

SquareTrade Research brief: iPhone 4 glass breaking 82% more than iPhone 3gs – four months in

Synopsis: *SquareTrade analyzed iPhone accidents for over 20,000 iPhone 4s covered by SquareTrade Care Plans and found a 82% increase in reported broken screens compared to the iPhone 3gs.*

Highlights of the study include:

- *iPhone 4 owners reported 82% more damaged screens in the first 4 months compared to iPhone 3gs owners.*
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- *Overall, the reported accident rate for iPhone 4s was 68% higher than for the iPhone 3gs.*
- *An estimated 15.5% of iPhone 4 owners will have an accident within a year of buying their phone.*

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iPhone 4 Accident Rates – 4 months in:

In this report, SquareTrade seeks to evaluate if the iPhone 4 is more prone to accidental damage than its predecessor. Specifically, we want to understand if the new iPhone 4 glass front and back are experiencing damage more frequently than in prior iPhone models.

We examined the accident claim rate reported by SquareTrade customers to supply some concrete data to the discussion. We looked at the accident claim rate for over 20,000 SquareTrade iPhone 4 warranty owners and compared this to the iPhone 3gs claim rate.

Our data shows that iPhone 4 owners are reporting accidents 68% more frequently than iPhone 3gs owners. 4.7% of iPhone 4 owners reported an accident to SquareTrade in the first 4 months of ownership, almost 70% higher than iPhone 3gs owners, 2.8% of whom had an accident over the same time period.

Of these iPhone 4 accidents, the vast majority involved a damaged screen. When we evaluated damaged screen reports, we found the iPhone 4 had 82% more broken screens than the iPhone 3gs reported in the first 4 months.

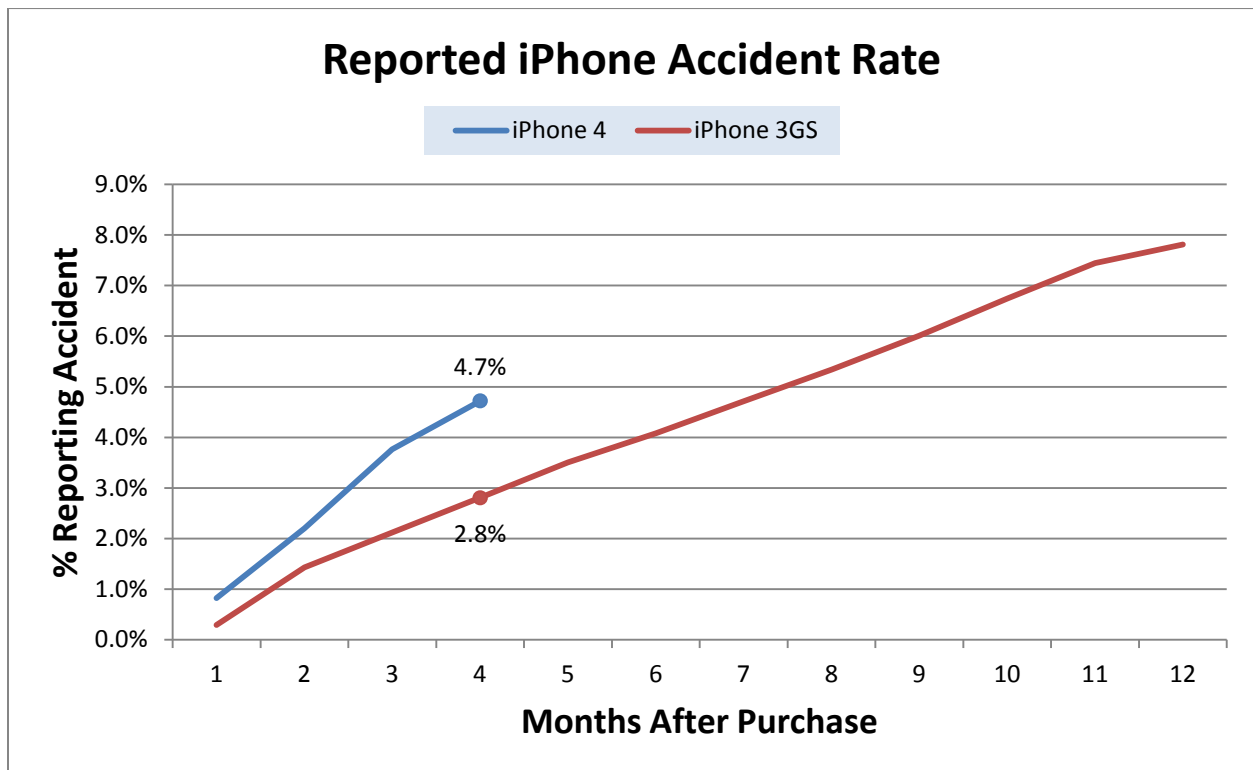
Interpreting the results more broadly, the iPhone 4 appears to be significantly more likely to break than previous versions, as we speculated back in our [June iPhone report](#). Not only has the scratchable surface area doubled, the new aluminosilicate Gorilla glass used in the iPhone 4 doesn't seem any less likely to break than previous models.

