

Whitepaper

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Data Management: The Key to Unlocking the Potential of Usage-Based Insurance

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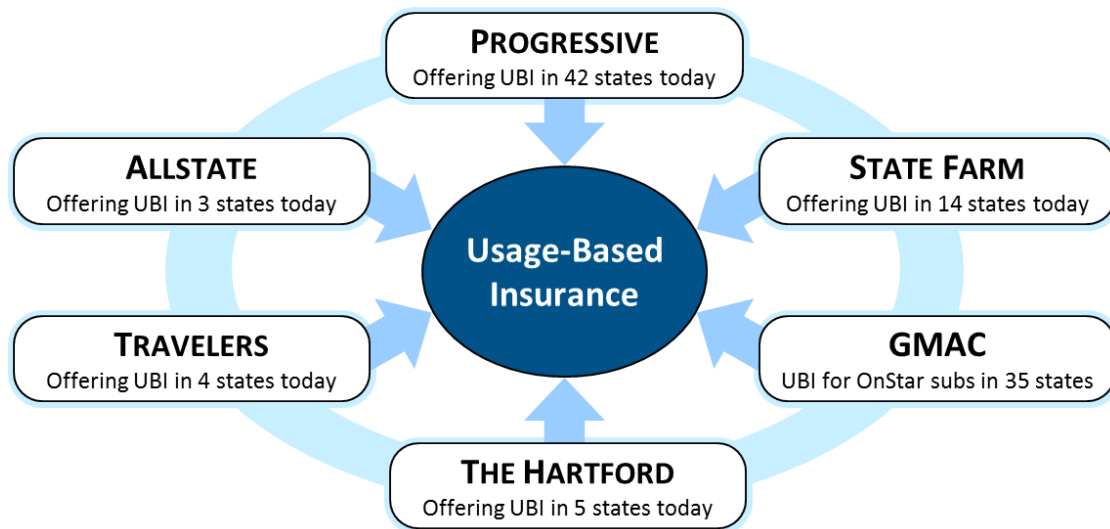
Abstract

The U.S. usage-based insurance (UBI) market is poised to take off in the coming years as insurers aggressively deploy UBI in order to improve risk evaluation. However, bringing a UBI product to market can be a difficult process, requiring insurers to navigate a number of strategic and operational challenges. The most pressing issue to address is how to harness the value of driver behavior data – how to gather, process, integrate, and analyze data to derive meaningful insights over the long term. With strong data management capabilities, as well as a well-defined strategic vision, insurers can ensure success in this rapidly growing market.

The Benefits of Usage-Based Insurance

Usage-based insurance (UBI) intuitively makes a lot of sense: automotive insurance priced based on how motorists actually drive. UBI products enable insurers to rate drivers based on behavioral metrics (including how far they drive, how aggressively they brake, and how often they swerve) in addition to the demographic metrics traditionally used to rate driver risk. As such, UBI can offer significantly lower rates to consumers. For example, good drivers on Progressive’s Snapshot plan can receive discounts of up to 30% on their annual premiums.

Many insurers in the U.S. are trialing or already offering usage-based insurance products today. Progressive Insurance currently counts nearly half a million UBI policies, and several other insurers have begun offering UBI in select states.



Insurers have good reason to implement usage-based insurance. In addition to enabling more accurate risk assessment and premium pricing, UBI can significantly improve an insurer’s book of business by shifting its customer base in three beneficial ways:

1. Better drivers are drawn away from competitors by the lower rates UBI policies can offer.
2. All customers are incentivized to drive more cautiously and less frequently, reducing risk and increasing profitability for the insurer.
3. Over the long term, as UBI comes to represent a larger portion of an insurer’s customer base, increasing non-UBI premiums may push higher-risk drivers towards competitors that lack UBI, reducing the number of high-risk drivers in a UBI insurer’s portfolio.

These potential benefits suggest another important reason why insurers should consider UBI: the high risk of adverse selection if they do not. Without the benefit of driver behavior data, insurers run the risk of inaccurately rating drivers. Without UBI they will not be able to offer competitive rates to better drivers, and will likely underprice high-risk drivers.

