

PUTTING DATA INTO PRACTICE INSIGHTS AND PREDICTIONS FOR 2022 HCP MARKETING

Analysis from 154 Million Emails



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BACKGROUND

This report features data from millions of emails sent to healthcare professionals (HCPs) in 2021 by pharmaceutical brands, hospitals and health systems, and other organizations dedicated to healthcare. Here we provide healthcare marketers with benchmarks, insights, and key learnings to guide their planning and execution of email marketing in the year ahead and beyond.

The analysis draws from DMD's True Identity[™] database, the only database of first-party sourced, opted-in, and data privacy compliant HCP identity data. This database also includes records of the digital engagement (web and email) for all participating HCPs.

For this report, email data from January 1 to December 31, 2021 was analyzed, covering 154 million emails sent to U.S.-based physicians on behalf of healthcare brands.

This analysis also includes a deeper dive into the email performance of the top three therapeutic specialties engaged with in 2021. With data for 27 medical specialties and 114 subspecialties, DMD can provide additional analyses to meet your needs. Contact DMD if you would like a custom analysis on a specific therapeutic area.

A YEAR OF MONUMENTAL CHANGE

The year 2021 was full of impactful change. The COVID-19 pandemic, while still very much a part of daily lives, had notably less effect on digital engagement metrics as the economy reopened and lockdown measures were reduced in the U.S.

In general, email key performance indicators are trending towards normal, pre-pandemic rates. The 2021 average email open rate was 13.59% compared to 13.09% in 2020 and 9.04% for 2019. However, we may not be completely out of the woods with the pandemic, and additional variants of COVID-19 could continue to affect digital engagement metrics.

Apple's iOS 15 update introduced the most significant changes to email marketing in more than a decade. With iOS 15, Apple introduced three features that are affecting healthcare marketers: Mailbox Privacy Protection (MPP), Hide My Email (HME) and iCloud Private Relay. We see these changes continuing to challenge healthcare marketers into 2022 and beyond. Our research and experience lead us to believe that Apple is not done making changes designed to enhance the privacy of people's inboxes. Apple has even indicated as much by announcing an update to iOS 15 in March that's being called "iOS 15.4." Among the updates, iOS 15.4 will provide custom email domains with iCloud Mail.

In addition to technology hurdles, we see increasing challenges from stricter privacy legislation at the state level in the short term, and at the federal level longer term. California continues to lead the charge on consumer privacy regulations, and a growing number of other states are following California's lead on enacting laws that affect how identity data is handled, and thereby also affecting healthcare digital marketing.

Our report covers the trends and insights you need to support your email marketing efforts in the months ahead. Leveraging the expertise of our email scientists, we:

- Assess the technology and pandemic-related upheavals of 2021
- Analyze the top email key performance indicators, including open rates, click rates, and read rates
- Explore deliverability and inbox challenges, and highlight the value of deployment methodologies
- Show how open rates improved when an HCP's own behavior was used to determine the right time to send email
- Predict email marketing trends for 2022

Read on for expert analysis and how to put this data into everyday practice.

Historic Events in Email

Email is always evolving. Here are just few major events that have disrupted and advanced email since it's invention.

<u> </u>	
1971	Email is invented
1978	First marketing email is sent
1985	AOL launches
1997	Office 97 is introduced (Outlook becomes the standard business email)
2003	CAN-SPAM passed
2004	Gmail launches
2007	iPhone launches
2008	Android operating system is introduced
2014	HTML 5 released
2021	iOS 15 is made available



BIG CHALLENGES TO HCP EMAIL MARKETING IN 2021: **iOS 15 AND COVID-19**

The Arrival of Apple's New Mobile Operating System

The biggest event to occur related to email was the launch of Apple's iOS 15 in September. The update to the mobile operating system introduced three significant changes that, taken together, represent the biggest impact to email marketing in more than a decade:

- Mailbox Privacy Protection (MPP) caches all images in an email and strips away some HTML code, impacting read rates
- 2. Hide My Email (HME) enables Apple iCloud users to generate new and random email addresses to mask their identity when completing online forms
- 3. iCloud Private Relay hides unencrypted web traffic on Apple's Safari browser and is designed to reduce the amount of data websites can harvest about online users

MPP is making it more difficult than ever before for marketers to effectively track email metrics for HCPs using Apple's native email app.

