QA. Clients expect perfect. When we miss perfect, we put the business at risk.

5 Key QA Challenges

2 Custom Technology

As brand champions, agencies find themselves between a rock and a hard place when it comes to custom technology.

Differentiation is key to the success of any brand. That differentiation extends to technology. Custom technology is literally in an agency's charter and DNA.

So, we have to consider the cost and liability of built from scratch. When it's custom, we end up being the sole defender of the technology. We're responsible for ensuring that each and every browser and OS update doesn't break our tech.

As a result, custom technology places a huge burden on the quality assurance process.

3 Varied Schedules

It's challenging when you are trying to fit test planning, process management, software testing and non-standard deliverables into schedules that last anywhere from 2 weeks to 18 months.

The challenge is compounded when you add in sales cycles, medical/regulatory/legal reviews and time-sensitive FDA mandates.

5 Key QA Challenges

4

Non-Standard Deliverables

There are situations when we have no technology deliverables. For instance, there are occasions when we deliver creative—in the form of PSDs—to a client IT team, who then builds the site.

So the question is, if technology is not involved, and QA is a function of the technology team, is the client not getting quality assurance?

5

Wide Range of Platforms

Companies like AstraZeneca, Capital One or Nike have an infrastructure, and they have opinions, and they know where they want the technology to go. Almost every agency feels the pain of having to operate under and across a broad range of platforms.

"

A clear definition of quality goals leads directly to a clear definition of QA principles.

Michael Morowitz, Senior Technology Director,
*R/GA Chicago*

"

4 Core Principles of Quality Assurance

1

Complete Process Coverage

Testing is important, and testing at the end is really important. But it's also just one tool in our tool belt. Requirements and standards analyses, creative reviews and test planning are all critical-to-quality moments that need to come into play as we Shift Left.

Typical testing paradigm

How Shift Left affects testing
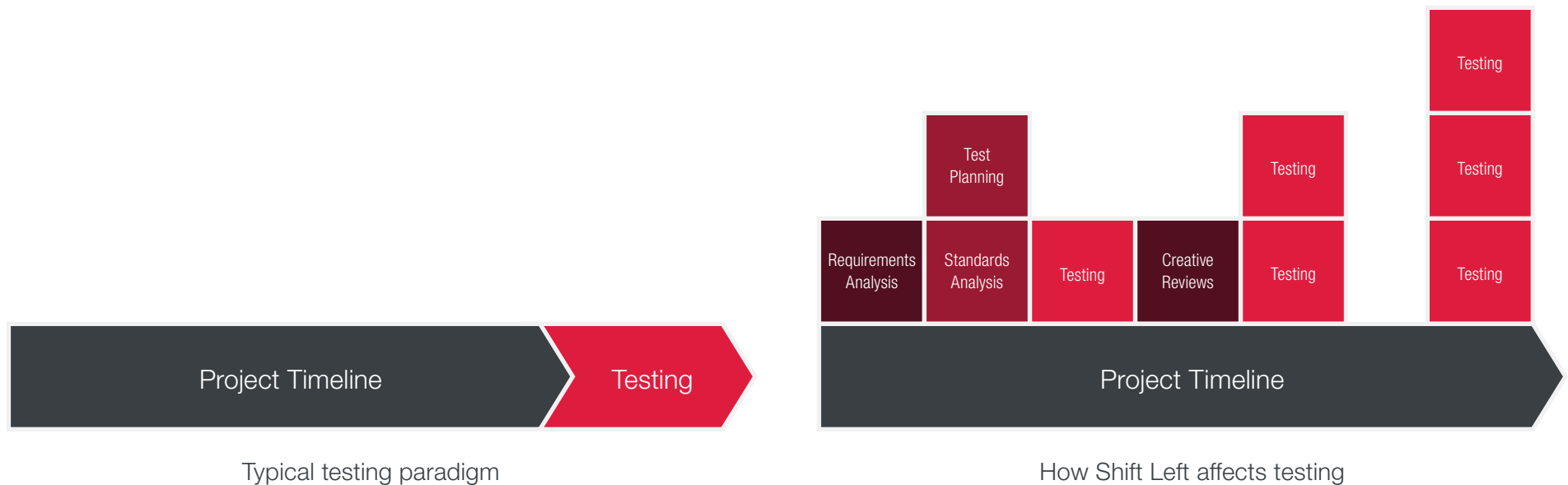
4 Core Principles of QA

2 Holistic Knowledge

If you aren't seeing the big picture, you aren't providing quality assurance.

That's why each team member must be aware of the roles and responsibilities of their teammates. Each team member must understand how the team will work to bring all the pieces together, and how they will monitor quality, in order to ensure success.

Holistic knowledge of the project and collaboration is the glue that prevents the types of mistakes that happen when team members work in silos. That's when problems get sent downstream for someone else to figure out and when costs start climbing.