There is a large potential upside for insurers that adopt early, and a large potential downside for insurers that are late to market. The key question is not whether insurers should consider UBI, but rather when and how they should approach the market to ensure success.

Challenges to Launching a UBI Program

Despite the numerous benefits, usage-based insurance has been slow to gain traction. Progressive has been experimenting with UBI for nearly a decade, but has only recently seen significant growth with their Snapshot program. Most other insurers have not yet developed well-defined, UBI solutions.

Adoption has been largely hindered by the high cost and complexity associated with implementing a UBI solution. As evidenced by the long development cycles of current offerings, it can take substantial time and investment to create a UBI product from scratch. Considering the investment required, the financial case for UBI can be difficult to justify for many insurers – especially since it provides discounts to better drivers, thereby lowering their margin contribution. Furthermore, without the requisite experience and expertise, it can be difficult to ensure that the implementation of a UBI solution will be done efficiently or effectively.

There are a number of key challenges that must be overcome to successfully launch a new UBI product:

UBI Implementation Challenges

Gather Initial Data	<ul style="list-style-type: none"> • Acquire data necessary to prove actuarial benefits
Develop Business Plan	<ul style="list-style-type: none"> • Define product and business model, and forecast financial impact
Determine Go-To-Market Strategy	<ul style="list-style-type: none"> • Identify key partners in value chain and prepare operational roadmap
Manage & Refine Data in Production	<ul style="list-style-type: none"> • Expand and refine initial models with incremental data to derive useful insights
Ensure Long-Term Benefits	<ul style="list-style-type: none"> • Structure solution to ensure viable product evolution

The “Gather Initial Data,” “Manage & Refine Data in Production,” and “Ensure Long-Term Benefits” challenges are all concerned with one underlying question: how can insurers harness the value of this new source of data?

Harnessing the Value of UBI Data

Usage-based insurance provides insurers with a new type of data that must be applied using entirely new methods. Gathering, processing, integrating, and analyzing that data properly is essential to the success of any UBI product.

Gather Initial Data

Though driver behavior data is widely believed to improve risk assessment, most insurers do not yet have sufficient data to accurately and profitably price UBI premiums. Unlike traditional insurance pricing, which uses a limited set of readily available factors for pricing guidance, UBI can require the gathering of hundreds of thousands of individual data points that must be analyzed.

Particularly during the initial pilot phase, insurers must collect as much information as possible on as many driving scenarios as possible to ensure they have sufficient data to provide actuarial relevance. In this phase it is most critical to have the resources and analytics necessary to develop a model that can be rolled out on a larger scale. Widely accepted models for pricing UBI policies have not yet been established, and the models developed by early adopters could provide strategic competitive advantages.

When collecting and analyzing large volumes of data, insurers must be aware of a variety of security and compliance issues. As the regulation of the tracking and storage of raw driving data is still very much in flux, it is critical to adhere to best practices around data security and privacy. Insurers utilizing telematics devices are collecting private information and must be mindful of the requirements associated with its collection, storage, and use.

Aside from the type of data collected and how it is stored and analyzed, the most critical piece of any UBI program is the method by which the data is collected. In-vehicle hardware and mobile telematics solutions are developing and changing quickly as the market continues to evolve, and each technology has its own set of benefits and drawbacks that must be considered.

Manage & Refine Data in Production

The size and scale of data involved, as well as the regulations associated with its collection and use, present significant opportunities for insurers to work closely with partners who specialize in data storage and administration. The size and type of data required by UBI programs in production – that is, full-scale, public UBI solutions – is significantly more than most insurance companies are accustomed to dealing with on a daily basis.

Successfully building an accurate UBI loss model is a multi-step process. First, sufficient data must be collected to determine potential rating factors such as miles driven and average speed. Tens of thousands of data points collected from weeks or months of driving are necessary to build an initial model for simple rating factors (e.g., mileage). In addition, ten times as much data can be required to incorporate more detailed rating factors such as hard braking, sharp turning, or other complex driving behaviors. Even once a basic loss ratio model is defined, significant additional data must be collected in order to develop both frequency- and severity-based loss models. Altogether, an estimated 10 million data points need to be collected to build a production-level UBI program.