If there's a silver lining to be found, it is that the adoption rate for iOS 15 has been somewhat slow as, unlike previous updates, adopting iOS 15 is not mandatory. Our internal data shows that, among HCPs using the Apple native email appless than half (41.45%) have upgraded to iOS 15. This is less than 15% of the overall DMD True Identity database of nearly 1.5 million HCPs.

Adoption is also lagging in the healthcare setting as IT departments across hospitals and healthcare systems are deciding not to implement iOS 15 over security concerns about iCloud Private Relay, which affects the browsing activity and history that can be viewed by the health system.

This means anyone on the hospital network using a Safari browser would be able to exchange or transfer data, visit prohibited sites, or view prohibited content, all without the hospital, or even Apple, being able to see the activity.

Based on current adoption rates, however, it could take months or years before iOS 15 has a meaningful impact on email marketing that targets HCPs. That said, marketers should not be complacent. Apple is determined to rollout iOS 15, and it will eventually become the standard mobile operating system for all the company's devices.

For more on this topic, read our <u>full assessment</u> of the iOS 15 update.

HCP Adoption of iOS 15

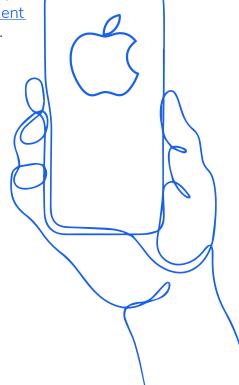


This is less than

15%
of the overall

DMD True Identity database

1.5m



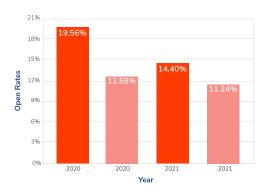
COVID-19 Update

COVID-19 continued to dominate the news cycle in 2021 – and healthcare email too. Between January and December, DMD deployed six pharma email campaigns that included COVID-19 in the subject line, and 26 hospital email campaigns. These campaigns resulted in higher-than-average open rates among HCPs. In December of last year, emails that contained the term "COVID-19" in the subject line had an average open rate of 12.76% among HCPs, highlighting that the pandemic continues to command attention.

Although COVID-19 subject lines lead to higher opens, overall email open and read rates normalized throughout 2021 as lockdown measures eased and life returned to more normal rhythms. With people confined to home for most of 2020, email open and read rates spiked higher as people had more time on their hands and spent more time in front of screens (See our section below on "open rates").

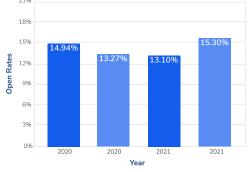
Average Open Rates: COVID-19 Use in Subject Lines

COVID-19 Subject Line Other Subject Line



Average Open Rates: COVID-19 Use in Subject Lines COVID-19 Subject LineOther Subject Line





Takeaways

iOS 15 adoption among healthcare professionals and organizations has been slow. However, iOS 15 is not going away and future Apple system updates may affect healthcare marketer's ability to effectively run and measure email campaigns.



COVID-19 also affected email in 2021 but its impact decreased as pandemic restrictions lessened. COVID is still a highly relevant topic among HCPs, as open rates have demonstrated, which may be of note for any healthcare marketer who needs to deliver messages on the pandemic, coronavirus, vaccines and related topics.

While email proved to be highly volatile in the past year, there are still foundational elements of email that will ensure success through even the most chaotic of times:

- Use a strong database of valid and authenticated email addresses for your healthcare audiences
- Demonstrate real value to physician audiences email is all about relationship-building, and relevant, timely messages are going to be better received by HCPs than communications that don't support their needs or preferences
- Related to the above, establish a clear value proposition with specific and detailed subjec lines, pre-headers, and the text of calls to action. And then be sure to deliver on these.



2021 EMAIL ENGAGEMENT METRICS

In this section, we look at the trends of email key performance indicators to gain an understanding of pandemic impact, as well as to demonstrate a clear return to "normal" as it relates to HCP email engagement.

