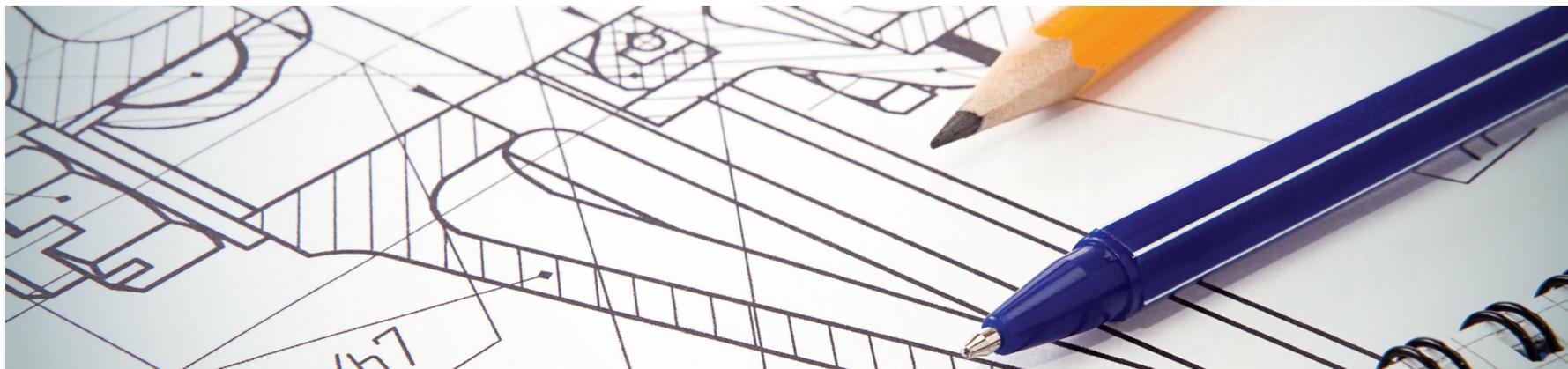


REPORTER

2018 ANALYSIS ON PTAB CONTESTED PROCEEDINGS

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FITZPATRICK, CELLA, HARPER & SCINTO



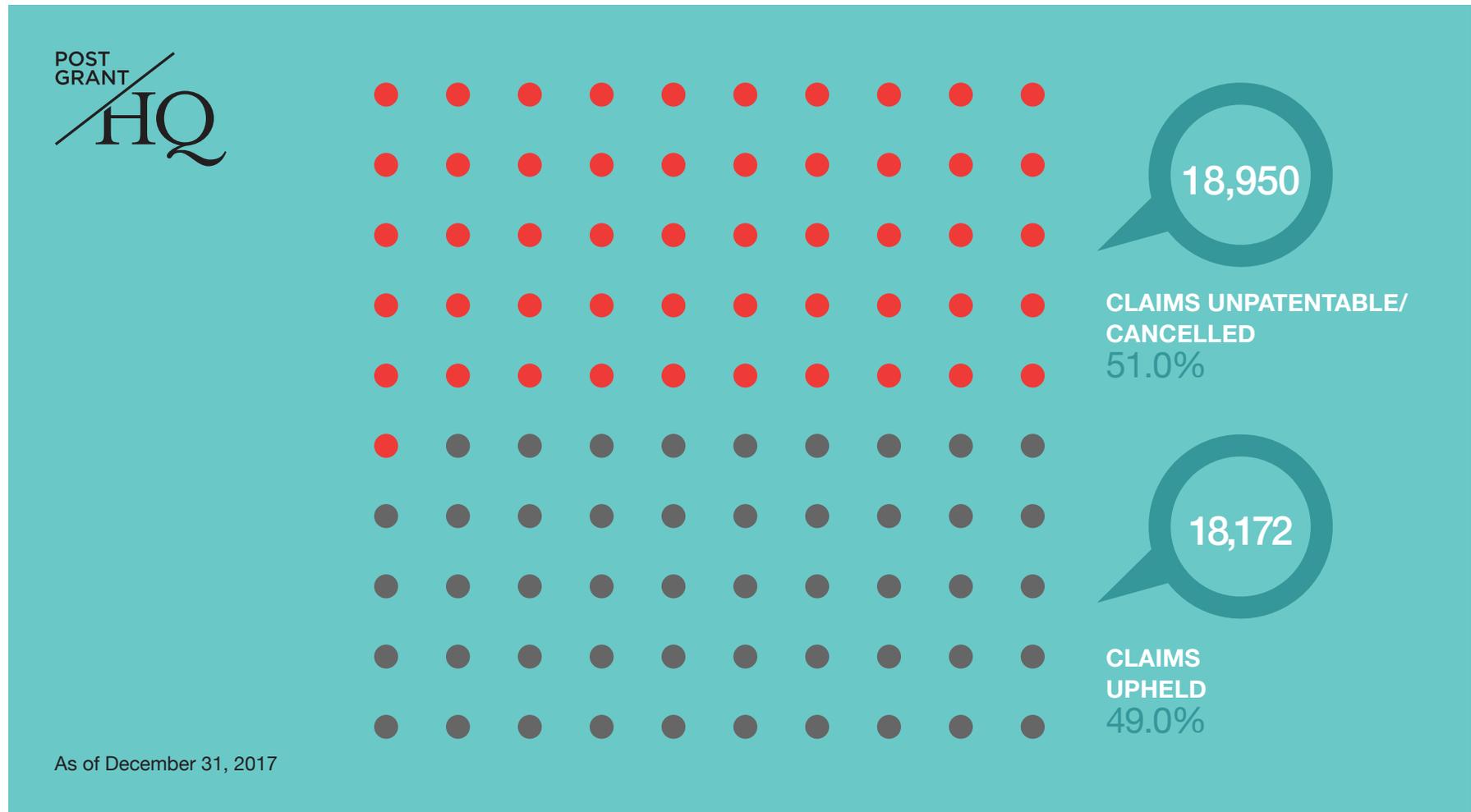
INTRODUCTION

Fitzpatrick, Cella, Harper & Scinto undertook this Report on Patent Trial and Appeal Board (PTAB) Contested Proceedings annually to provide objective information on the results of Inter Partes Review (IPR) and the Transitional Program for Covered Business Method Patents (CBM) proceedings. This year's Report also includes data for Post Grant Reviews (PGRs). The analysis is based on a review of all final written decisions issued through 2017 and all decisions denying institution issued through 2016. Because final written decisions

issue about one year after institution decisions, we did not include decisions denying institution in 2017 to avoid improper skewing.

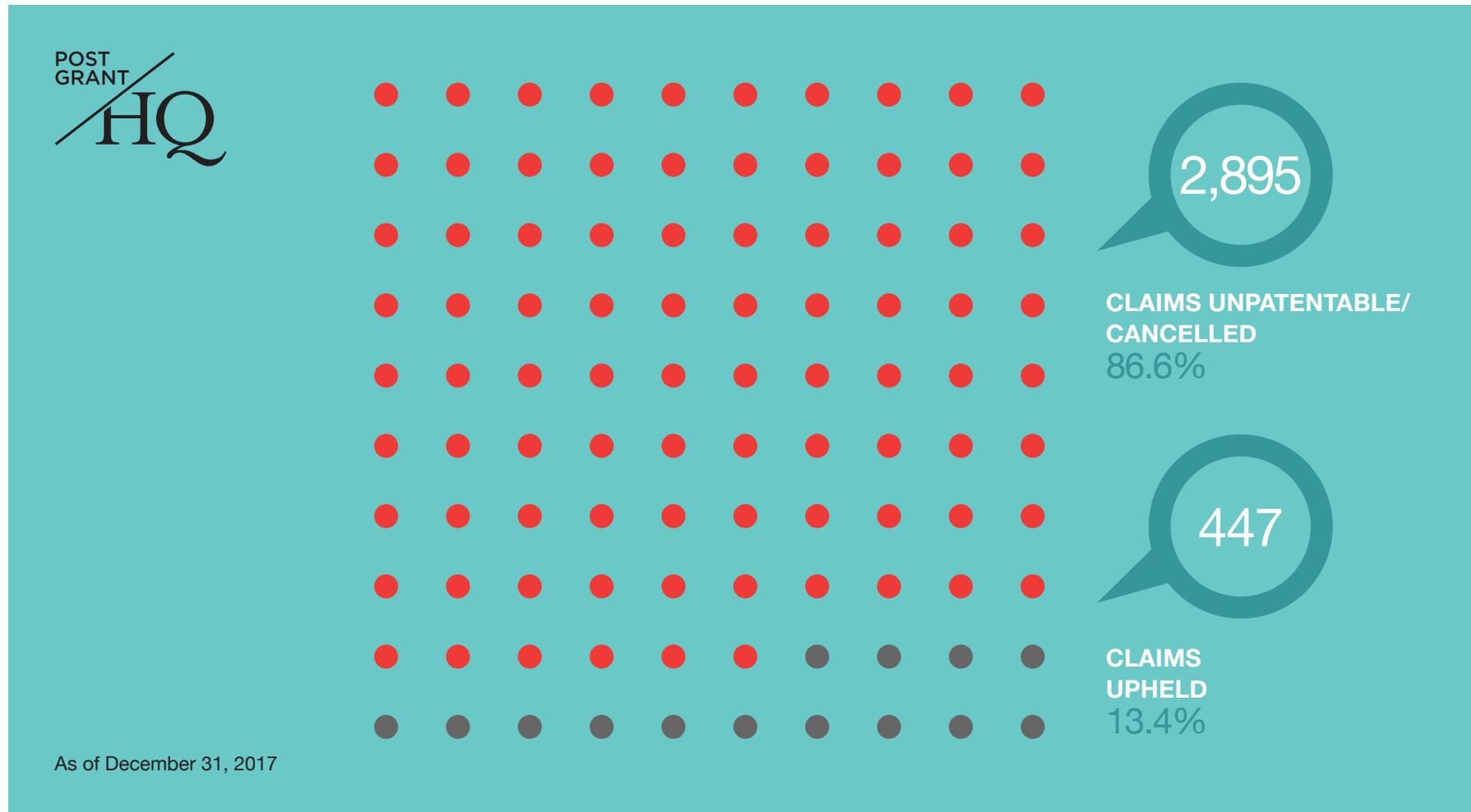
This report provides perspective on the effects of review proceedings based on a large pool of decisions and a rigorous methodology that accounts for duplicate petitions and other factors that could paint an incorrect picture. We believe this report provides valuable insights regarding both the usefulness of these proceedings to challengers and effective lines of defense for patent owners.

IPR: SURVIVAL RATE OF CHALLENGED CLAIMS



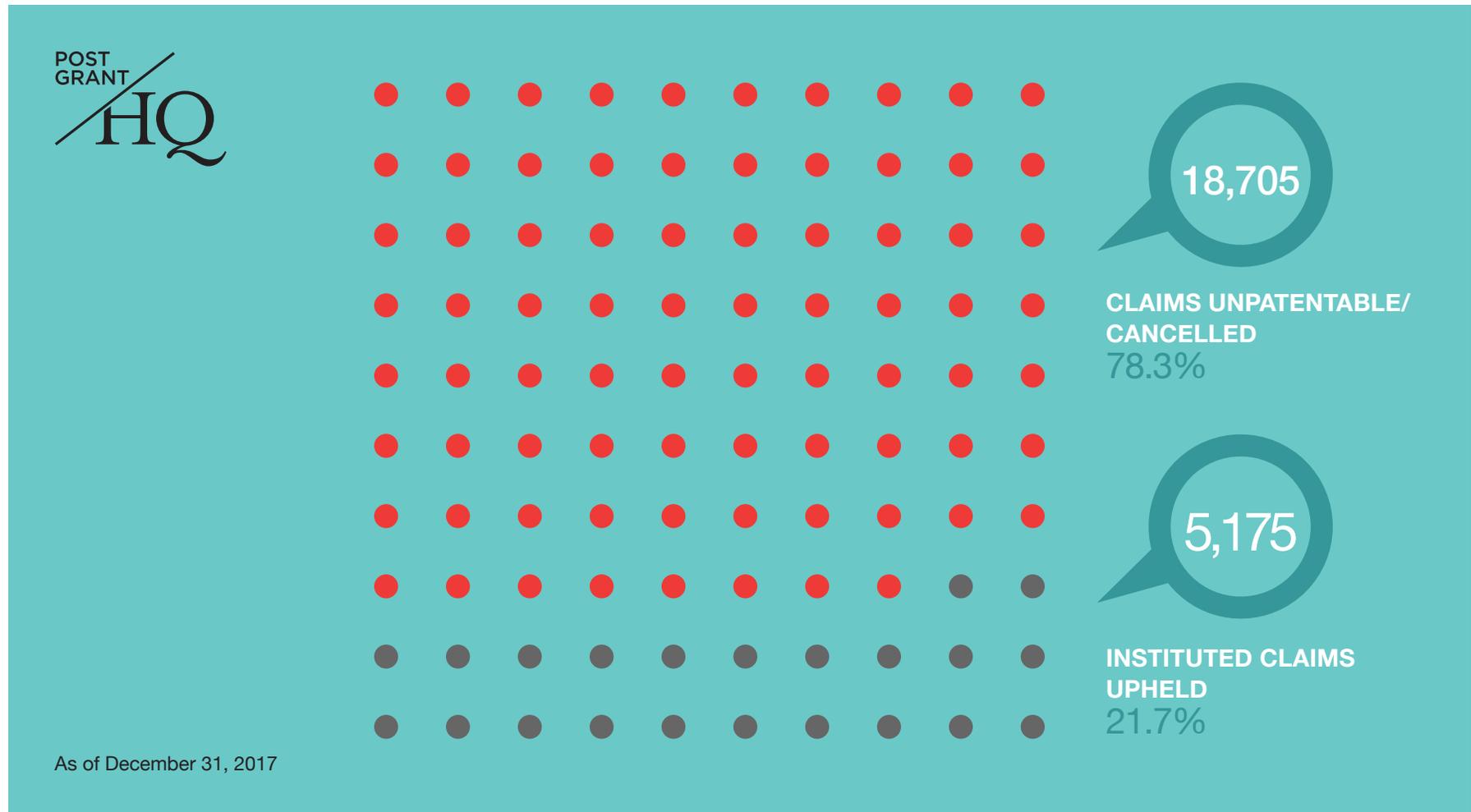
Key Finding: In cases that reached final written decisions or were substantively denied institution, 51% of claims that were originally *challenged* in the IPR petitions were cancelled or found unpatentable. This statistic accounts for challenged claims which were denied institution for substantive reasons, as opposed to procedural reasons (*e.g.*, time-barred). The analysis includes decisions not to institute through 2016, and final decisions through 2017, due to the temporal relationship between these types of decisions. Specifically, final decisions typically issue about one year after the institution decisions. Accounting for that one year differential avoids an improper skewing toward the outcomes of decisions not to institute. This analysis does not factor in challenges that did not reach a decision on the merits because of settlement.