Given the magnitude of data required for an accurate and robust solution, insurers should consider the potential benefits of pooling UBI data with other insurers. Even with substantial investments in UBI pilots it can be difficult for a single insurer to gather sufficient data to build a predictive model; insurers willing to consider UBI data pooling can achieve substantial benefits with even smaller-scale pilots.

By choosing to work with other insurers in similar situations and participating in an exchange of depersonalized driving data, insurers can quickly gain access to several times more data than would otherwise be available at little or no additional cost. Pooling data with insurers from across the country could provide a significant amount of raw data from which conclusions could be drawn. However, those conclusions do not necessarily need to be shared with other insurers; while pooling UBI data would increase every participating insurer's access to raw data, each would be able to preserve the strategic advantages derived from their own independent analytical insights.

In addition, by using data from multiple sources, a broader segmentation can be achieved. Driving data from policyholders in vastly different situations can be compared against an insurer's own program data to

determine whether certain elements of driving behavior are unique to its specific segment or universal across all segments.

Ensure Long-Term Benefits

Although detailed UBI data is compelling, actuarial relevance still has not been widely proven. When trying to build a UBI program, it is vital to collect as much data as possible on drivers—even looking beyond the mechanics of driving. Combining UBI data with other collected data can provide the uplift needed to validate a new UBI program.

Insurers should potentially look to combine raw driver behavior data with historical insurance claims, accident records, available public records, and geographic data (such as historical weather or accident data by geography) to achieve greater precision in risk assessments. Insurers are most likely to be successful in designing a UBI program if they can combine the breadth of driver behavior data available (collected either directly or via pooling with other carriers) with the depth provided by non-UBI data.

Additionally, it is important not to get locked into a specific program design early on. The fast pace of evolving technology may necessitate a transition from one method to another. For example, findings during data analysis may suggest a different optimal method of data collection, or it may be necessary to add new data points by tracking additional driver behavior metrics, and insurers must be able to fold new relevant data into existing analytical models while retaining the value of historically collected data. Whether building a program in-house or working with a third-party vendor, it is critical to maintain design flexibility within the system to adjust to any new insights.

Other Challenges to Consider

Though data management is one of the principal issues insurers must address when launching a UBI product, several strategic challenges must also be overcome. From our initial list of challenges (page 3), “Develop Business Plan” and “Determine Go-To-Market Strategy” remain significant hurdles. Both of these challenges are multifaceted and require considerable strategic planning to navigate.

Develop Business Plan

Before moving forward with a UBI implementation, insurers should identify the optimal business model and strategy for their UBI product. This requires a detailed assessment of the different forms a UBI product could take, including features and functionality, pricing and offer structure, and target customer segments. A clear and detailed product definition is essential for making the business case for UBI.

Insurers today are employing a range of product strategies, from UBI-only aftermarket devices (e.g., Progressive Snapshot), to fully-featured aftermarket telematics services (e.g., State Farm In-Drive), to solutions tied to OEM-embedded telematics platforms (e.g., GMAC Pay-As-You-Go). Each option offers a distinct feature set, pricing structure, and user experience. Insurers must evaluate the range of potential product strategies available and develop a differentiated product that will meet their needs while remaining competitive in the market.

Example Product Strategies

PROGRESSIVE Snapshot

Solution Overview
<ul style="list-style-type: none"> UBI-only solution Requires a single device that plugs into the OBD-II port Free to the consumer
Deployment Details
<ul style="list-style-type: none"> Device returned to Progressive after renewal discount pricing has been established Limited additional services