Open Rates

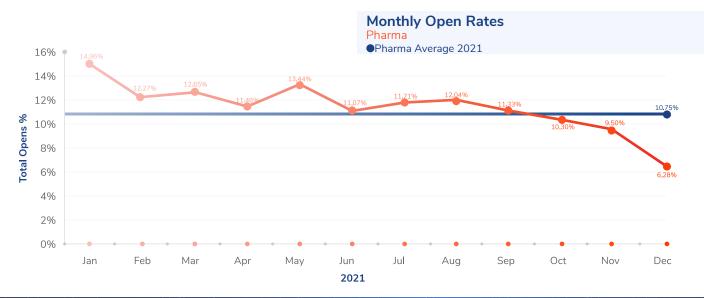
Open rates fluctuated substantially from 2020 through 2021. As COVID-19 sent people home to work, including physicians and other healthcare professionals, email became an even greater conduit for communication.

Looking back at the period that marked the start and height of the pandemic (from 2019 to 2020), pharma email open rates nearly doubled, and hospital email open rates increased by 62.4%. The highest monthly open rate for pharma was 18.90% in April 2020.



In 2021, email open rates for non-COVID-19 emails began to slowly decline due to a combination of factors:

- 1. HCPs began to return to pre-COVID-19 levels of activity in normal life, with less time for email.
- 2. iOS 15 had a strong effect on open rates; for some email service provider (ESP) technologies, open rates were artificially inflated, and deflated by other ESPs.
- 3. Inbox providers reacted to the sudden spike in iOS 15 related activity by tightening the filters that allow (or don't allow) email to the inbox while they adjusted their relational algorithms.



Average Open Rates – Top Specialties

Pharm



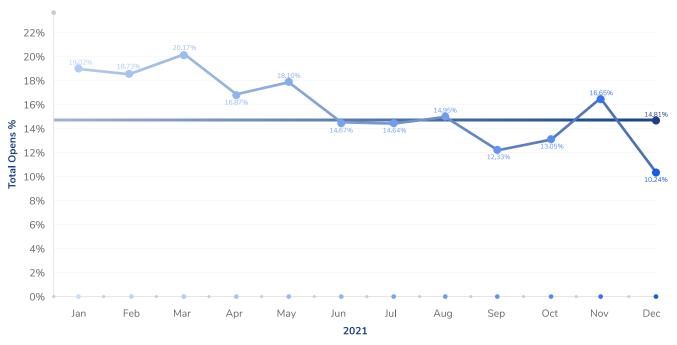




Monthly Open Rates

Hospital

●Hospital Average 2021



Average Open Rates – Top Specialties Hospital

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Personal Email Address vs. Business Address

Consistently, physicians open emails sent to their opted-in personal accounts at higher rates than those emails received at business accounts. This trend proved to be true again in 2021.

The one outlier for open rate performance as it relates to personal versus business email addresses is November, when HCPs were significantly more likely to open emails at business email addresses. This high performance is the result of DMD deploying a timely, relevant communication on vaccines to physicians.





Click Rate

Click rate is often most dependent on the quality of the message sent, and the visibility and accessibility of the call to action. Click rates in healthcare email viewed against other industries (e.g., ecommerce email) is not a fair comparison. Often, healthcare emails consist of lengthy, informative messages, conveying everything in the email alone and with no requirement for the recipient to click to view additional content. This is particularly true with pharma emails, when the medical, legal, and regulatory requirements dictate what needs to be included in the email (it's often a lot).

As we see in year-over-year trends, pharma emails typically generate lower click activity, likely because of highly detailed messages. But click rates can be variable, and it's important to assess campaign goals for example, (is the goal to drive views of a key message or is the goal to drive HCPs to a web or landing page?) when assessing this metric.



In 2021 specifically, click rate trends for pharma deployments showed month-to-month volatility, reaching some consistency in the latter half of the year. However, because of iOS 15 MPP image caching and fewer documented opens in the data, click rates were inflated in December. Unfortunately, an effective and consistent solution to the problem of iOS 15 and less visibility into opens is still a work in progress; currently each email service provider is attempting to resolve the issue in their own and often unique way. DMD will continue to stay at the forefront of research and best practices to support our client's HCP engagement goals.