CBM: SURVIVAL RATE OF CHALLENGED CLAIMS



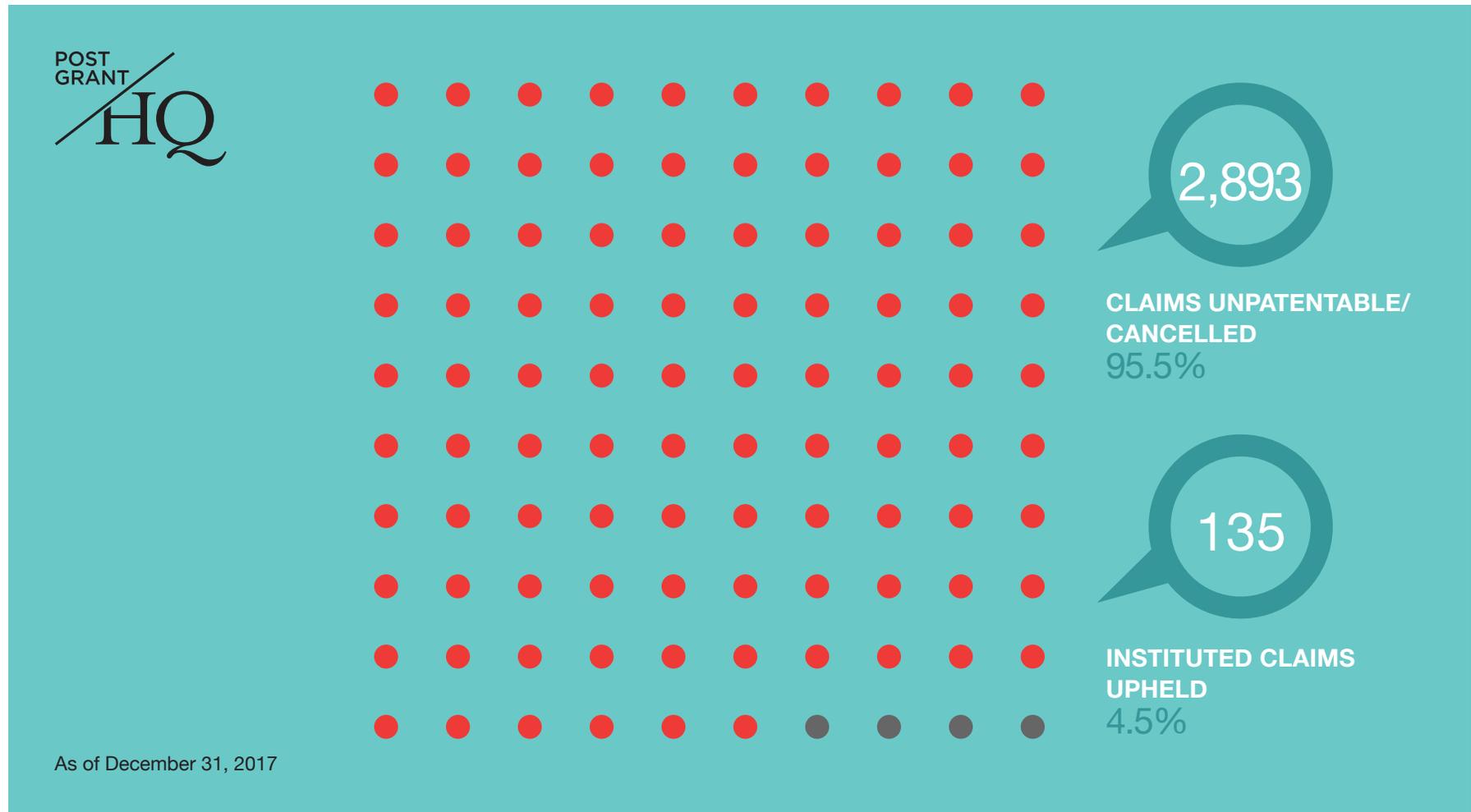
Key Finding: This statistic accounts for final written decisions and substantively denied petitions. It excludes challenged claims that were denied CBM review for procedural reasons (e.g., time-barred) and cases in which the PTAB determined the patents did not claim a qualifying business method. The analysis includes decisions not to institute through 2016, and final decisions through 2017. Final decisions typically issue about one year after the decisions to institute. Accounting for that one year differential avoids an improper skewing toward the outcomes of institution decisions. As compared to IPR proceedings, CBM proceedings allow for additional statutory grounds of unpatentability and relate only to qualifying business method patents (which opens the door to Section 101 challenges). The availability of Section 101 challenges largely accounts for the higher rate of unpatentability as compared to IPRs.

IPR: SURVIVAL RATE OF INSTITUTED CLAIMS



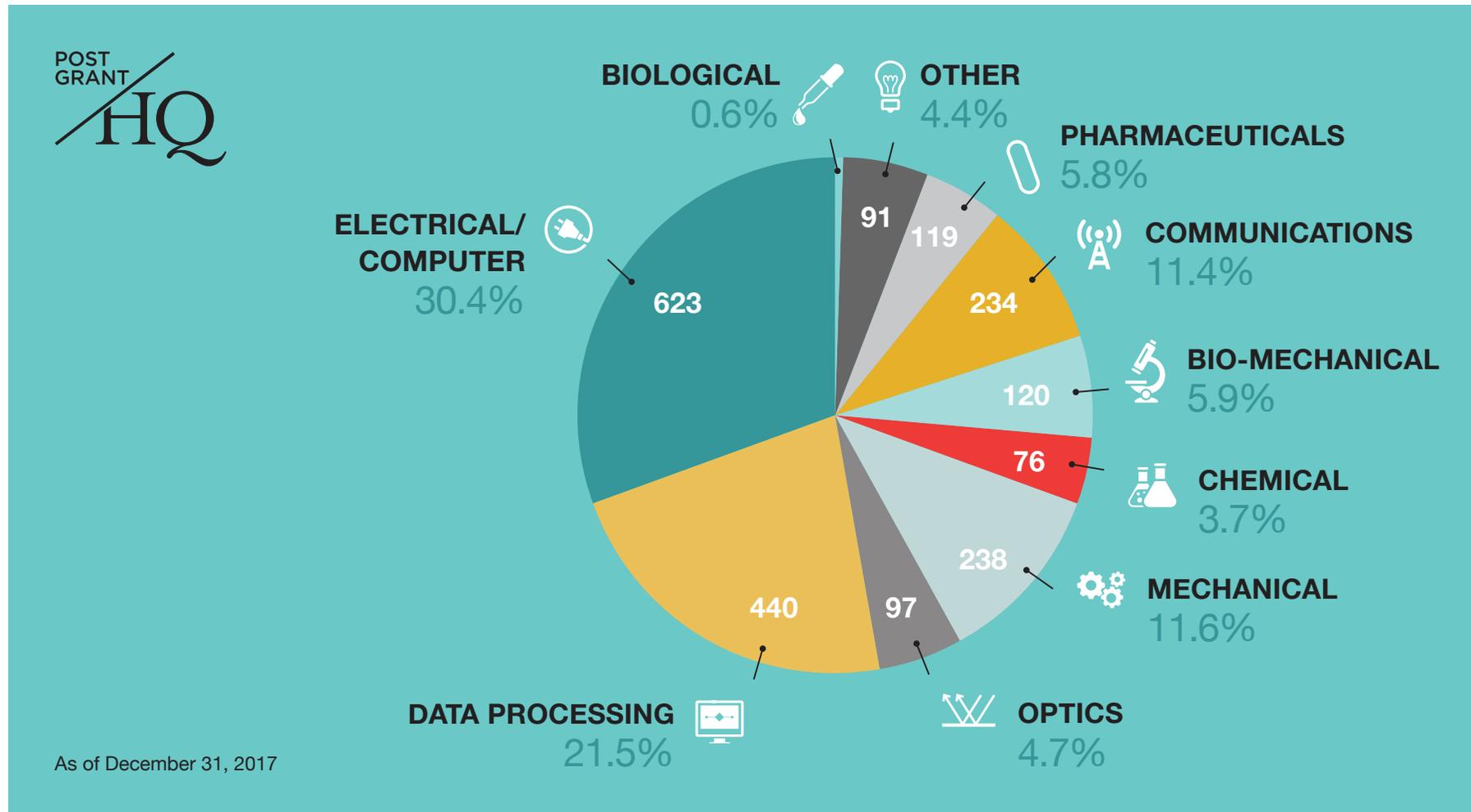
Key Finding: Prior to the Supreme Court’s decision in SAS, institution could be based on all of the challenged claims or some subset of claims. This chart shows the survival rate of *instituted* claims in IPR proceedings that reached a final written decision (as compared to prior charts that show the survival rates relative to claims originally *challenged*, some of which were not instituted). Trial is instituted on a claim if the PTAB believes that “it is more likely than not that” the claim is unpatentable. This initial institution decision had a large impact on the ultimate outcome. The SAS decision likely will affect overall survival rates for instituted claims, inasmuch as the PTAB now must institute trial on all claims, even if the burden was met for only a subset of claims. Also of note, the total number of claims found unpatentable/cancelled is lower than that in the challenged claims chart due to requests for adverse judgment granted prior to institution.

CBM: SURVIVAL RATE OF INSTITUTED CLAIMS



Key Finding: Prior to the Supreme Court’s decision in SAS, institution could be based on all of the challenged claims or some subset of claims. This chart shows the survival rate of *instituted* claims in CBM proceedings that reached a final written decision (as compared to prior charts that show the survival rates relative to claims originally *challenged*, some of which were not instituted). Trial is instituted on a claim if the PTAB believes that “it is more likely than not that” the claim is unpatentable or cancelled. This initial institution had a large impact on the ultimate outcome.

IPR AND CBM FINAL DECISIONS BY TECHNOLOGY



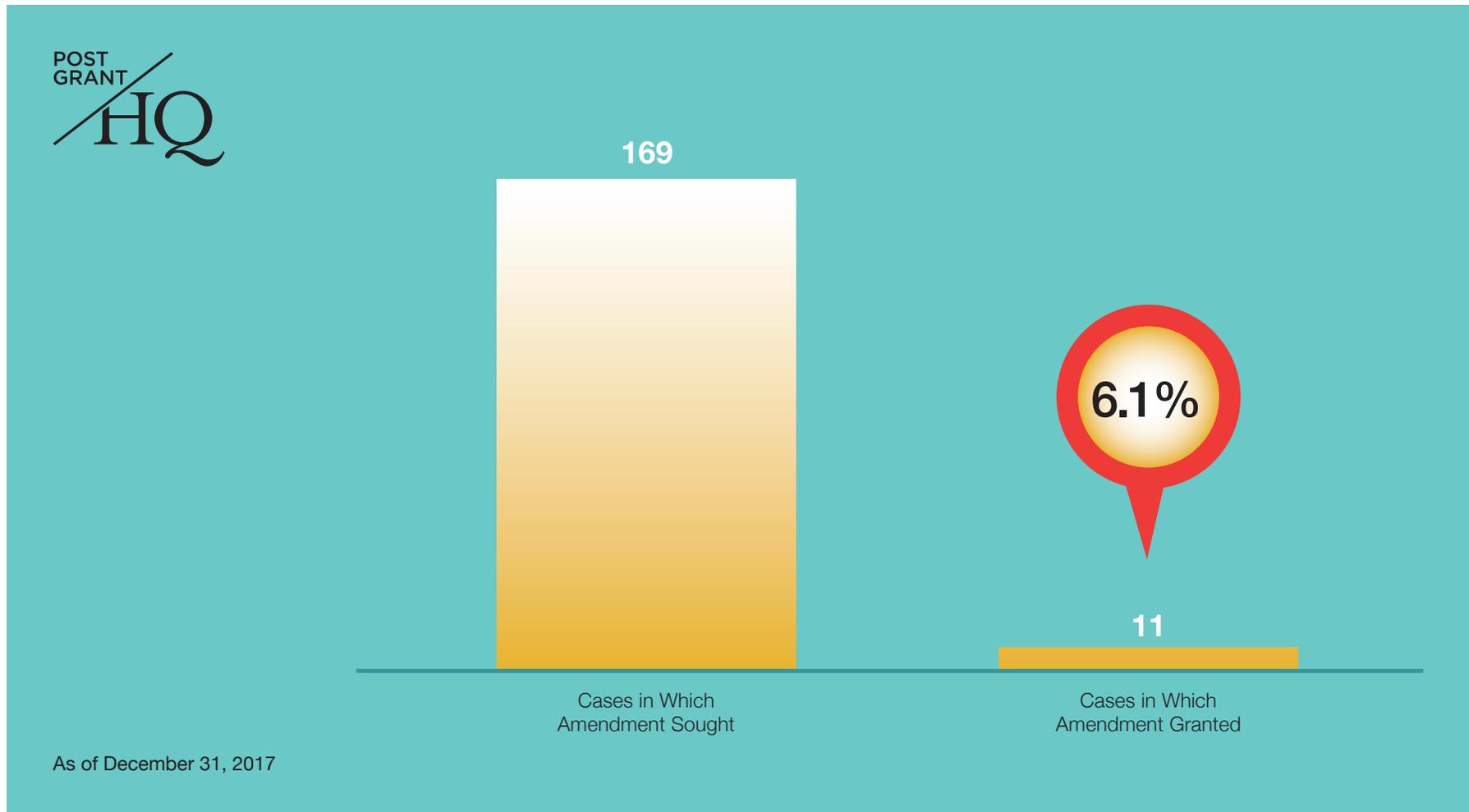
Key Finding: This chart shows the technology areas for the patents for which the PTAB issued final decisions. Two technology categories—electrical/computer and data processing—have been at issue in about 52% of all final decisions issued in IPR and CBM proceedings through 2017. The next three largest categories combined—mechanical, communications, and bio-mechanical—accounted for only about 29% of all final decisions. Pharmaceutical cases only accounted for about 6% of final decisions.

PERCENTAGE OF IPRS WITH A CONCURRENT LITIGATION



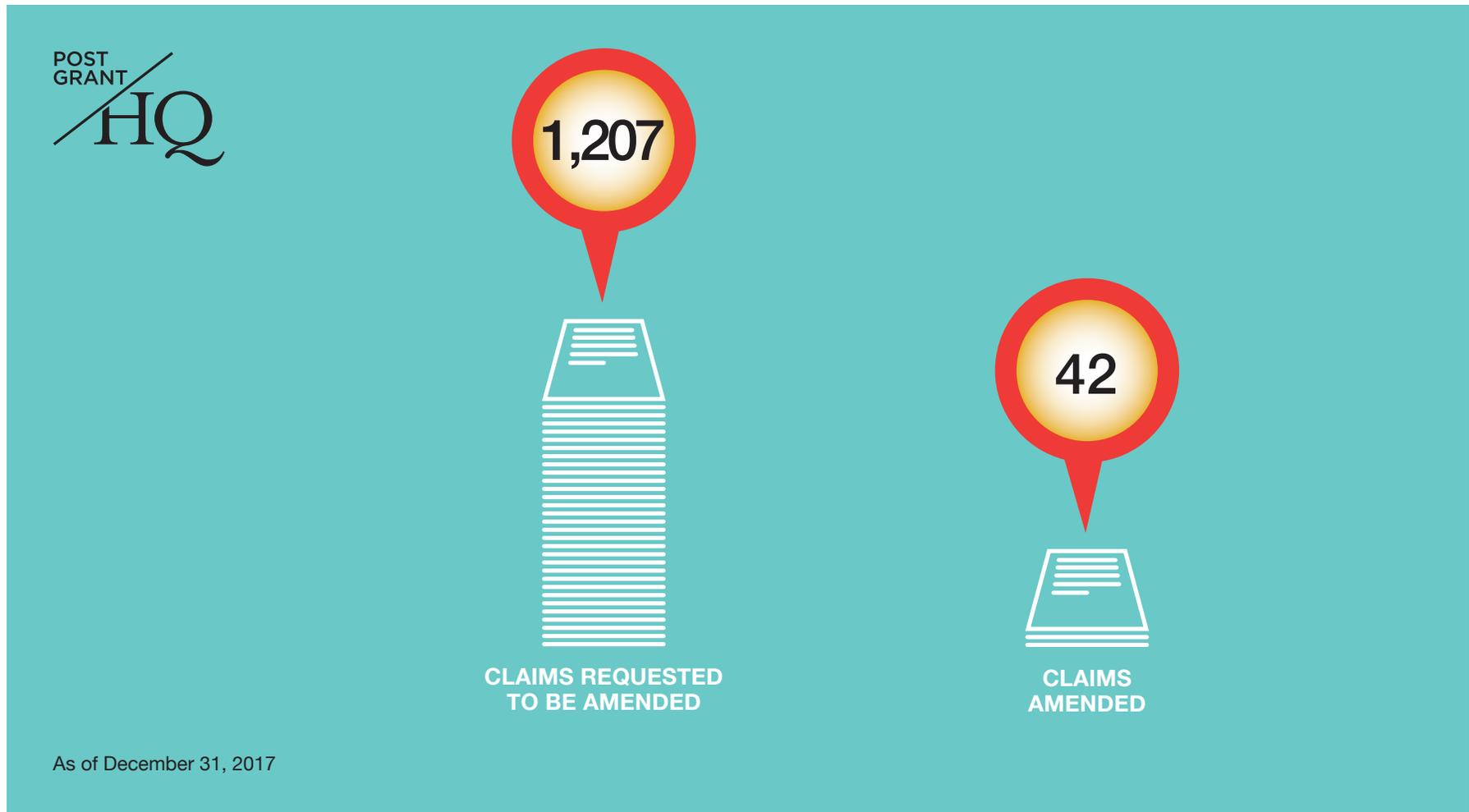
Key Finding: The majority of IPR proceedings involved patents embroiled in concurrent district court litigations. This finding supports the notion that defendants in patent infringement suits are driving the filing of IPR petitions.