Strategy & Analytics

Copy

Social & Mobile

iXD

Interface

Tech

4 Core Principles of QA

3 Independent Accountability

This principle is specifically about the agency's org chart. It states that the QA lead should, ideally, report to a management structure that is not shared with any other production groups. More specifically, a QA analyst/tester should NOT report to the Technology Director, as is common practice in many agencies.

Independence ensures a greater "purity of practice" of quality assurance. The primary team members who are accountable for quality assurance are themselves accountable to a team structure that has quality assurance as its primary mission.

Therefore, it makes sense for QA analysts and testers to report to an Executive Director of QA.

4 Team Focus

The idea of Team Focus is that quality assurance lives everywhere. Everyone's responsible. While Team Focus is an extension of Independent Accountability, it's different.

Team Focus states that even though there is an independently accountable QA lead, ALL team members are responsible for quality. QA is not fully contained within the QA lead. Every functional and every non-functional area should have a role within the QA process.

"

The 'cost of quality' isn't the price of creating a quality product or service. It's the cost of NOT creating a quality product or service. Every time work is redone, the cost of quality increases.

American Society for Quality, ASQ.org

"

The Shift Left Model— Outcomes of the QA Summit

To make a healthcare analogy, the Shift Left model of quality assurance is a lot like preventive care. You anticipate problems and head them off before any real damage is done.

Testing at the end of a project, on the other hand, is similar to going to the emergency room. Aside from it costing you an arm and a leg, emergency room visits usually happen in a shroud of panic. Judgment is replaced by reactivity.

Shift Left is More Than an Action Step. It's a Mind-set.

There is a gap in understanding around the role of QA.

QA is often confused with functional testing.

However, QA is more. It's getting detailed requirements, it's clearly identifying stakeholders and responsibilities, it's having a system for effective communication, it's a proper process of scope change and it's effective management of expectations.

"

Build things that aren't broken in the first place.

Geoff Melick, EVP, Chief Innovation Officer, GA Communication Group

"

10 Practical Guiding Principles of Shift Left

During the course of the conversation, it became clear that there are 3 key areas of focus inside the idea of Shift Left: 1) Planning and Communication, 2) Concept Creation and 3) Execution.
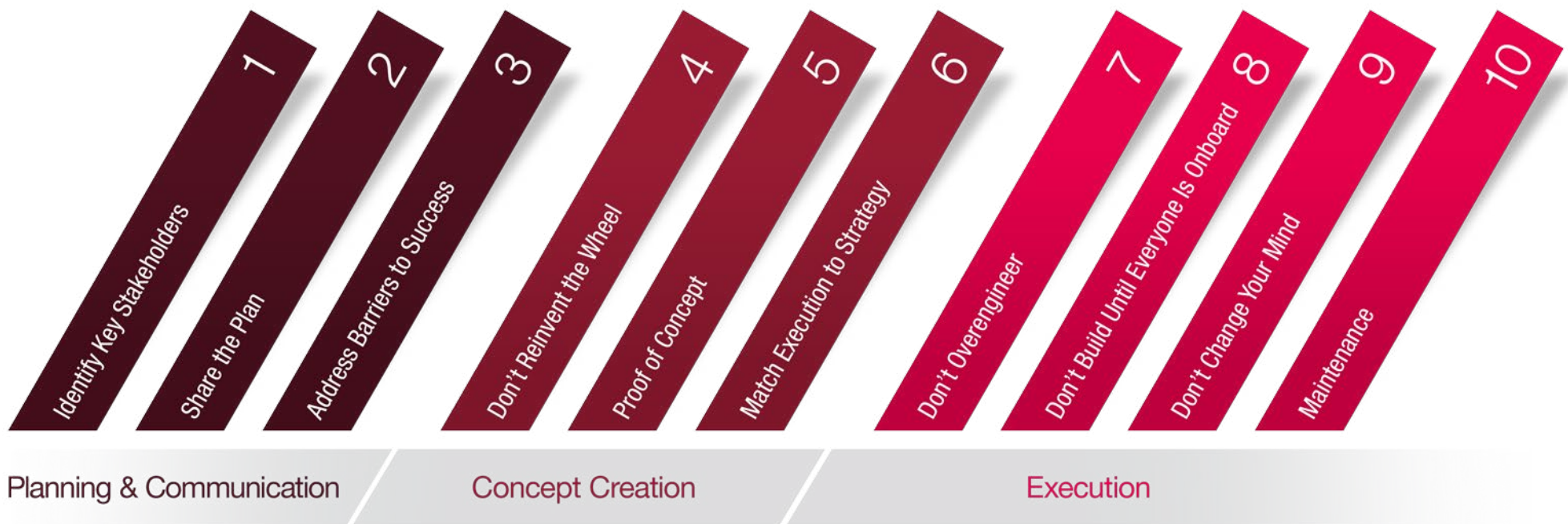
The following 10 Practical Steps are intended to foster a strong, from beginning-to-end mind-set around QA that you can apply to your current set of processes.