Annual Click Rates – Top Specialties Pharma







For hospital email deployments, click activity was steady until December when, similar to pharma, the click rate was inflated as a result of fewer opens in the data being reported by the ESPs.

The one exception for the year was March, when DMD deployed an email on behalf of a major health system that focused on the effects of COVID-19 and psychology. This very high-performing email demonstrates not only the value of messages that are timely and highly relevant to the audience receiving it, but also the value of a strong and clear call to action.



Annual Click Rates – Top Specialties Hospital







Read Time

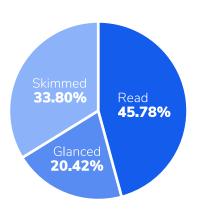
Read rate is the percent of email recipients who spend eight seconds or more looking at an email. No metric tells us more about how an HCP is engaging with an email than read rate. Read rate is determined when a pixel within an email fires (in milliseconds) upon open of the email to capture how long a recipient engages. DMD uses the industry standard Litmus for read rate reporting. Our historic data has shown that an end user (HCP) is 56 times more likely to click an email if they spend 8+ seconds in the email.

Read rate helps marketers understand if their message is being consumed by an HCP. Importantly, read rate can be used to tell a strategic story around how physicians are engaging with email. Along with other email KPIs, it should always be assessed when building out an HCP email marketing strategy and objectives.





Read Rates Hospital



From 2016 to 2019, the read category (more than eight seconds) averaged 36% of email opens. Read time normalized in 2021 after spiking in 2020.

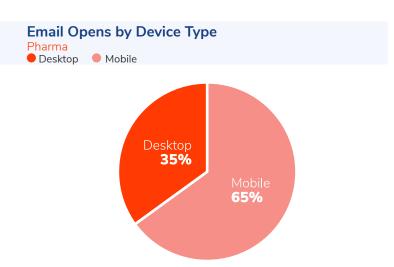
Read Rate Top Specialties Pharma Jan - Dec 2021				
	Read	Glanced	Skimmed	
Dermatology	36.80%	28.21%	34.99%	
Oncology	37.23%	27.91%	34.86%	
Respiratory	36.61%	28.42%	34.98%	

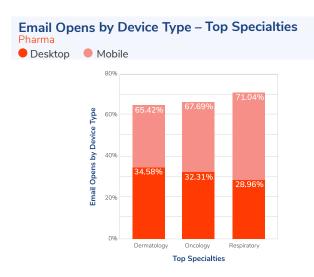


Device Type

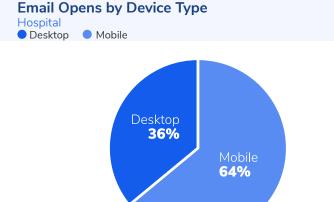
In 2020 and partially into 2021, email opens on desktop increased substantially, correlating with pandemic lockdowns and increased remote work. However, over the course of 2021, email opens on desktop decreased, and mobile open percentages are now averaging at normal levels.

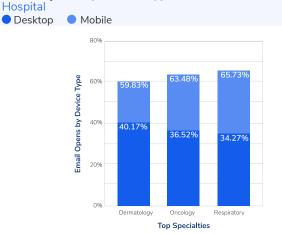
Barring other monumental events, we expect the majority of opens to continue to occur on mobile devices, as this trend was consistent pre-pandemic.





Email Opens by Device Type - Top Specialties





Bounces and Unsubscribes

DMD trends for bounces and unsubscribes remain consistent year over year. Bounce rate, which is the percentage of emails that do not successfully reach the inbox, is a good indicator of the quality of email addresses being used and the reputation of the sender deploying the email. Our email scientists leverage their deep expertise to manage sender reputation daily in order to ensure strong, consistent deliverability.