IPR: DECISIONS ON REQUESTS TO AMEND THE CLAIMS



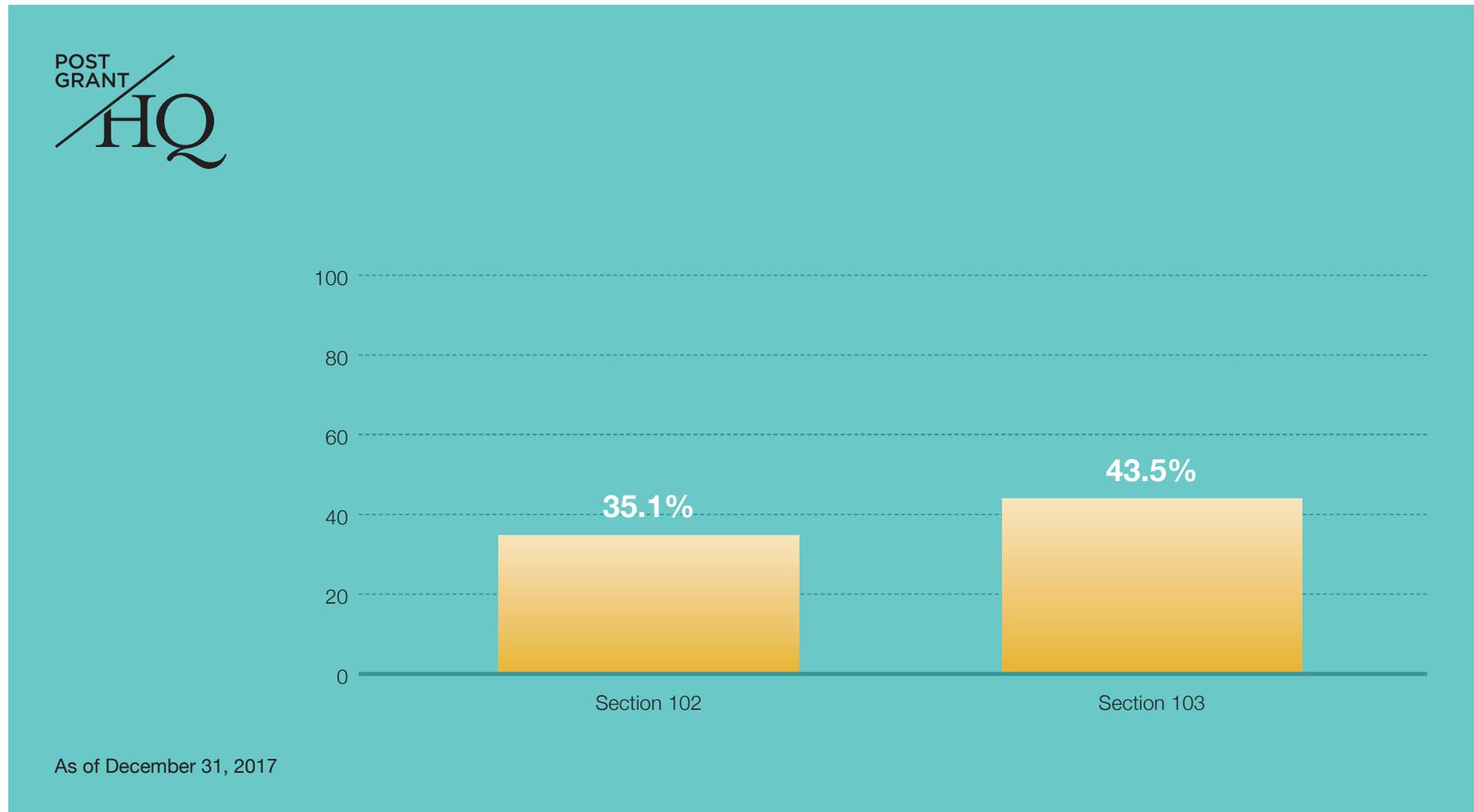
Key Finding: The PTAB has granted motions to amend claims sparingly. This chart presents the number of times a motion to amend the claims was granted compared to the total number of motions made. The PTAB often denied these motions for failure to comply with the PTAB's high threshold for entering claim amendments; however, in a few instances, a contingent motion to amend was not granted because the original claims were upheld. This can be contrasted with European Opposition proceedings in which, in 2017, 42% of the cases upheld the patent in amended form. Interestingly, in European practice, claims survived in unamended form in 27% of cases, whereas 49.6% of the claims challenged in IPR proceedings survived unamended. It remains to be seen whether decisions such as *Aqua Products* will impact the success rate for motions to amend.

IPR: NUMBER OF CLAIMS AMENDED/DENIED AMENDMENT



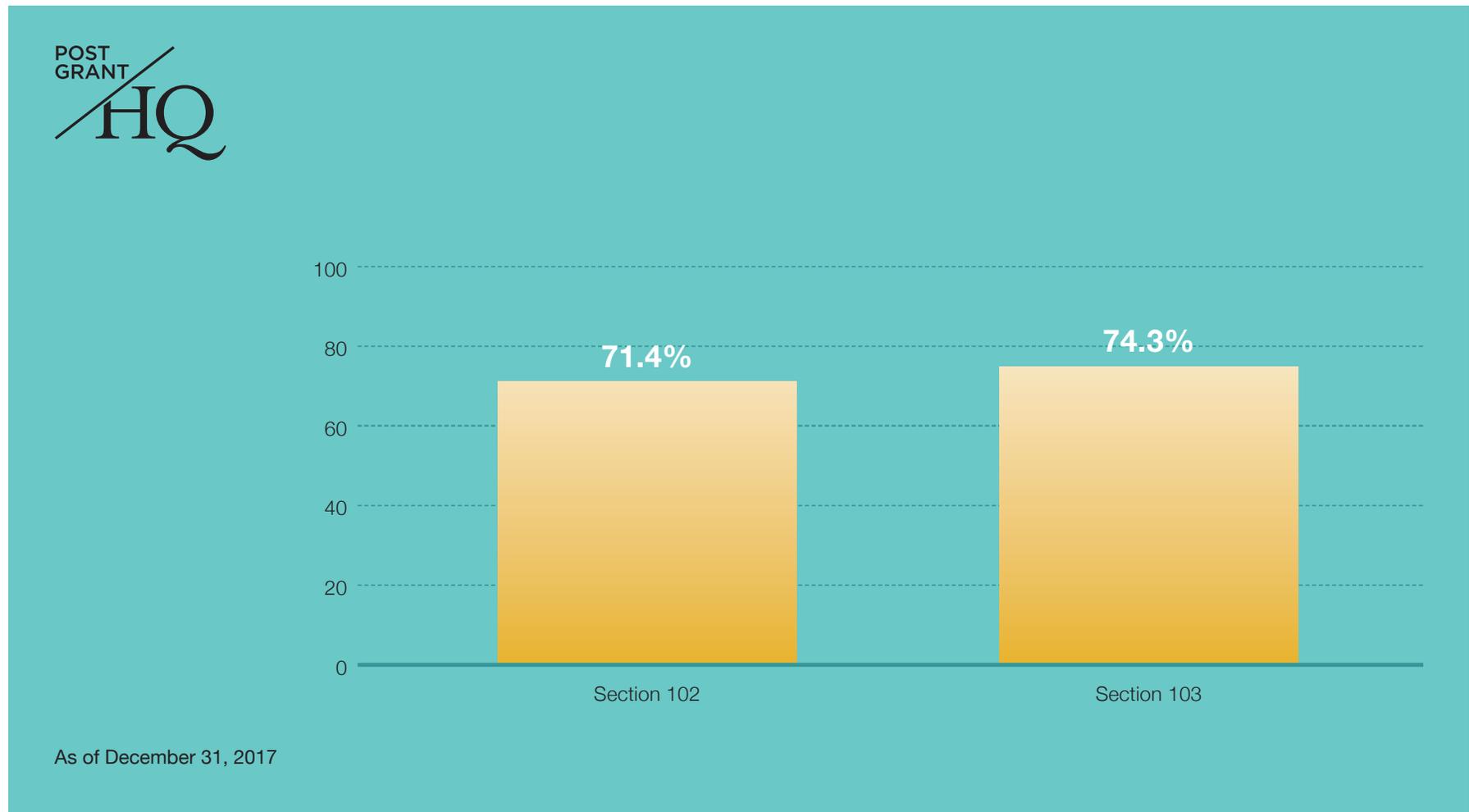
Key Finding: As compared to the previous chart, this chart shows the total number of claims for which amendment was granted (rather than the number of proceedings), as well as the total number of claims for which patent owners sought amendment. Patent owners may seek amendment on all or some of the claims instituted in a proceeding. Again, *Aqua Products* has the potential to change these statistics.

IPR: BREAKDOWN OF UNPATENTABILITY FINDINGS IN FINAL DECISIONS RELATIVE TO CLAIMS CHALLENGED



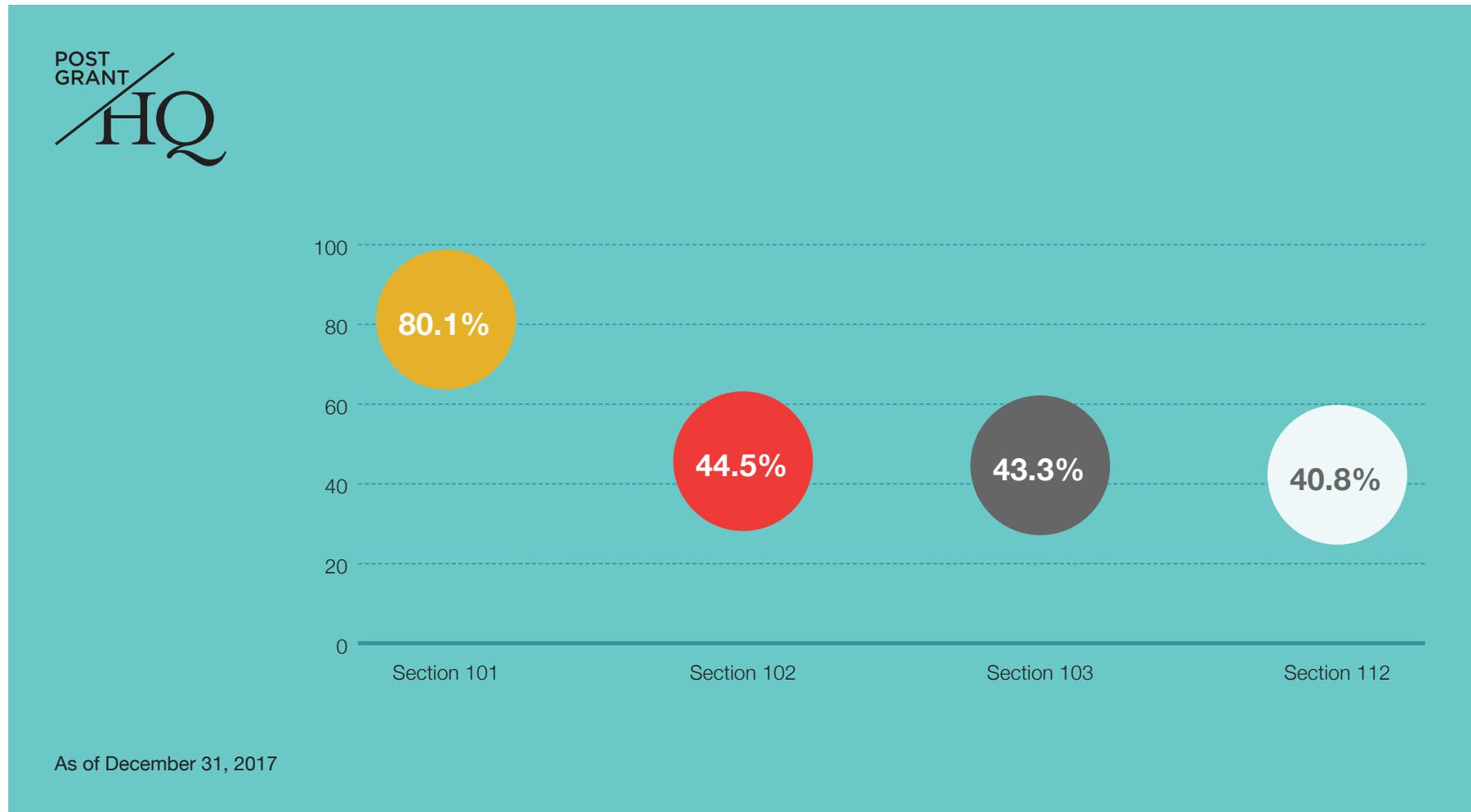
Key Finding: This chart presents the percentage of claims found unpatentable under Sections 102 and 103 for all IPR petitions that reached a final written decision or were substantively denied institution. The analysis includes decisions not to institute through 2016, and final decisions through 2017, which typically issue about a year apart. That differential avoids an improper skewing toward the outcomes of decisions not to institute. This analysis excludes claims cancelled by the patent owner. Petitioners still have a better chance of invalidating claims under Section 103 than Section 102. Also, the Section 102 success rate is not much higher than the corresponding rate in district court litigations (31.1%), while the success rate for Section 103 is much higher in IPR proceedings than in district courts (27.8%).