Overall iPhone 4 accident rates are up by 68%

To evaluate iPhone 4 accident rates, we looked at the reported claims from over 20,000 SquareTrade iPhone 4 warranty owners over the first 4 months of ownership. We then compared this to the first 4 months of claims from over 20,000 iPhone 3gs warranties.

SquareTrade considers any claim involving physical damage to be categorized as “accidental damage”, and in our initial comparison we only look at accidental damage. Some owners choose not to report minor damage, which means that actual accident rates may be even higher than what is shown.

Figure 1. Reported iPhone Accident Rate

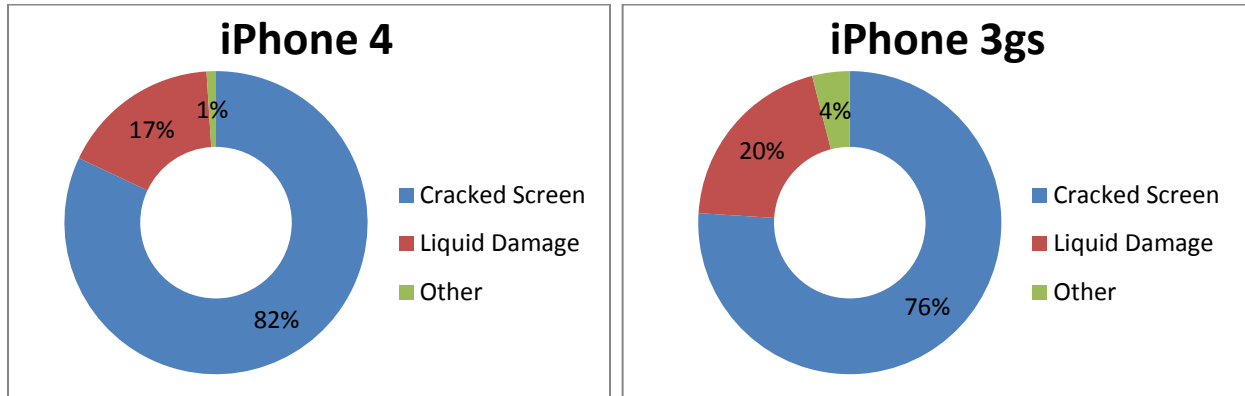


In the first 4 months of ownership, 4.7% of iPhone 4 owners reported an accident, compared to 2.8% of iPhone 3gs owners. That represents a 68% increase in accidents.

iPhone 4 broken screen rate up by 82%

Cracked and broken screens account for the vast majority of iPhone accidents. Screen damage is responsible for more than four-fifths of reported iPhone 4 accidents, slightly higher than for the iPhone 3gs:

Figure 2. Accident Type Distribution

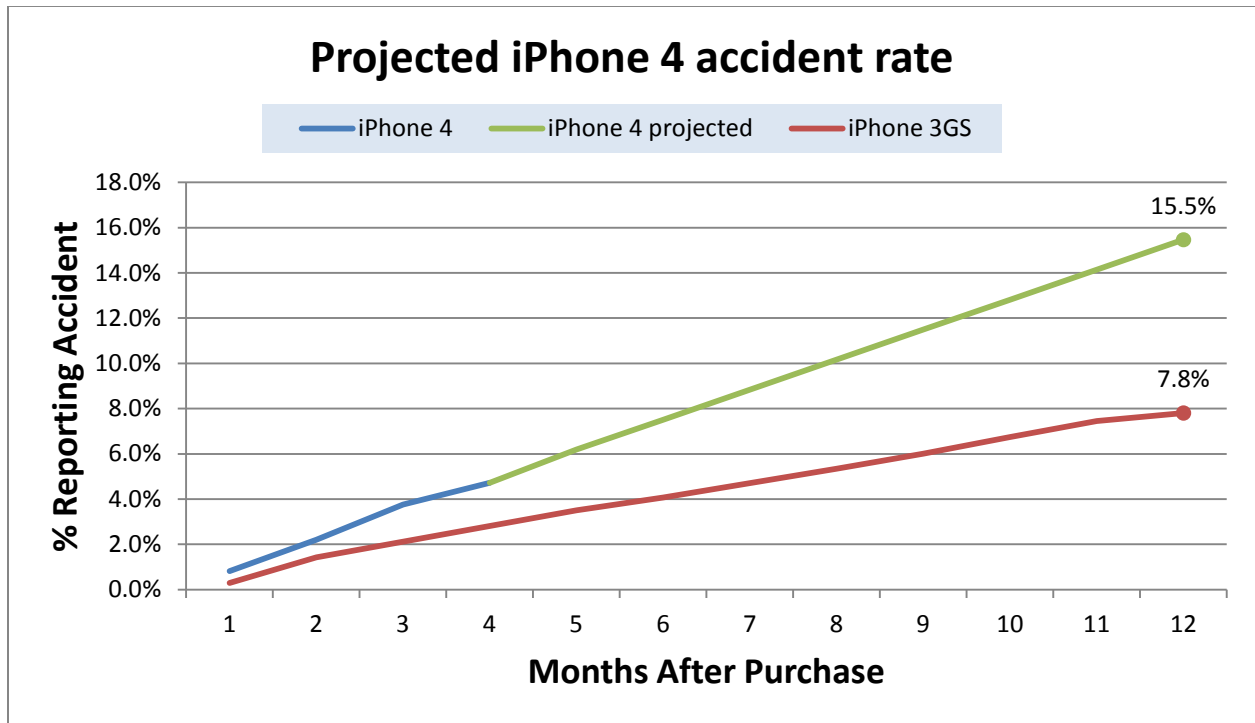


Multiplying the accident rate with the cracked screen distribution, we find that 3.9% of iPhone 4 owners reported a cracked screen within 4 months, as opposed to just 2.1% of iPhone 3gs owners.

While our data doesn't identify which broken screens resulted from dirt trapped behind a slide case, at least a quarter of the broken glass claims involved the back screen. With 82% more cracked screens reported, the evidence suggests that the iPhone 4 is more vulnerable to physical damage than its predecessor.

Using a straight-line projection to estimate the accident rate after a year, Figure 3 shows the accident rate climbing to 15.5% by month 12, twice that of the iPhone 3gs:

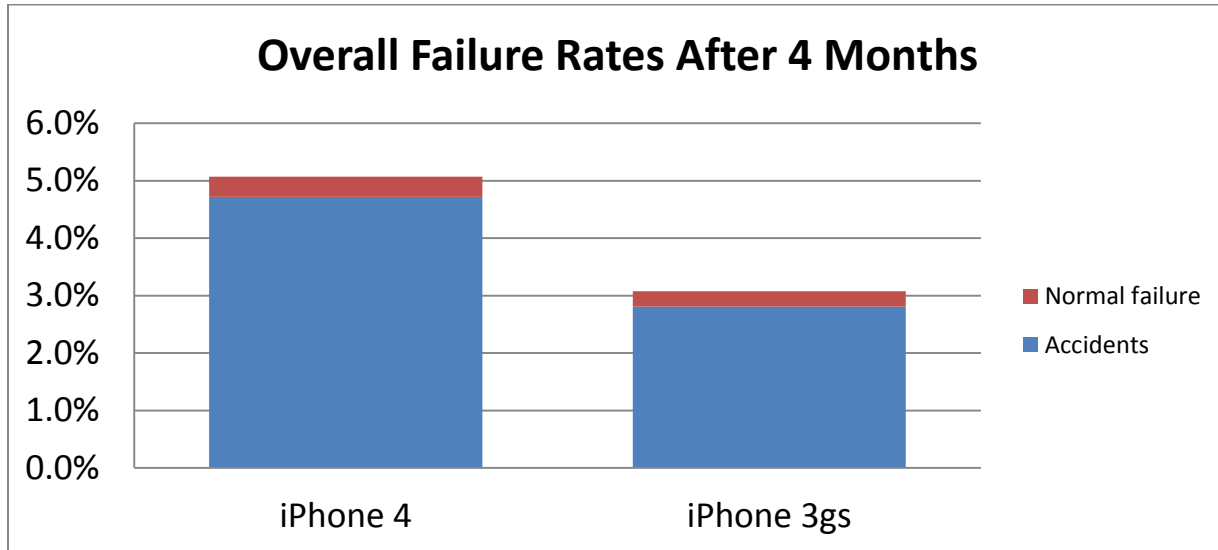
Figure 3. Projected iPhone 4 Accident Rate



Overall failure rates

Finally, we also looked at non-accident related malfunctions, to determine if the iPhone 4 was experiencing hardware problems beyond the glass screen. Fewer than 0.5% of iPhone 4 owners reported a non-accident claim, roughly the same as the iPhone 3gs.

Figure 4. Overall failure rates after 4 months



Conclusions on iPhone 4 glass problems

With just 4 months of data, it's clear that the iPhone 4 is significantly more prone to physical damage than its predecessor. The aluminosilicate glass seem to crack at least as often as the old glass, and there is now twice as much surface area to break.

Despite this troubling increase, it's important to take the accident rate into perspective. Overall, the iPhone is still a very well constructed device, with a non-accident malfunction rate much lower than most other consumer electronics.

In SquareTrade's previous study comparing smart phone reliability from [November 2008](#), we found iPhones to be far more reliable than Blackberrys and Palm Treos. We will be updating this report soon, and we'll have data on the latest Android phone models. It may yet be seen that even with the double glass, the iPhone has an overall failure rate that is still better than the competition.

Appendix: Notes about the Data and Methodology Used

For this study, SquareTrade analyzed the failures reported by the owners of SquareTrade iPhone warranties. We included only items that were purchased brand new (i.e. not refurbished or used).

The following disclaimers apply to our data and analysis:

- Only malfunctions reported directly to SquareTrade are included in the data. Other malfunctions, including software/hardware issues handled directly by Apple, problems associated with product recalls, and those fixed by software/firmware updates, may not be represented in this data.
- We did not take into consideration purchase location.

Limitations:

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