Hard Bounce & Unsubscribe for Physicians All Email Deployments

Hard Bounce Rates - Year Over Year



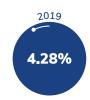






Unsubscribe Rates - Year Over Year









Takeaway

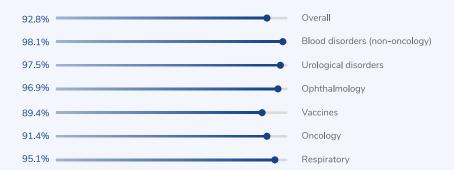


From October 2021 onward, with the rise of iOS 15, we began to see bounce rates rise slightly year over year. We also began to hear reports from around the industry of elevated bounces rates, in some cases significantly. These bounce rates were a direct reaction by inbox providers, both personal (Yahoo, Gmail, Outlook), as well as private (Outlook Exchange, Gmail Business), to the new inability to understand email engagement due to automated opens. Through the fourth quarter of 2021 and into the first quarter of 2022, inbox providers have struggled to properly place emails within the appropriate folders or tabs in their systems as their automated filtering struggles with the automated opens skewing their relationship-based filters. This has lead to a rise in opt-out rates as users react to these email being placed in unexpected tabs or folders. We anticipated this turbulence with the release of iOS 15. It has, however, come later than anticipated due to the slow adoption rate. We do anticipate that the turbulence will slowdown through the second quarter of 2022 as these mailbox providers manage to adjust.

Target List Coverage

A key to successful pharma email marketing is accurately reaching as many physicians as possible from a target list, and at the email most preferred by a physician. During the reporting period, DMD received 471 target lists from pharma companies, and matched them to the DMD True IdentitySM database to determine how many target prescribers could be reached via email.

Average Match Rates of Opted-In Emails on a Target List



GETTING TO THE INBOXIN 2021

Deliverability

Deliverability, or the ability to deliver emails to a recipient's inbox, is critical to the success of any campaign. Given the apparent ease of being able to send and receive email in our inboxes, it might seem accurate to say that larger scale email campaigns should be simple. This is very much not the case.

Email deliverability is a volatile, constantly evolving environment requiring artful maneuvering to achieve optimal deliverability. One week, emails can achieve a 99% deliverability rate to target HCPs and the following week everything goes to the spam folder.

Achieving the best deliverability to HCP targets requires knowledge of what can and cannot be done before clicking "send." Delivering content that includes medical information can have its own unique challenges that requires additional considerations.

Modern email deployment requires a sophisticated infrastructure of IP addresses and sending domains to ensure that emails are consistently recognized and accepted by email providers. DMD uses a best-of-class deployment architecture custom-built for healthcare consisting of:

- Three email software platforms (ESPs):
 - Adobe Campaign, Oracle Responsys, and Acoustic Marketing Cloud
- Seven sending domains
- 14 IPs
 - Specific IPs dedicated to leading email service providers such as Gmail and Yahoo
 - Specific IPs dedicated to the delivery of email to certain audiences (e.g., patients)
- Whitelisted with 93 health and hospital systems

What is Whitelisting?

Whitelisting is the process of adding an email domain or IP address as an approved sender, so that emails from that sender reach the inbox, not the spam folder. DMD actively works with many healthcare organizations to ensure our domains and IPs are on the "safe sender list" of those organizations.

Beyond the deployment systems and methodologies, sender reputation is also crucial. Email providers use sender reputation to assess risk – the better the score, the more likely an email is to reach an inbox. Sender reputation is determined by several factors, including:

- Volume of emails sent
- How many recipients mark email as spam or submit a complaint
- How often the emails hit spam traps
- Volume of hard and soft bounces
- Opens, clicks, forwards, and deletes
- Unsubscribes

Leveraging decades of expertise and proven deployment methodologies, the DMD team of email scientists manage sender reputation daily to ensure emails land where they're supposed to: physician inboxes.

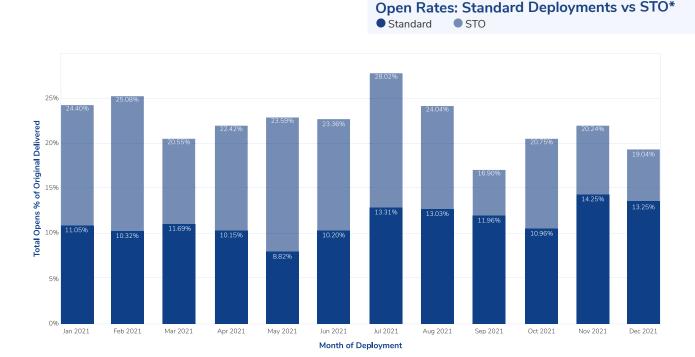


Send Time Optimization

Since the dawn of email, healthcare marketers have attempted to identify what the best time of day, and best day of week, is to send an email to HCPs. We often hear from our clients, "Isn't the best time to send email Thursday morning?" or "We should never send emails on Saturdays."