IPR: BREAKDOWN OF UNPATENTABILITY FINDINGS IN FINAL DECISIONS RELATIVE TO CLAIMS INSTITUTED



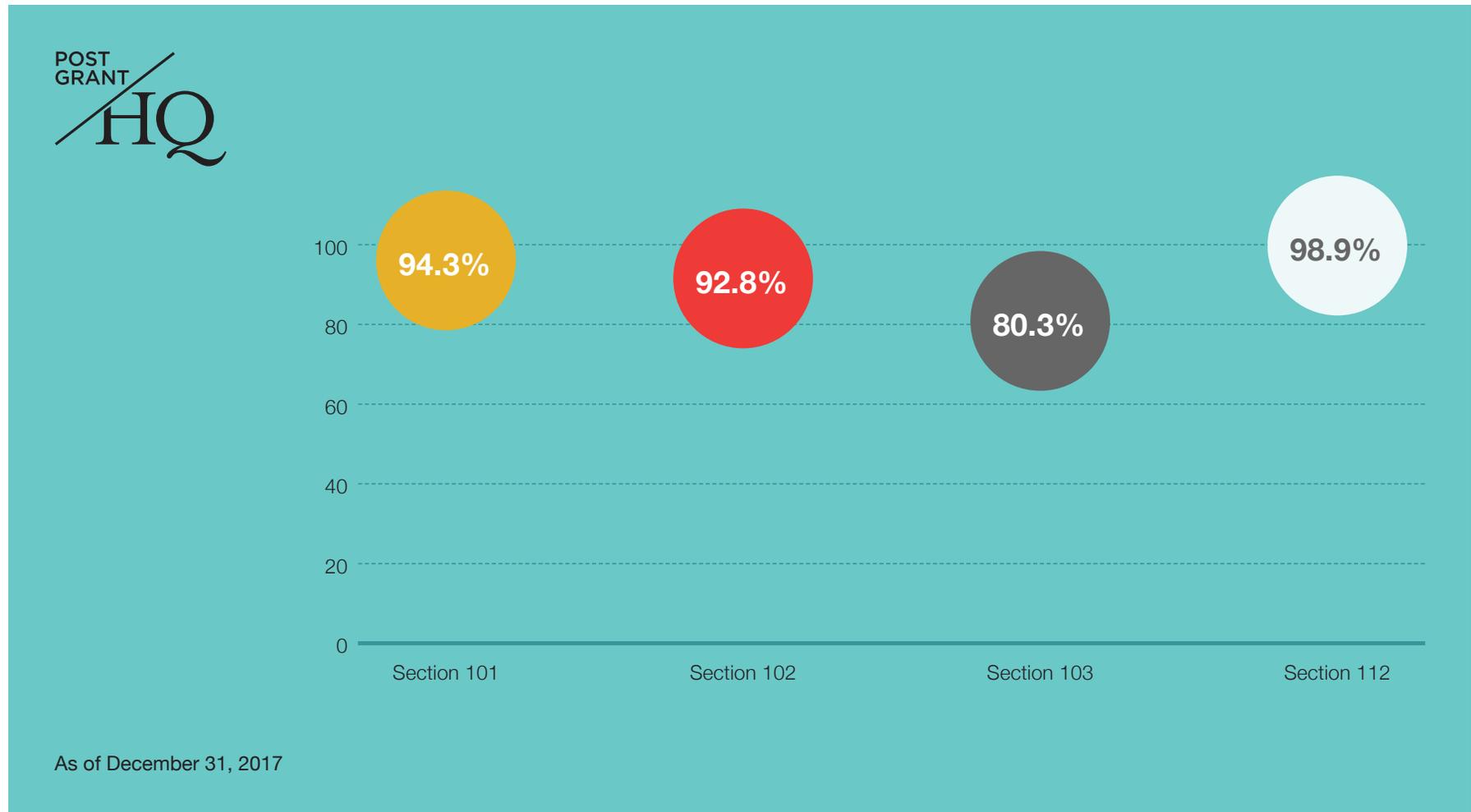
Key Finding: This chart presents the percentage of claims found unpatentable under Sections 102 and 103 out of the claims for which trial was *instituted* in IPR proceedings that reached final written decisions. Some claims were invalidated under both grounds. We excluded cancelled claims for which the PTAB could not issue a ruling under Section 102 or 103. The higher rates show that the likelihood of a successful challenge jumps significantly once a trial is instituted.

CBM: BREAKDOWN OF UNPATENTABILITY FINDINGS IN FINAL DECISIONS RELATIVE TO CLAIMS CHALLENGED



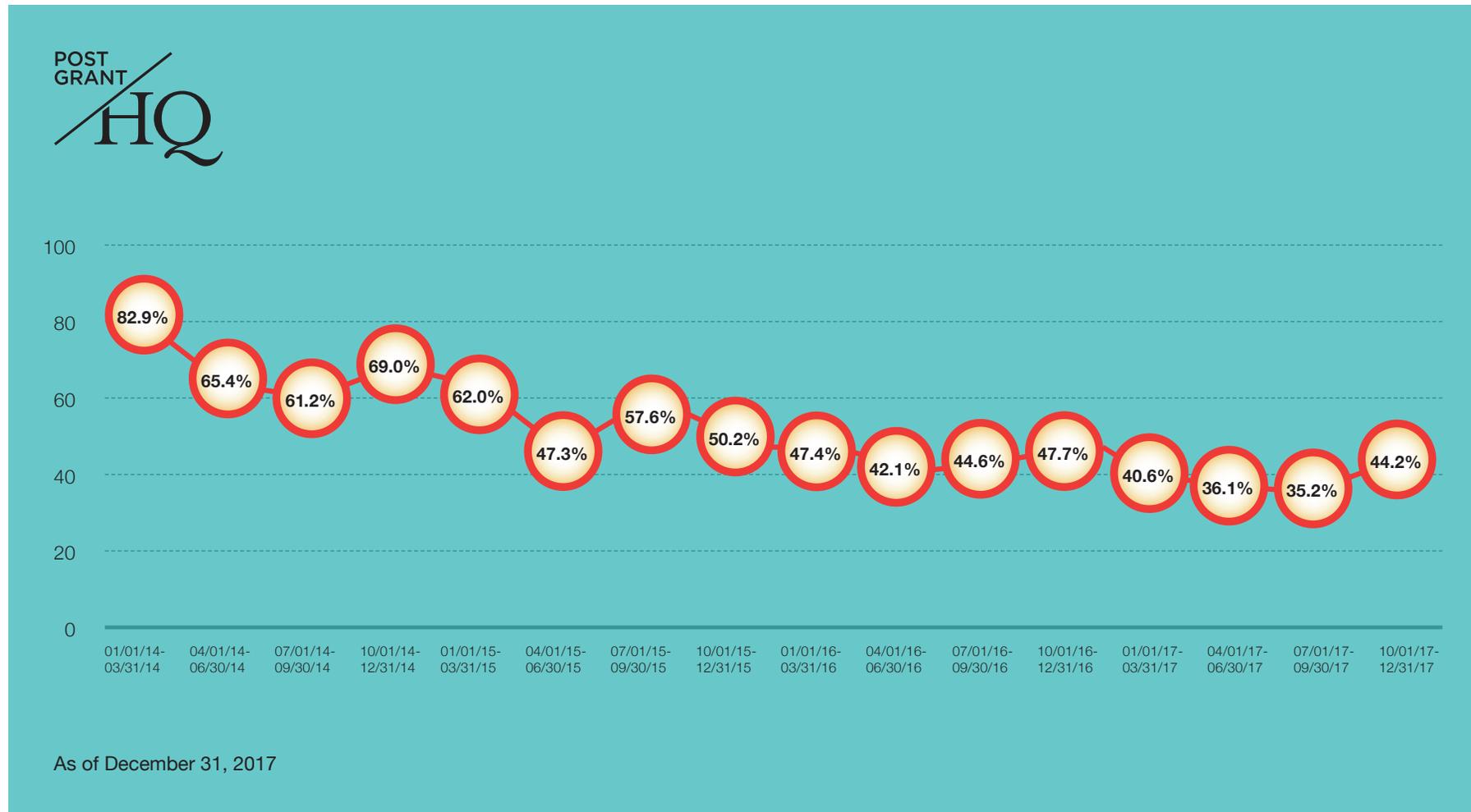
Key Finding: This chart presents the success rates, on a claim-by-claim basis, for challenges under Sections 101, 102, 103, and 112 for all CBM petitions which either reached a final written decision, or were denied institution for substantive reasons, rather than procedural reasons (e.g., time-barred). The analysis included decisions not to institute through 2016, and final decisions through 2017, due to the temporal relationship between these types of decisions. The rate of unpatentability of claims challenged under Section 101 is higher than the corresponding rate under Sections 102, 103, and 112. Note that some claims were found unpatentable on multiple bases. Claims cancelled by the patent owner and cases denied institution for failing to claim a qualifying business method were excluded from the analysis.

CBM: BREAKDOWN OF UNPATENTABILITY FINDINGS IN FINAL DECISIONS RELATIVE TO CLAIMS INSTITUTED



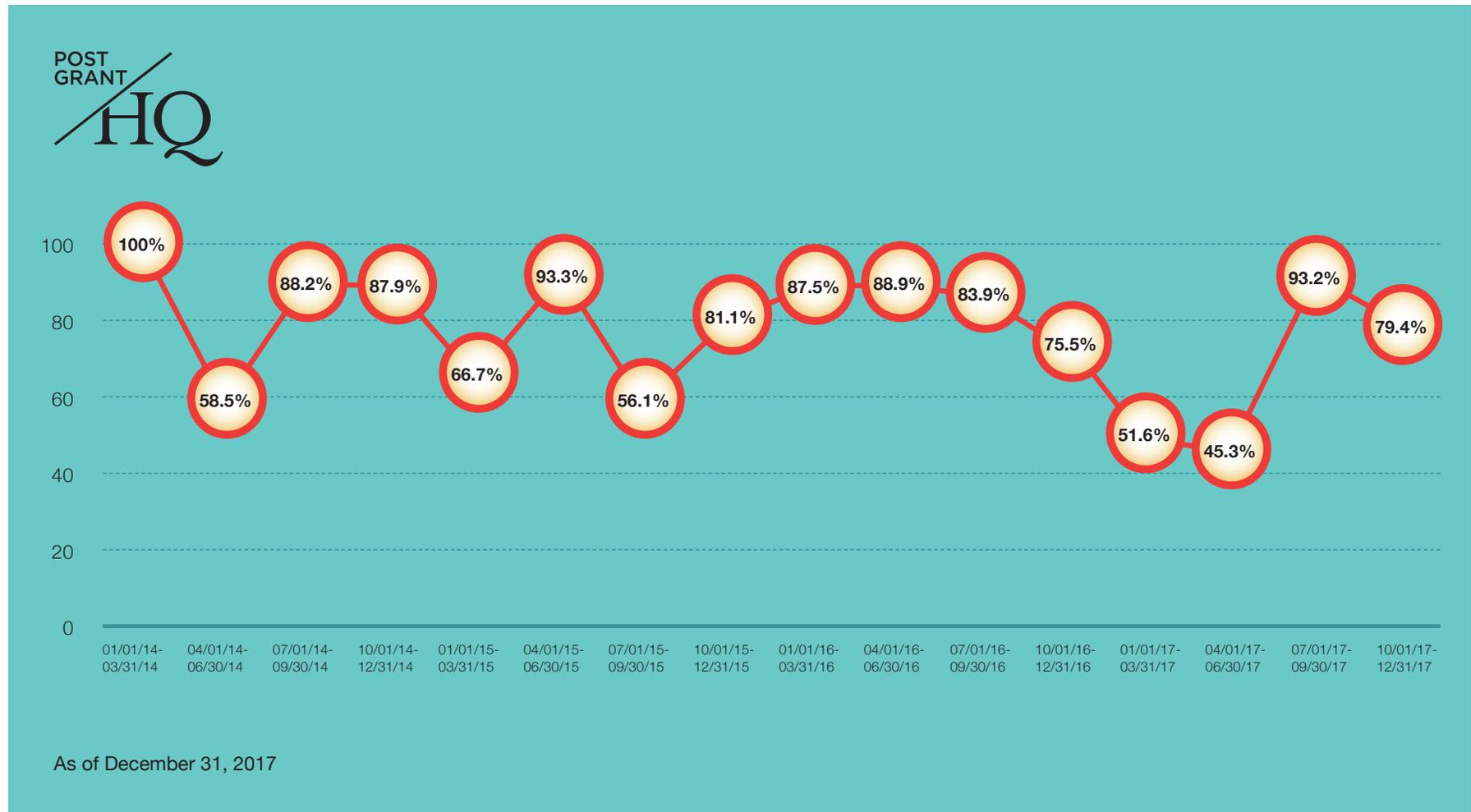
Key Finding: This chart presents success rates, on a claim-by-claim basis, for *instituted* grounds under Sections 101, 102, 103, and 112 in CBM proceedings that reached final written decisions. The high rate of unpatentability under Section 101 can be tied to the requirement for institution in a CBM (a qualifying business method) and effect of the Supreme Court’s decision in *Alice*. Even for the other instituted grounds, the rates of invalidation were much higher compared to those for challenged claims. Some claims were found unpatentable on multiple bases.

IPR: PERCENTAGE OF CHALLENGED CLAIMS FOUND UNPATENTABLE OR CANCELLED IN FINAL DECISIONS



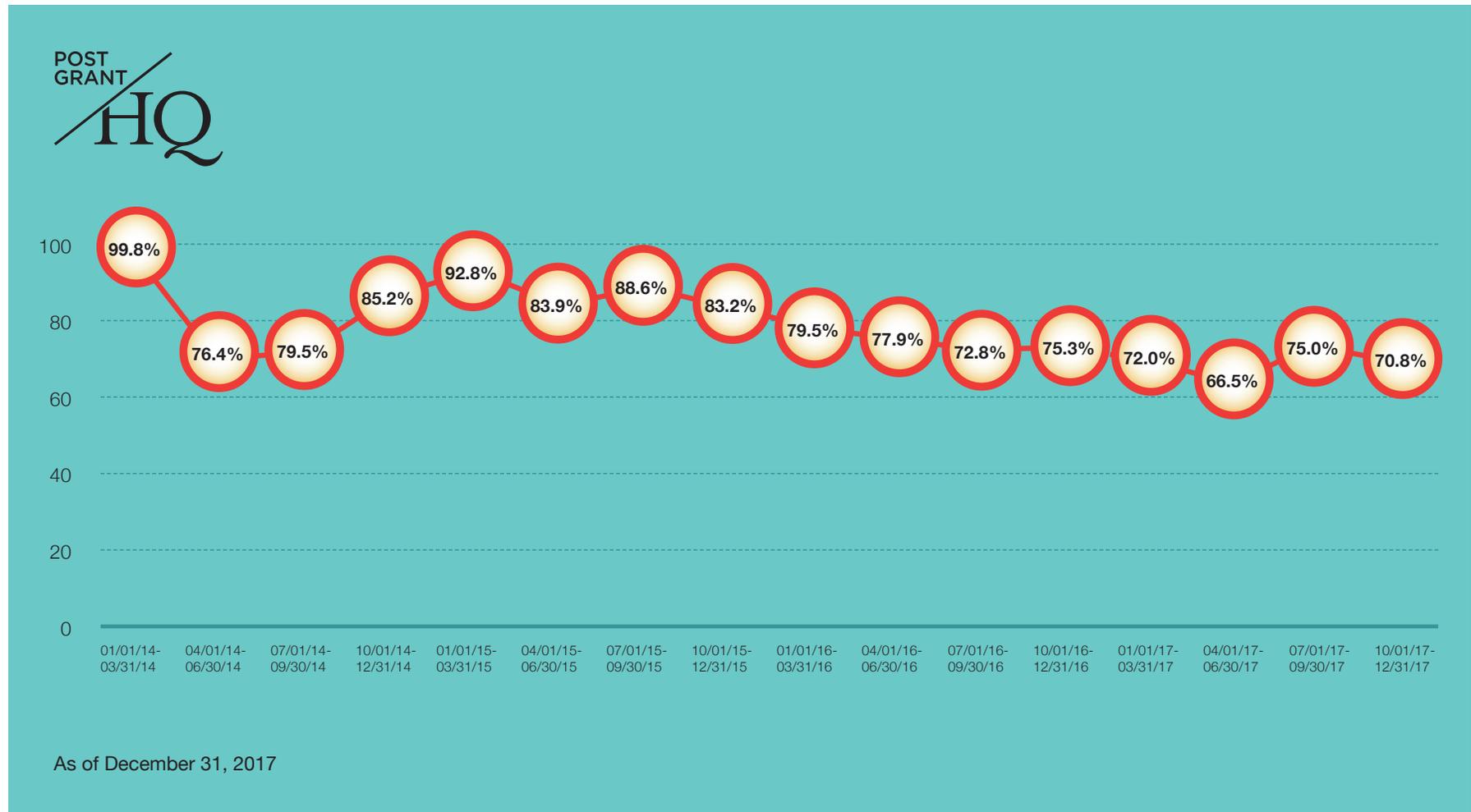
Key Finding: This chart presents, per fiscal quarter, the percentage of claims that were found unpatentable or cancelled out of those *challenged* by the petitioner in IPR proceedings that reached final written decisions or were denied institution on substantive grounds. This data does not account for overall redundancies in patents challenged, as it examines each quarter's challenges independently from each other quarter. The data suggests that there has been a drop in unpatentability findings. It is unclear if this is due to adjustments by the PTAB, the quality of patents challenged by petitioners, the quality of petitions/defenses, or some combination thereof. The listed periods are for final written decisions. The analyzed decisions not to institute are from one year earlier.