> "
> *Shift Left allows you to be more nimble, accurate and inventive.*
>
> *Scott Hansen, VP, Executive Director, Digital Creative, AbelsonTaylor*
> "

1. Identify Key Stakeholders
2. Share the Plan
3. Address Barriers to Success
4. Don't Reinvent the Wheel
5. Proof of Concept
6. Match Execution to Strategy
7. Don't Overengineer
8. Don't Build Until Everyone Is Onboard
9. Don't Change Your Mind
10. Maintenance

Planning & Communication | Concept Creation | Execution

Planning and Communication

Here everyone involved must be made aware of the project plan and understand his or her role in making it happen. Be certain to find and use common language. It will go a long way in assuring that stakeholders truly understand what's going to happen.

1 Identify Key Stakeholders

Everyone involved in the creation of a digital project—both client and agency—is a stakeholder.

And nothing is more important than identifying those key decision makers and their roles, both at the agency and at the client. Having the right people in the right place at the right time is a key step in creating an empowered and accountable team.

It's also critical that all of the stakeholders discuss what they're doing on the project.

In the book *The Checklist Manifesto, How to Get Things Right*, one of the items on Dr. Atul Gawande's pre-surgery checklist is for everyone in the operating room to introduce themselves and their role. What Dr. Gawande found was that the simple activity

of introducing oneself changed the behavior and the dynamics of responsibility in the room.

When someone stood up and said, "My name is Michael Smith and I am the anesthesiologist," or "My name is Betty Jones and I am the head nurse," it changed the way the team functioned. Lines of responsibility became clear to the team members. In addition, team members became empowered to speak up and identify issues.

Avoid the typical agency dynamic where you walk into a project kickoff and everyone just starts talking. Roles are assumed. "Oh, there's the tech guy, he must be in charge of QA." This type of thought process has disaster written all over it.

Planning and Communication

2 Share the Plan

Everyone hates surprises.

That's why it's so important to share the plan—strategy, messaging, media, business requirements documents, functional requirements documents, design, metrics, test plan—with everyone up-front.

And gain approval before moving on.

Each and every stakeholder must have a clear understanding of where "true north" is for the project. This includes agency account, creative and tech, as well as client brand managers, IT and sales management.

> "
>
> *QA includes understanding what the customer wants, their channel preferences and delivering the right message.*
>
> *Matt Barry, Associate Director,*
> *HCP Multichannel Marketing, Astellas Pharma US*
>
> "

3 Address Barriers to Success

Take the time to course correct before you've spent a dime. If corporate direction, scope, legal requirements or brand imperatives change, now is the time to address any updates to the plan.

It may not just be changes that are the barriers. The timeline, an unknown platform or a team that has never worked together could all be potential pitfalls.

Similarly, language barriers can betray project success. A team may share the same native tongue, but few are fluent in both the languages of marketing and technology. Critical success factors means something to marketing folks, whereas critical-to-quality moments means something to the tech folks.

Establishing a common lexicon for strategic goals breaks down the walls between team members, allowing them to clearly define and effectively communicate shared goals and commitment to success.

Project planning should come to a "dead stop" until you've had time to discuss what steps the team will collectively take to understand and address the barriers to success.

Concept Creation

It's critical that stakeholders understand what the project is trying to accomplish and how. Beware of vague head nods when you present wireframes. Take the extra steps necessary to actually show how your program will perform before you invest a lot of time and money.

4 Don't Reinvent the Wheel

Don't fall into the custom-made trap. Not every project requires a novel operating system or unique piece of hardware. Nor should the client be forced to pay for it either.

This doesn't mean you shouldn't be inventive. Many times, your client will require a custom solution to their problems.

It does mean, however, that if a platform solution such as Adobe DPS or Drupal can solve your problem, then don't build your own platform. Using pre-existing resources can reduce the liability of having to test both the platform and the project.

5 Proof of Concept

If a picture is worth a thousand words, how much is a Proof of Concept worth?

Is it priceless?

A Proof of Concept does 2 things: 1) it gives you the ability to show a client an early example of how a project will look and perform. This always goes a long way to eliminating confusion as to what the end product will actually be; and 2) it allows you to solve sticky tech issues before the entire team starts burning hours.

Even if you need multiple Proofs of Concept before you gain stakeholder alignment, you haven't incurred the expense of total front-end and back-end development only to find out that what's been built isn't what the client wants or expects. It also provides the opportunity to determine if and how the product can be tested.

Concept Creation

6 Match Execution to Strategy

Due to the complexity of digital projects, oftentimes there is such an intense focus on the technological aspects that strategy ends up taking a back seat.