While there are some trends that suggest there are better days and times to send emails, these trends can vary widely by segment and individual. Predicting physician habits in aggregate also loses sight of their unique behaviors and habits, which can vary by individual. Some physicians may prefer to catch up on their email on a Saturday or Sunday; and, with 24-hour access to emails via smart devices, they can easily do so. This is why we continue to employ an approach called Send Time Optimization (STO).

STO leverages past engagement data to give marketers an advantage over their competition, determining the best day and time to send an email based on a physician's unique email engagement data. STO substantially increases open rates, sometimes even doubling open rate performance. On average, STO open rates are 95% higher than open rates for standard email deployments



(*Data in the above chart is based on the pharma and hospital organizations who enlist DMD for both standard deployments and STO deployments.)

Last year, DMD also successfully launched its advanced STO called Strategic Send Time Optimization (SSTO) that further enhances email performance. SSTO enables marketers to fill in the blanks for physicians who have not engaged with a particular email in the past. If an individual physician typically opens all their email at 7 a.m. on Monday and Tuesday, SSTO can predict that the individual is also likely to open their email at 7 a.m. on Wednesday, for example, making it the ideal time to send an initial email to an HCP target.

Initial results indicate that SSTO improves open rates, click rates, and read rates for targeted email campaigns. This predictive modelling also feeds into STO. Once a person engages with a particular HCP email, it becomes their new STO day and time.



Filtering Algorithms and Other Inbox Challenges

In the final months of 2021, Google continued to modify Gmail filtering algorithms, resulting in increasing levels of chaos and confusion for inbox deliverability. We addressed <u>Gmail challenges</u> in a 2021 <u>Lab Report</u>, analyzing inbox deliverability for this email platform to determine the best sending methodologies. We uncovered that <u>Gmail moved</u> away from using data on the last time a recipient engaged with a sender and instead adopted a message stream view.

This approach contextualizes emails from a sender into distinct marketing streams, then places the emails within a folder structure in Gmail based on the last time a recipient engaged with that specific stream. This has caused havoc for email marketers seeking to reach Gmail inboxes. Google had loosened its filters to allow for a more fluid transfer of pandemic-related information during 2020. However, Gmail's pre-pandemic filters were put back in place in 2021 and challenges with deliverability escalated.

As a result, a growing number of pharmaceutical companies are giving up on sending emails to Gmail accounts. This is unfortunate as, on average, more than 20% of HCPs are excluded when Gmail addresses are not used.

The Yahoo/AOL platform continues to be only slightly less difficult than Gmail. In 2021, as predicted, Yahoo/AOL also moved to a message stream approach that is nearly identical to Gmail. To deal with these evolving changes, and to maintain email deliverability, DMD continued to dedicate additional IPs/domains to Yahoo/AOL throughout last year. Today, about 36% of HCPs have a Yahoo/AOL email address.



Takeaway

Healthcare marketers cannot become complacent with regards to deployment and deliverability strategies. As we continue to observe, filtering algorithms and other inbox protection measures are regularly assessed and revised or replaced by email service providers. Email campaigns need to be monitored and continually adjusted to achieve optimal results.

DMD uses data from its 15 million emails sent monthly, leveraging years of learned behavior, in order to drive its STO and SSTO campaigns. These campaigns are more targeted and tailored to each individual physician, yielding higher engagement among key audiences.

PREDICTING 2022 FOR **HCP EMAIL MARKETING**

In 2022, we are already observing continued challenges for email and HCP marketing:

Data Privacy: We see headwinds coming from stricter privacy legislation at the state level. A growing number of states are following California's lead and enacting laws impacting the handling of consumer data as it pertains to consent management. The most recent examples being Colorado and Virginia, where data privacy laws have been enacted that are nearly identical to those in California. Data privacy legislation will continue to pose additional hurdles for marketers to jump in coming months and years.