CBM: PERCENTAGE OF CHALLENGED CLAIMS FOUND UNPATENTABLE OR CANCELLED IN FINAL DECISIONS



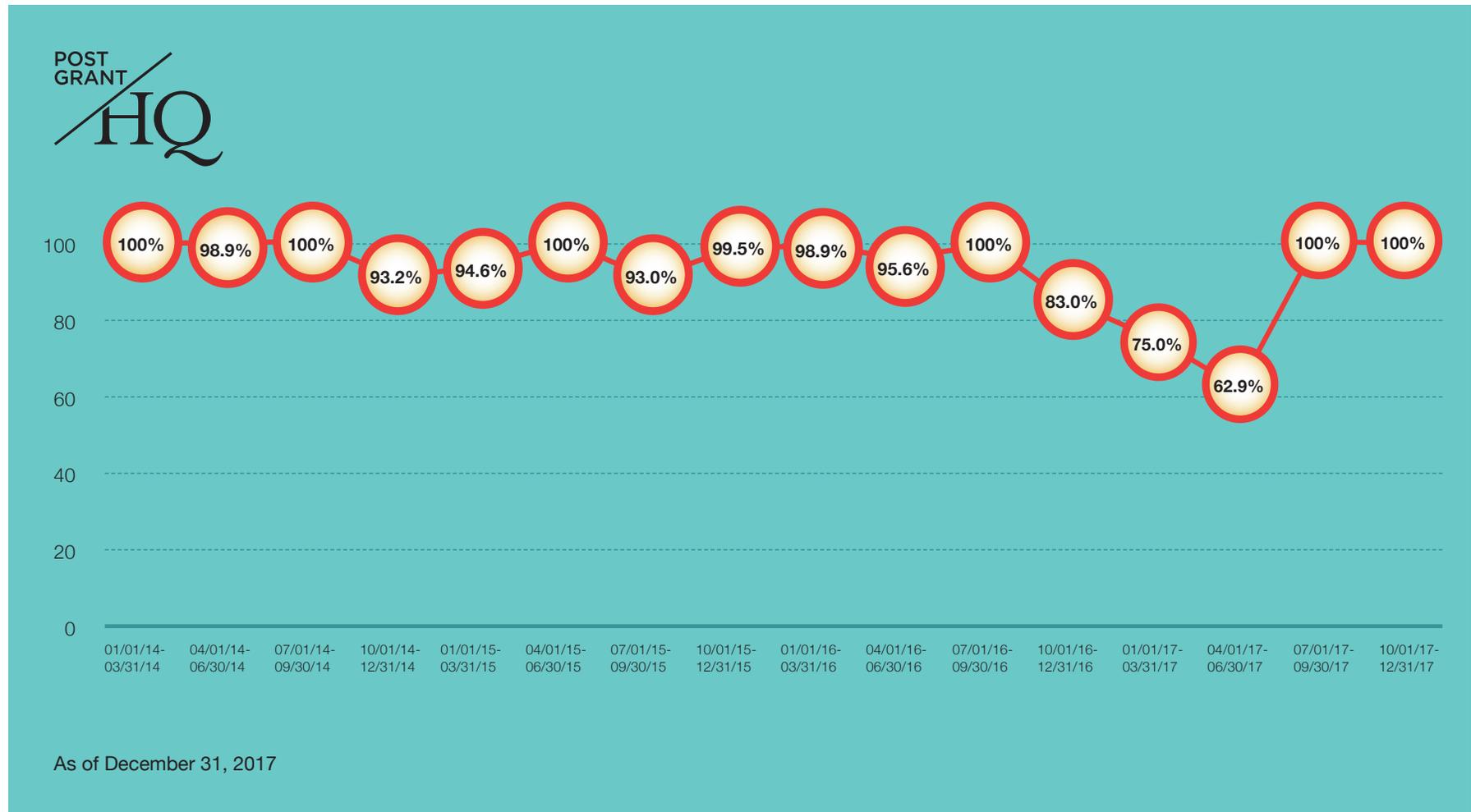
Key Finding: This chart presents, per fiscal quarter, the percentage of claims that were found unpatentable or cancelled out of those *challenged* by the petitioner in CBM proceedings that reached final written decisions. The sample sizes for some quarters were small. This data does not account for overall redundancies in patents challenged, as it examines each quarter's challenges independently from each other quarter. The listed periods are for final written decisions. The analyzed decisions not to institute are from one year earlier.

IPR: PERCENTAGE OF INSTITUTED CLAIMS FOUND UNPATENTABLE OR CANCELLED IN FINAL DECISIONS



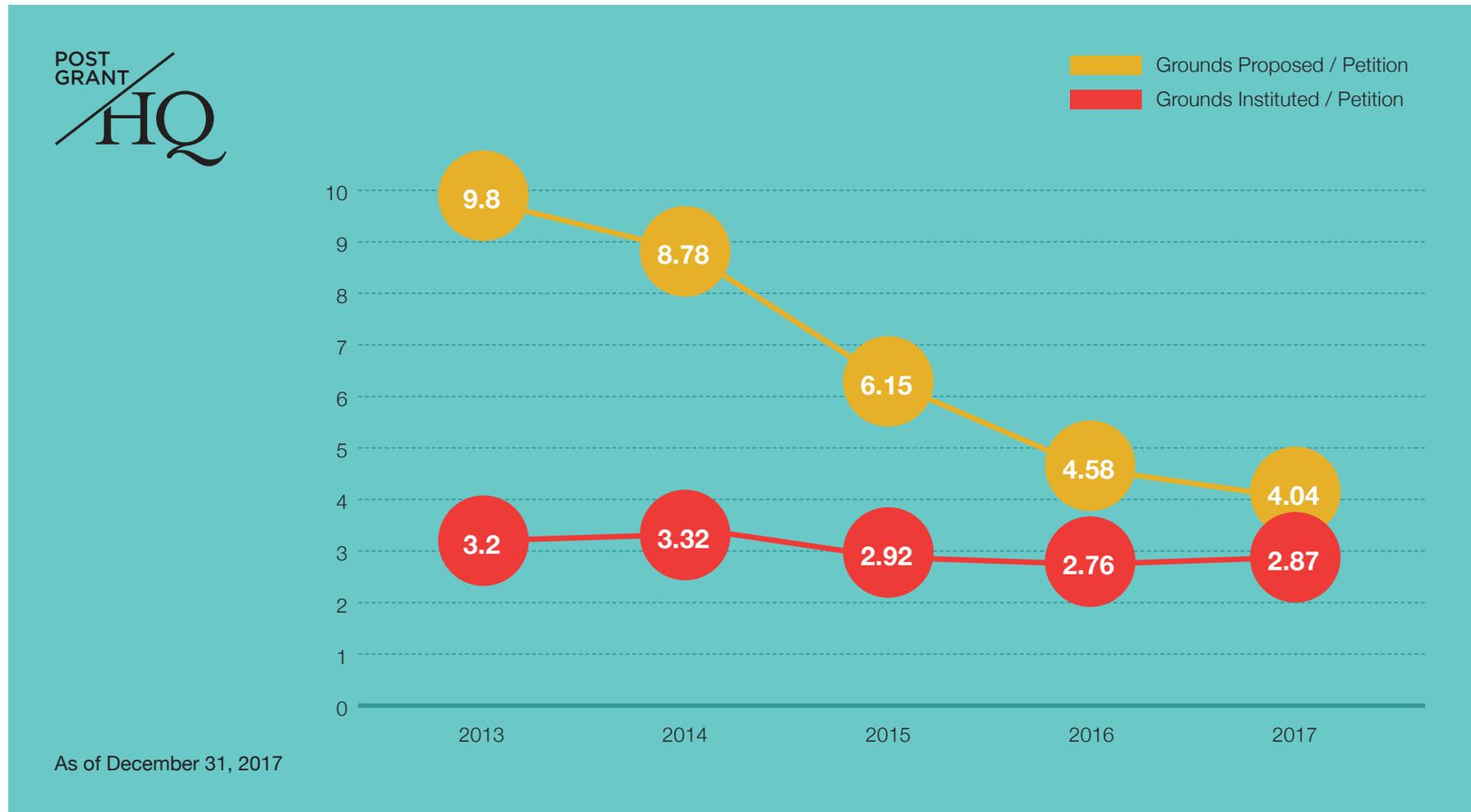
Key Finding: This chart presents, per fiscal quarter, the percentage of claims that were found unpatentable or cancelled out of all claims for which trial was *instituted* in IPR proceedings that reached final written decisions. This data does not account for overall redundancies in patents challenged, as it examines each quarter's challenges independently from each other quarter. As can be seen, unpatentability findings have generally decreased over time.

CBM: PERCENTAGE OF INSTITUTED CLAIMS FOUND UNPATENTABLE OR CANCELLED IN FINAL DECISIONS



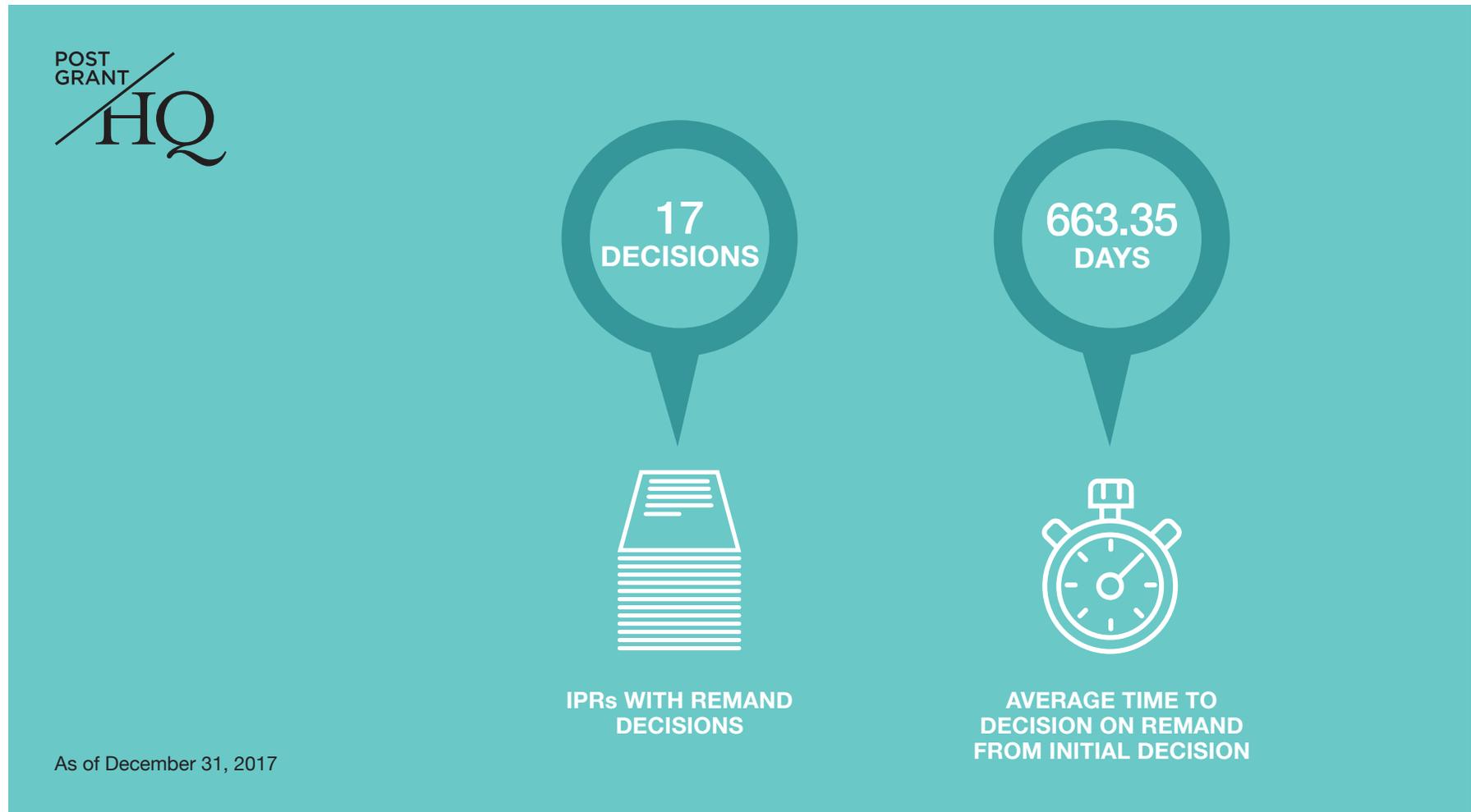
Key Finding: This chart presents, per fiscal quarter, the percentage of claims that were found unpatentable or cancelled out of all claims for which trial was *instituted* in CBM proceedings that reached final written decisions. The chart shows data only for fiscal quarters in which at least one final written decision issued. The sample sizes for some quarters were small. This data does not account for overall redundancies in patents challenged, as it examines each quarter's challenges independently from each other quarter.