Decisions made during the project can dilute the original intention. It's as if the strategic mission has been communicated via a game of telephone.

A key to quality assurance is to make certain that as adjustments are made to the functional requirements, they don't disrupt the strategy of the overall project.

"
61% of users have better opinions of brands that offer a good mobile experience. That makes mobile crucial to Shift Left.

Shachar Schiff, Principal, Bad Testing
"

Execution

Here quality assurance is dependent on the discipline of the team to stick to, and not deviate from the plan.

7 Don't Overengineer

Consider making a minimal viable product.

There's nothing wrong with having a master plan for a project. After all, it's digital. This doesn't mean you have to start small. It does mean you have to start reasonable. Make sure that what you're building fits the available timeline and budget.

Look to a second, third or fourth release to increase content and functionality. This will go a long way toward keeping your asset intuitive and relevant to your customers. Starting with a minimally viable product allows you to be quicker to market. Tighter release schedules provide tighter customer feedback loops, offering you the ability to collect customer intelligence that leads to actionable insights that can impact strategy and content of future rollouts.

Finally, if the ask is for an economy car, don't build the luxury version to satisfy some misguided sense of "doing my best."

8 Don't Build Until Everyone Is Onboard

Measure twice and cut once.

Consider making a "Digital Proof" of your project. A Digital Proof is a fully functioning sliver of the full project. A good rule of thumb is to build the home page and one vertical of the content architecture.

As with picture lock in broadcast or a print proof, once the Digital Proof is approved, it allows you to say, "Okay, now we're going to spend the big money finishing the project."

By taking this step of sharing with stakeholders exactly how the project will look and feel, you eliminate building the complete piece without interim approvals.

Execution

9 Don't Change Your Mind

Change is the only constant.

Changes in the competitive environment, shifts in customer tastes and brand updates all need to be vetted by the proper client and agency stakeholders. Everyone wants to avoid shooting from the hip and agreeing to something that can't be accomplished.

To that end, it's critical to have a change order process in place. And to understand how change will impact timeline and budget.

The concept of Shift Left provides ample opportunity to fine-tune and adjust projects every step of the way. Hopefully, once a project reaches the Execution phase, direction is set and it's all smooth sailing. While that may be wishful thinking, it's important to have a process in place to articulate the impact of change.

10 Maintenance

Customers are asking for digital platforms that last for a very long time. For instance, if you have type 1 diabetes, you don't have it for 18 months, you don't have it for the 6 months that you are interested in diabetes—you have it for your entire life.

This has led to a change in the agency-client relationship. Where once an agency would hand over disks and walk away from a project, now the 2 groups are much more connected over a life cycle of browser and OS updates, as well as the ever-changing behavior of our target audiences in regard to technology.

Maintaining the integrity of a digital project over time is critical-to-quality factor. Digital assets typically have a much longer shelf life than broadcast or print. Digital also tends to remain live long after the original client stakeholder has been promoted to another job.

Therefore, it's critical to create a maintenance plan that offers a clear road map and direction to anyone who inherits the project. This includes content updates and schedule, as well as budget. It also includes periodic assessments of newly released browsers, OSs and devices.

Quality: The Cost of Entry

A final thought: quality is not somebody's department, it's not a made-up job and it's not another gatekeeper. Quality doesn't happen at the end of a project.

In reality, quality is the cost of entry.

Shift Left means we have to have the mind-set to catch quality when we are writing a project brief, when we are developing strategy, during the creative process and well before the project goes to functional testing.

Handshakes, Not Handoffs

Therefore, it is incumbent upon agencies to include the development team from the beginning. It's incumbent upon clients to admit that, "We don't know what we don't know." That's part of the issue: trying to admit and saying, "I don't understand what you are saying," and asking, "Why is that a big deal?"

We need to be more honest with what we don't know; we need to be more patient when the team comes back with answers that make our heads want to blow off.

If we are able to shift quality assurance left in the timeline, we can save a lot of angst as well as a lot of money.

Quality Is an Ongoing Conversation

While the 2013 QA Summit was the first, it clearly isn't the end of the conversation. There are so many aspects of quality that need further investigation and discussion.

Our goal is to continue the conversation on stateofqa.com and through @StateofQA. And with your help, we'll continue to refine the best practices in quality assurance.

> " *Shift Left is more than an action step. It's a mind-set.*
>
> *Ben Currie, Group Director, Digital Solutions, GA Communication Group* "

Participants:

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AbelsonTaylor	Scott Hansen	VP, Executive Director Digital Creative	CloserLook	David Ormesher	CEO
AbelsonTaylor	Stephen Neale	SVP, Executive Creative Director	CloserLook	Patrick Conlon	Director of QA and BA
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QA Summit:

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