Apple iOS Updates: In our view, Apple is not done making changes designed to enhance the privacy and security of people's email. There are even rumblings that iOS 16 could be delivered within a year or two, which would further complicate matters for email and the healthcare marketers that rely on it as a direct way to reach physicians and other HCPs.

COVID-19: We are not out of the pandemic woods yet. New strains of COVID-19 or other pandemic-related developments could have ramifications for healthcare marketers. It also remains to be seen how the increased adoption of digital communication, namely email, will fare once the pandemic is firmly in our rearview mirror. Will we maintain the momentum of a society that can operate virtually? Or will there be a strong push to move back to in-person gatherings, from offices to conferences?

Accessibility: This brings us to accessibility and the impact that evolving and improving technologies will have on email. Devices such as text readers are being challenged by the inclusion of graphics and videos in emails. Will this persist, and will it force us back to the old ways of doing things, when, for

example, people included a text version with their HTML (multi-part MIME) email messages? It remains to be seen, but accessibility is a key theme to watch in 2022. Stay tuned for a future Lab Report where we will discuss these trends at length.

Deliverability: Deployment to email addresses will continue to be challenged by iOS 15 and new privacy laws, and we advise marketers to continue monitoring and adjusting where needed to ensure optimal deliverability. Going forward, marketers need to stay abreast of regulatory and technological changes, as well as inbox provider updates, to be responsive to the ever-evolving game of deliverability. This is the best way to remain ahead of the curve when it comes to successful email campaigns.

Triggered Emails: We continue to see widespread growth and adoption of triggered emails, which are becoming increasingly mainstream in the pharma and healthcare sectors. When combined with traditional broadcast email delivery, triggered campaigns are returning the highest engagement rates that DMD has ever measured.

What are Triggered Email Campaigns

Triggered emails are data-driven emails that deploy based on HCP interaction. An interaction could be signing up for a newsletter program and receiving a welcome email, engaging with specific content on a web page, or prescribing a specific drug. Each of these events can be used as pre-identified trigger. Triggered emails enable marketers to send the right email to the right physician at the right time.

Triggered emails also help to personalize the experience for HCPs, as they often deliver the next best message in an HCP's unique journey with a brand or organization. Given this more tailored approach, triggered email programs often have double the open rate of traditional email sends, leading to better engagement among key healthcare audiences.



It's clear that, moving forward, marketers wanting to reach HCPs through digital channels will have to jump more hurdles than ever before to overcome privacy requirements and reach intended audiences. This will require creative, out of the box thinking and new approaches.

In the current environment of rapid technological and regulatory change, marketers need to be nimble to stay ahead and ensure that their strategies remain effective. Failure to adapt could result in a lower return on investment and less engagement from HCP marketing campaigns.

As we embark on 2022, now is a good time to evaluate your email marketing goals. DMD can help. Contact us today to discuss.

Additional Resources

For more research and insights from the email scientists, view these resources:

Webinars:

- Consent At Scale: Evolve or Perish
- Taking a Bite Out of Apple's Next Update: Navigating iOS 15 for Healthcare Marketers
- Get Ahead of the Cookie Apocalypse
- Data Privacy 2021: The Journey Continues

Lab Reports:

- Apple's iOS 15 Update: Resistance is Futile
- HCP Email Trends: Mid-Year Checkpoint
- Send Time Optimization: Winning the Time-of-Day Game

View all our resources at www.dmdconnects.com/resources.



ABOUT DMD, AN IQVIA BUSINESS

DMD is the only provider of healthcare data that is first-party sourced, 100% opted-in, and privacy and regulatory compliant. Our authenticated database analyzes dynamic digital behavior via True IdentitySM to optimize understanding and reach of your target audience.

With access to the right data, pharmaceutical marketers, medical marketing agencies, publishers, hospitals and health systems, CME organizations, and healthcare recruiters have digital access to more than 90% of physicians (plus NPs, PAs, Nurses and more) with email addresses and real-time data that unlocks targeting and engagement capabilities across the most influential healthcare audiences.









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