IPR: AVERAGE GROUNDS PROPOSED/ INSTITUTED PER INSTITUTED PETITION



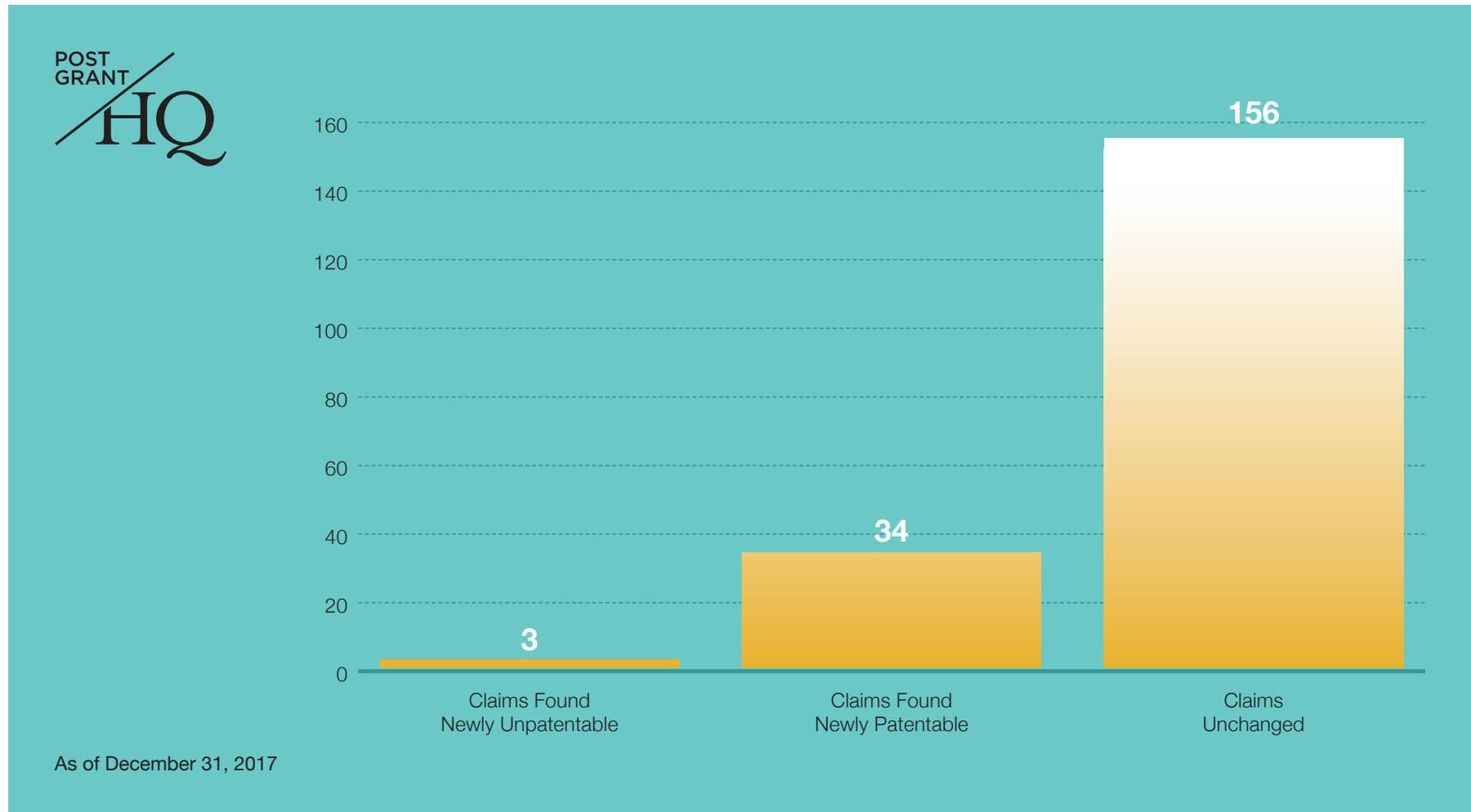
Key Finding: This chart shows the average number of grounds asserted per instituted IPR petition, as compared to the average number of grounds instituted. Prior to SAS, the PTAB often used partial institutions. There has been a noticeable decline in the average number of grounds asserted per petition over time, which may be a response to the PTAB's rejection of conclusory arguments and redundant grounds, and/or the PTAB's practice of partial institution. Post SAS, all grounds are expected to be instituted, which could cause a reversal in this trend.

IPR: REMAND DECISIONS



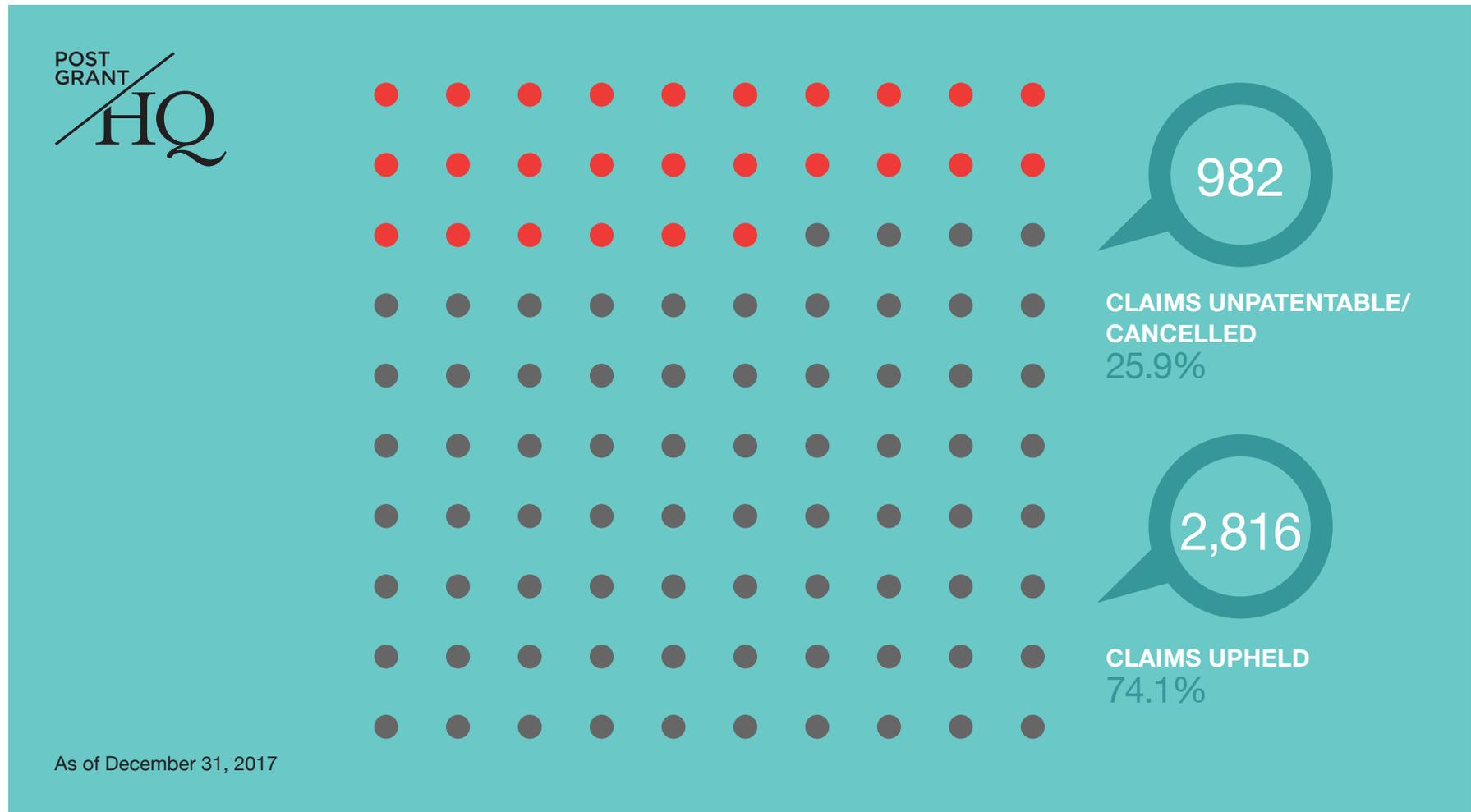
Key Finding: This chart shows the average time to a PTAB decision on a remand from the Federal Circuit, as measured from the initial final written decision by the PTAB. The average time for such a remand decision is a little under two years, which includes the time it takes for the case to go through an appeal at the Federal Circuit. The time for the appeal to the Federal Circuit accounts for the bulk of this period.

IPR: STATISTICS ON REMAND DECISIONS



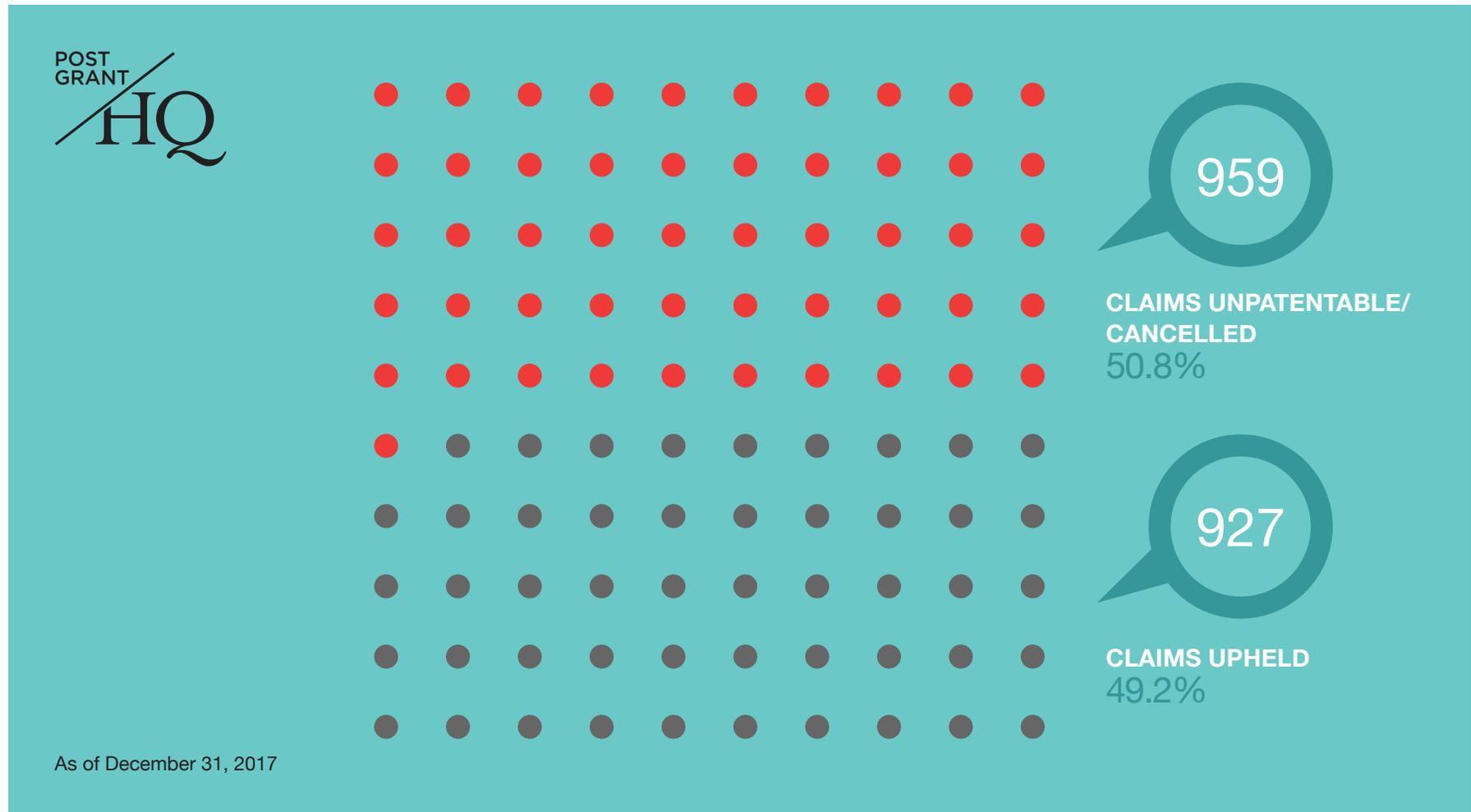
Key Finding: This chart shows the number of claims found newly unpatentable, newly patentable, or unchanged in new PTAB decisions after remand from the Federal Circuit. To date, the PTAB's rulings have gone largely unchanged following remands in which the Federal Circuit instructs the PTAB to reconsider original decisions (e.g., to use a different claim construction). While some claims have been found newly patentable, very few claims have been found newly unpatentable after a remand.

PHARMA IPR: SURVIVAL RATE OF CHALLENGED CLAIMS



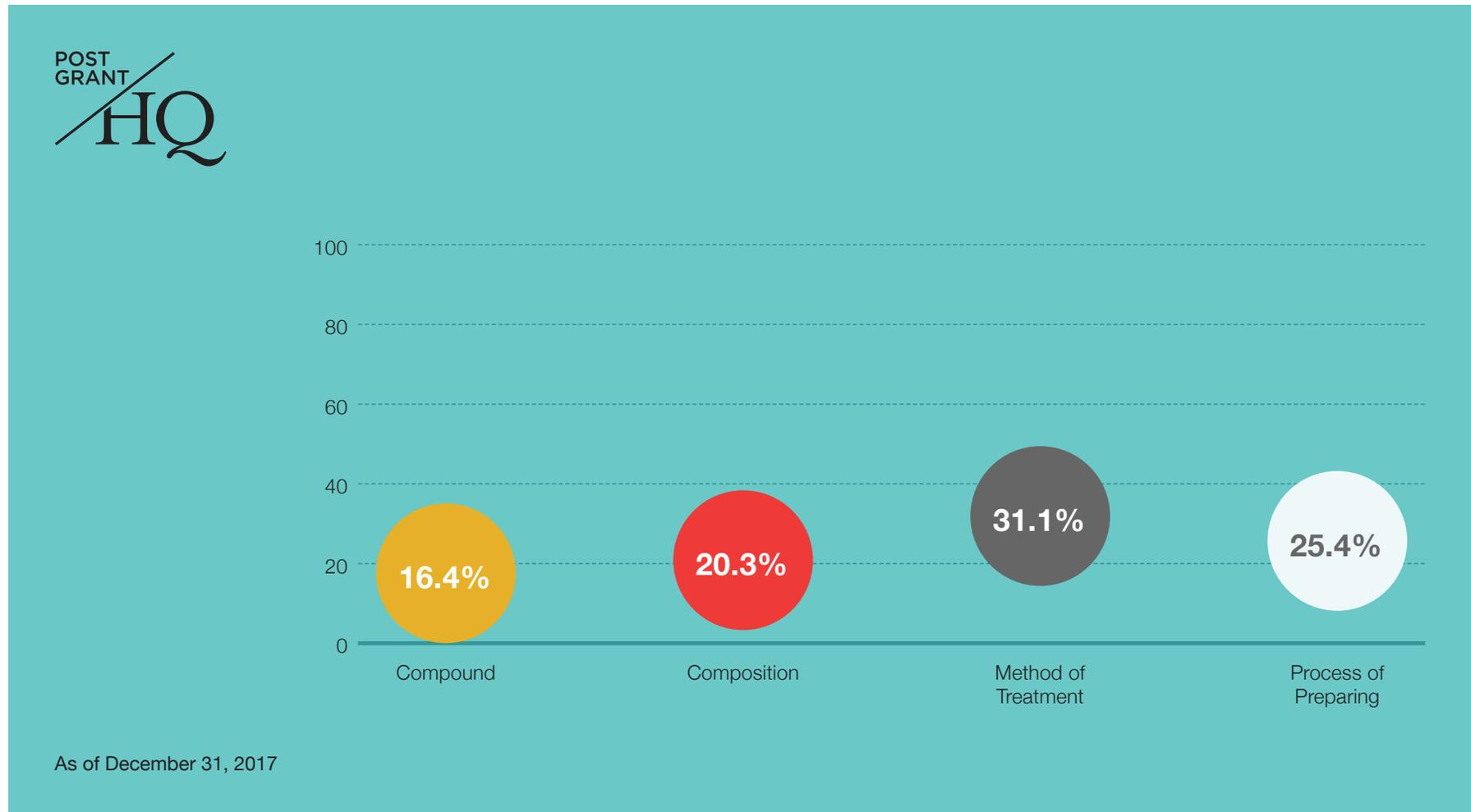
Key Finding: In pharmaceutical cases that reached final written decisions or were substantively denied institution, about 26% of claims that were originally *challenged* in the IPR petitions were cancelled or found unpatentable. This rate is about half that for overall IPR proceedings. This statistic accounts for challenged claims that were denied institution for substantive reasons, as opposed to procedural reasons. This analysis does not factor in challenges that did not reach a decision on the merits because of settlement, or redundancies (which were deemed immaterial).

PHARMA IPR: SURVIVAL RATE OF INSTITUTED CLAIMS



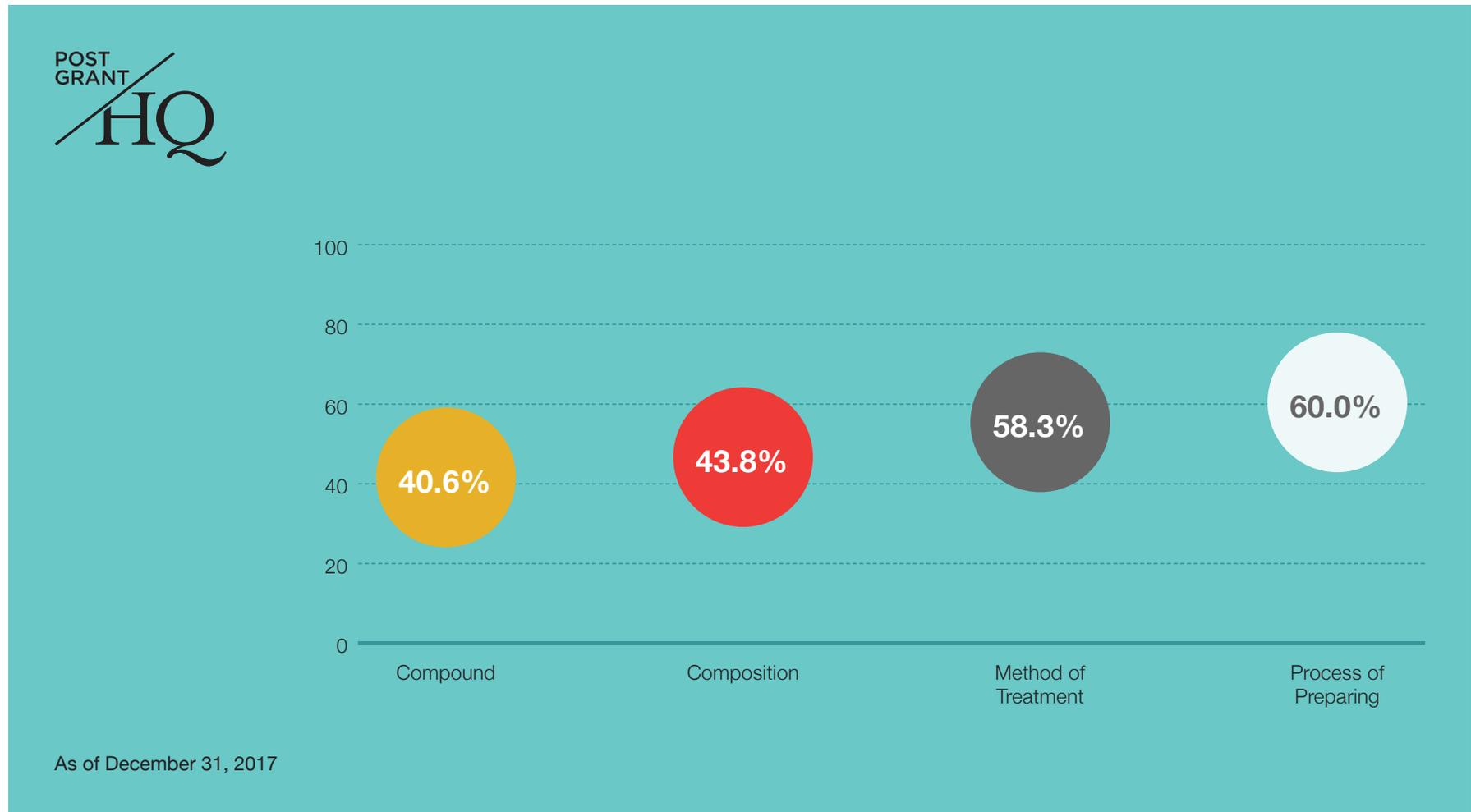
Key Finding: This chart shows the survival rate of *instituted* claims in pharmaceutical IPR proceedings that reached a final written decision. While survival rate drops by roughly half compared to pre-institution pharmaceutical cases, the post-institution survival rate shown here (about 49%) is significantly higher than the overall post-institution survival rate for IPR proceedings across all technology areas (about 22%). This analysis does not factor in challenges that did not reach a decision on the merits because of settlement, or redundancies (which were deemed immaterial).

PHARMA IPR: BREAKDOWN BY CLAIM TYPE & UNPATENTABILITY RATE OF CHALLENGED CLAIMS



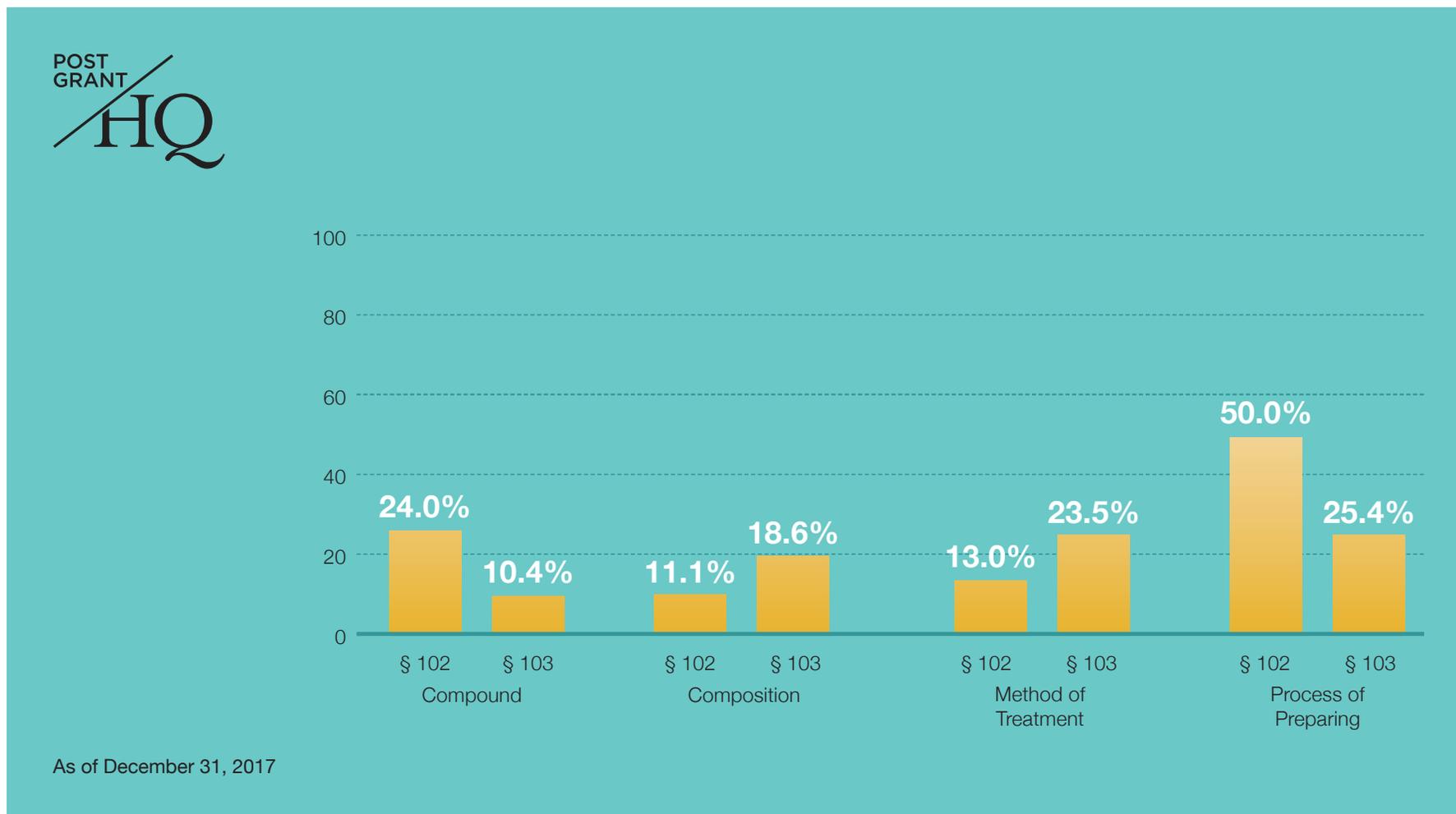
Key Finding: Pharmaceutical claims may be generally categorized into four groups: compound, composition (which includes formulation), method of treatment, and process of preparing. This chart evaluates rates of unpatentability/cancellation for each group relative to claims originally *challenged* in petitions. While still a small sample size (particularly for compound and process-of-preparing claims), the relative success rates reflect conventional wisdom – compound claims fare best, with composition claims not far behind and method of treatment claims trailing more significantly. These statistics do not account for redundancies (which were deemed immaterial). The claims were categorized based on the class as claimed, rather than attempting to determine a likely key feature recited (e.g., whether a particular composition was recited in a claimed method of treatment).

PHARMA IPR: BREAKDOWN BY CLAIM TYPE & UNPATENTABILITY RATE OF INSTITUTED CLAIMS



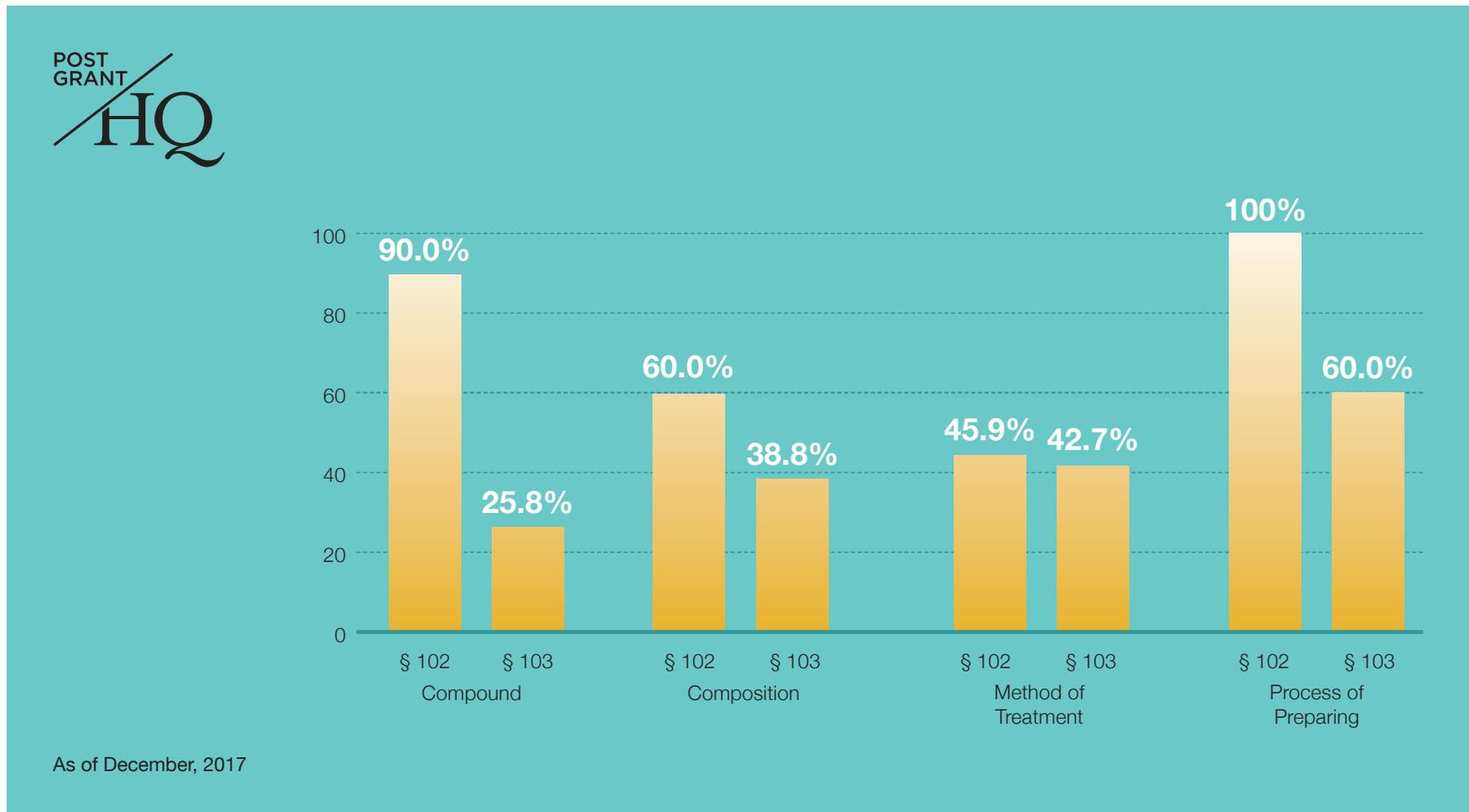
Key Finding: This chart also categorizes pharmaceutical claims into four groups: compound, composition (which includes formulation), method of treatment, and process of preparing. However, this chart evaluates unpatentability/cancellation rates relative to claims *instituted*. Again, note that the sample size for compound claims is still small (171 claims). These statistics do not account for redundancies (which were deemed immaterial). Again, the claims were categorized based on the class as claimed, rather than attempting to determine a likely key claim feature in the body of the claim.

PHARMA IPR: BREAKDOWN BY CLAIM AND CHALLENGE TYPES AND UNPATENTABILITY RATE OF CHALLENGED CLAIMS



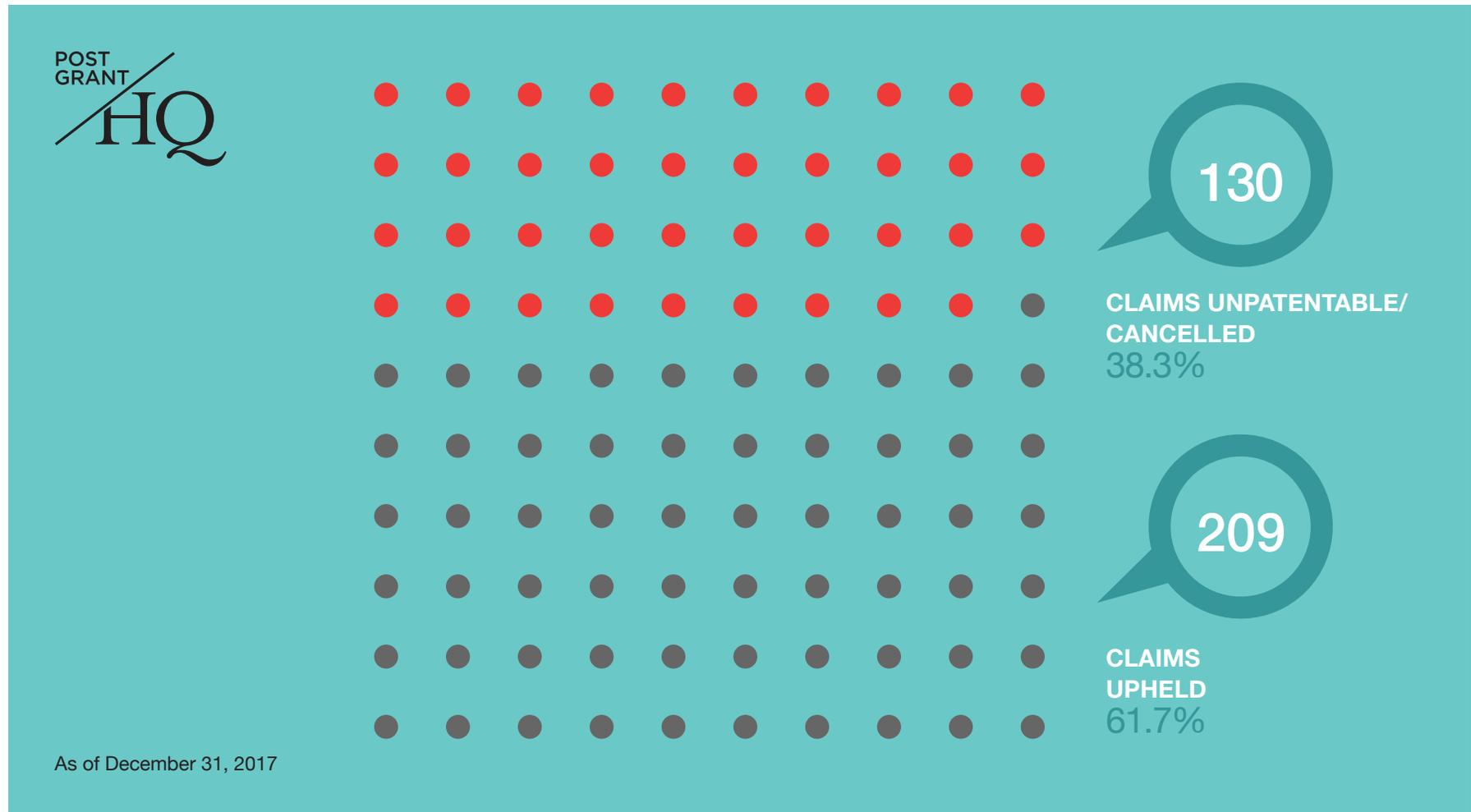
Key Finding: This chart presents the percentage of claims found unpatentable under Sections 102 and 103 for the different categories of pharmaceutical claims, out of the claims originally *challenged*. Compound claims were found unpatentable more often under Section 102. However, for composition claims, the opposite was true. The low level of success for obviousness attacks against compound claims may be a reason for the overall low success rate of challenges against those claims.

PHARMA IPR: BREAKDOWN BY CLAIM AND CHALLENGE TYPES AND UNPATENTABILITY RATE OF INSTITUTED CLAIMS



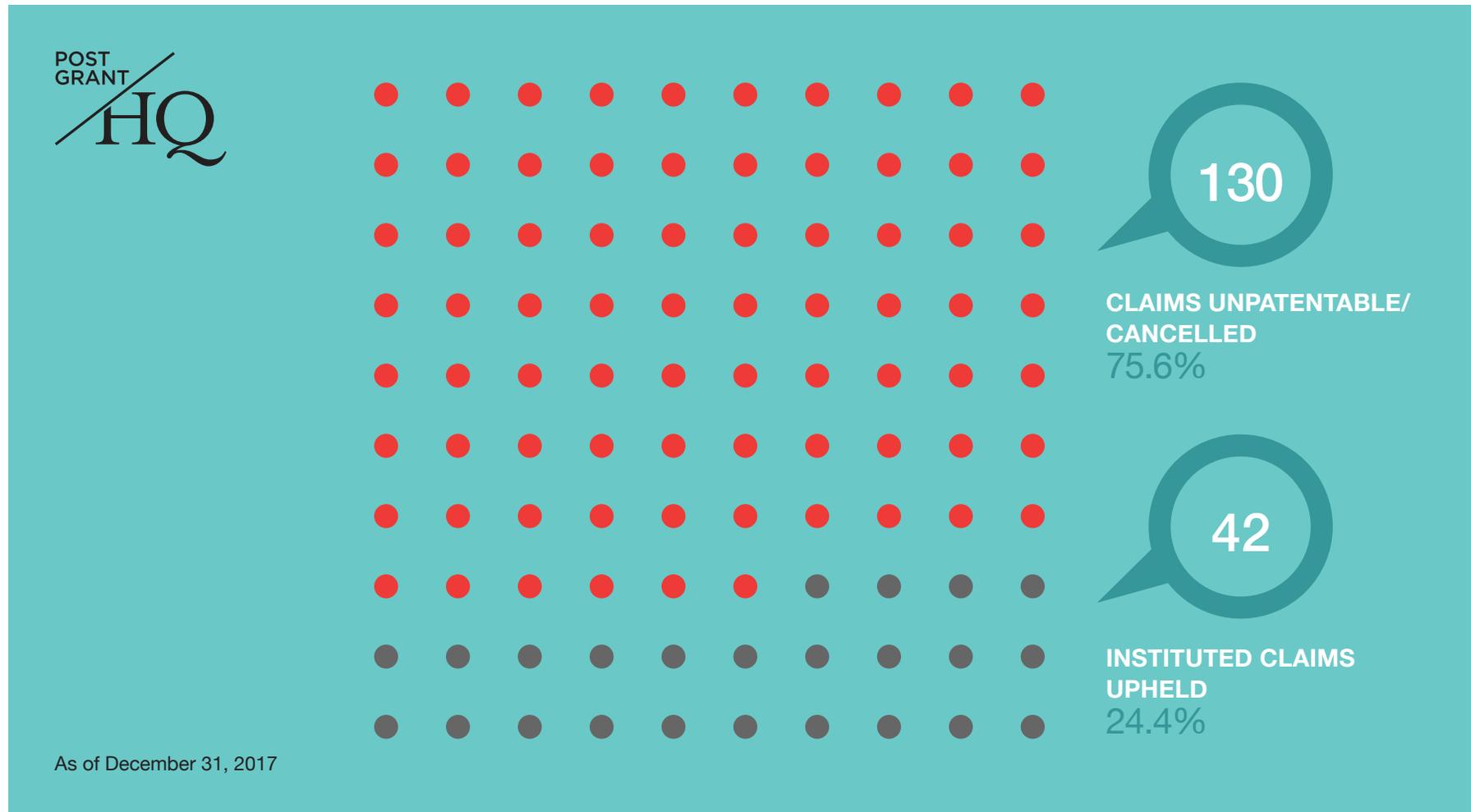
Key Finding: This chart presents the percentage of claims found unpatentable under Sections 102 and 103 for the different categories of pharmaceutical claims, out of the claims for which trial was *instituted*. As can be seen, an initial determination that a compound claim is unpatentable under Section 102 is unlikely to change with the final written decision. Composition claims fare better than compound claims post-institution under Section 102, but not under Section 103. Process-of-preparing claims see high rates of unpatentability across the board, which may relate to the very small sample size for that category (71 claims).

PGR: SURVIVAL RATE OF CHALLENGED CLAIMS



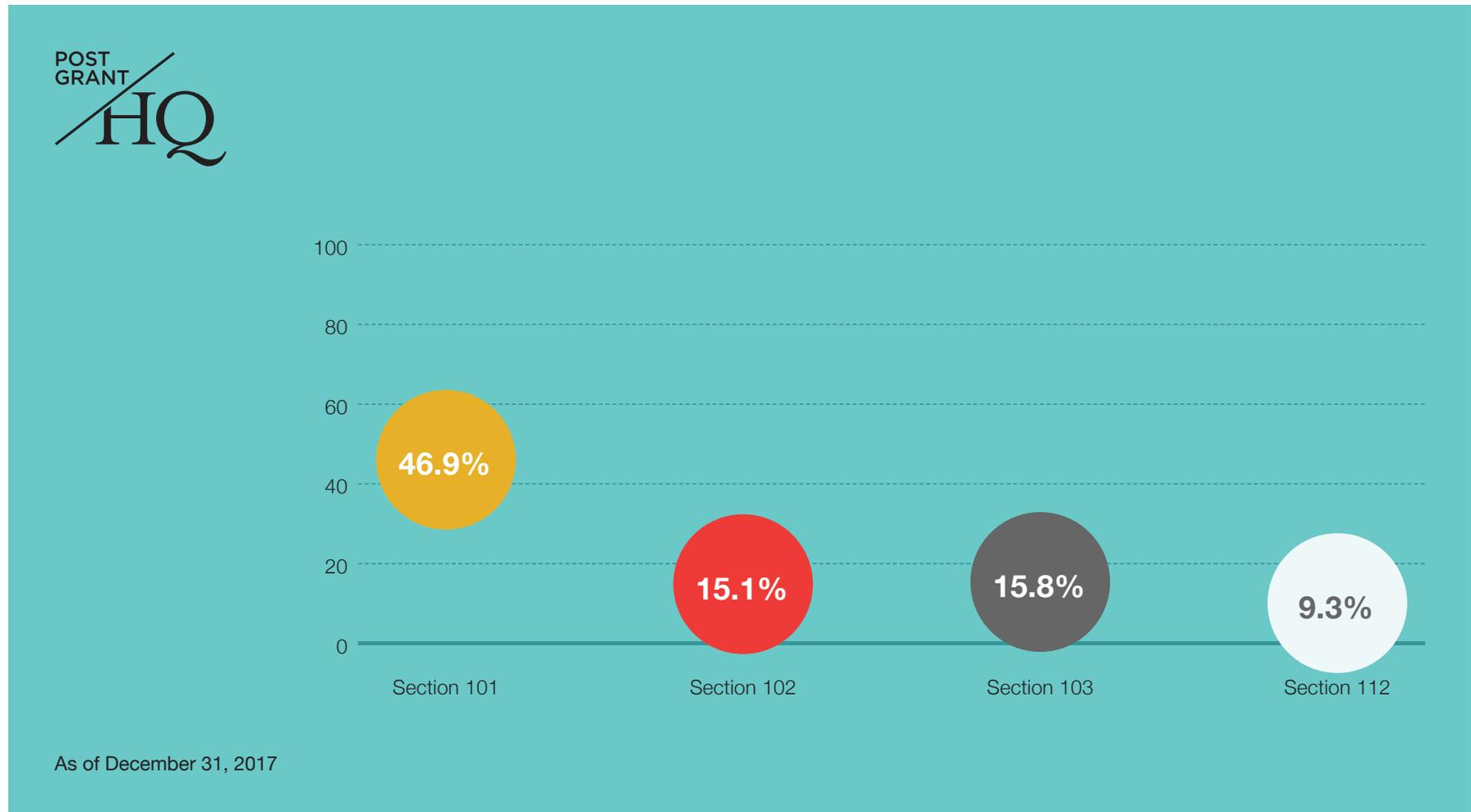
Key Finding: In cases that reached final written decisions or were substantively denied institution, about 38% of claims that were originally *challenged* in PGR petitions were cancelled or found unpatentable. This statistic accounts for challenged claims which were denied institution for substantive reasons, as opposed to procedural reasons (e.g., time-barred). The analysis includes decisions not to institute through 2016, and final decisions through 2017, in order to account for the fact that final decisions typically issue about one year after the institution decisions. Unlike IPR and CBM proceedings, PGR proceedings can only be initiated for patents having a claim with an effective filing date that is on or after March 16, 2013, and can be filed on any ground (*i.e.*, 101, 102, 103, or 112). The sample size available as of December 2017 was small (339 challenged claims). Consequently, it may be too soon to draw conclusions.

PGR: SURVIVAL RATE OF INSTITUTED CLAIMS



Key Finding: Because the cases analyzed are pre-SAS, this chart shows the survival rate of *instituted* claims in PGR proceedings that reached a final written decision (as not all claims were instituted). Prior to the SAS, the institution decision had a large impact on the ultimate outcome, as can be seen by the rate of unpatentability findings shown here. Again, while the sample size was small (172 instituted claims), this rate for PGR results generally conforms to the IPR results.

PGR: BREAKDOWN OF UNPATENTABILITY FINDINGS IN FINAL DECISIONS RELATIVE TO CLAIMS CHALLENGED



Key Finding: This chart presents the success rates, on a claim-by-claim basis, for challenges under Sections 101, 102, 103, and 112 for all PGR petitions which either reached a final written decision, or were denied institution for substantive reasons. The analysis included decisions not to institute through 2016, and final decisions through 2017, due to the temporal relationship between these types of decisions. While the sample size remains low, the initial data indicates that challenges under Section 101 are the most successful. For the remaining bases for challenge, the rates of unpatentability lag those of IPR and CBM proceedings. Of note, unlike CBM proceedings, which also allow for Section 101 challenges, but are limited to business method patents, the top targets for PGR petitions in the cases analyzed were pharmaceutical patents, followed by chemical patents.

PGR: BREAKDOWN OF UNPATENTABILITY FINDINGS IN FINAL DECISIONS RELATIVE TO CLAIMS INSTITUTED



Key Finding: This chart presents success rates, on a claim-by-claim basis, for *instituted* grounds under Sections 101, 102, 103, and 112 in PGR proceedings that reached final written decisions. The high rates of unpatentability under Sections 101 and 112 are generally in line with the rates found in CBM proceedings, and may stem from the legal nature of the analyses for such grounds. For prior art grounds, the rates of unpatentability lag behind the corresponding rates for IPRs and CBMs. Again, however, the sample size for PGRs remains small. Also of note, while pharmaceutical and chemical patents were the top targets of PGR petitions, a low institution rate for pharmaceutical cases resulted in electrical/computer patents being the top category for PGR final written decisions.

ABOUT US

At Fitzpatrick, IP is not just a practice area—it is our sole focus. We cover the spectrum of intellectual property services for clients from virtually every industry. Our offices in New York, NY, Washington, D.C. and Costa Mesa, CA, serve a diverse national and international clientele from Fortune 500 companies to Internet start-ups. Founded in 1971, we have continually kept pace with the complex world of new technologies and the strategies required for protecting knowledge, vision and ideas. We have one of the premier patent litigation practices and consistently appear in the list of top patent prosecution firms. We have decades of experience in complex proceedings before the PTAB—the foundation for IPRs, PGRs, and CBMs. Since the inception of these AIA review proceedings, we have shepherded clients to victory before the PTAB in cases spanning a broad spectrum of technologies.



OUR METHODOLOGY

Our analysis for this report considers all of the final written decisions issued by the PTAB for IPR, CBM, and PGR proceedings through the end of 2017 and all decisions denying institution through 2016. A few things to note:

- 1 For situations in which multiple petitions were filed against one patent, we consolidated those petitions into one for purposes of collecting data to avoid skewing from redundant petitions. We did not do this for the pharmaceutical analysis, where the overlap was deemed immaterial.
- 2 In gathering statistics, we evaluated only the original claims in the patents at issue. We did not account for amended claims that were subsequently allowed by the PTAB. The number of cases in which motions to amend were granted is quite small.
- 3 For cases in which the patent owner requested adverse judgment against itself, we considered the claims to be cancelled.
- 4 For the charts that show the percentage of claims in IPR proceedings found unpatentable under Sections 102 and 103, please note that, in some instances, the PTAB found claims unpatentable based on both grounds.
- 5 We did not include in our analysis petitions that did not reach either a final written decision or decision denying institution (*e.g.*, settlements).
- 6 We analyzed substantive decisions not to institute. We did not include in our analysis denials that were procedural in nature (*e.g.*, time barred petitions, lack of standing in CBMs, *etc.*).
- 7 Although care has been taken to ensure the data's accuracy, these statistics should be viewed as estimates.

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