STATE FARM In-Drive

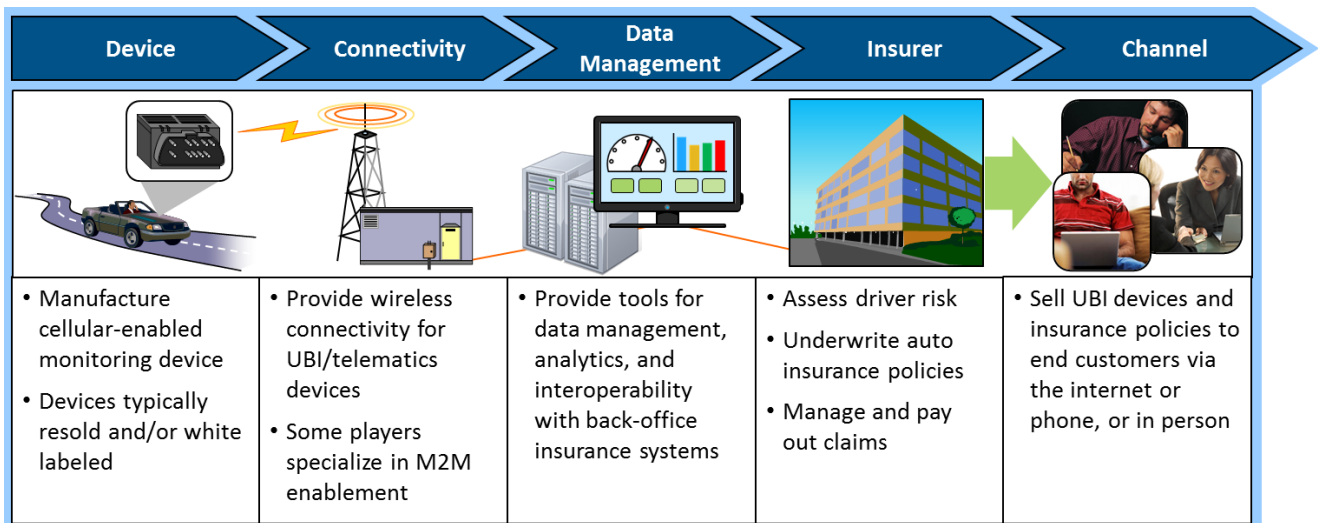
Solution Overview
<ul style="list-style-type: none"> UBI and consumer telematics solution Requires two devices – one that plugs into the OBD-II port and one that clips onto the driver's visor Costs \$5-25 per month
Deployment Details
<ul style="list-style-type: none"> Device remains in car for duration of service Additional services can include vehicle diagnostics, roadside assistance, SVR, and geofencing

Determine Go-To-Market Strategy

Insurers must engage in a range of strategic activities throughout the go-to-market process, including sourcing components, identifying and developing potential partnerships, prioritizing markets, acquiring state regulatory approvals, training sales agents, educating consumers, and providing support. In particular, it is becoming increasingly essential to consider the strategic implications of partnerships throughout the value chain. While many insurers have developed their own end-to-end UBI solutions, vendors and service providers are increasingly available to simplify the development process by providing the components of a complete solution. This is encouraging the creation of new business models for product development, data management, value-added services, marketing, branding, distribution, and support.

Insurers must be aware of the rapidly expanding ecosystem, and should consider a range of alternative strategies for bringing new UBI products to market. Furthermore, insurers should regularly re-evaluate strategic options as the market continues to evolve.

Illustrative UBI Market Landscape and Solution Components



Conclusion

Whether or not usage-based insurance truly revolutionizes the industry, every insurer has good reason to explore their strategic options in the market. If UBI achieves widespread adoption, it will be in every insurer's best interest to develop a UBI product or run the risk of adverse selection. But even if UBI remains a relatively niche product, insurers that develop solutions will still be able to benefit by attracting better drivers.

With good strategic planning, any insurer can overcome the challenges of developing a successful UBI product. It is of utmost importance to develop a comprehensive data management strategy and be well-equipped to gather, process, integrate, and analyze the massive amount of data UBI can provide. It is also essential to have a strategic roadmap, including a well-defined business plan and go-to-market strategy.

Several insurers have already overcome these hurdles and successfully launched UBI products. Numerous others have initiated UBI trials and have begun to make significant headway towards bringing competitive UBI products to market. As such, it appears that the industry is nearing an inflection point.

Progressive is driving the majority of growth in the market. Though UBI still remains a small portion of the company's business, Progressive appears to be achieving nearly exponential growth, reporting over one billion dollars of UBI premiums written in the past twelve months.

With major insurers making big bets on UBI, it is beginning to look like widespread UBI deployment is rapidly approaching. Though it is difficult to pinpoint exactly when UBI become a ubiquitous offering, insurers must think strategically about the UBI market now in order to position themselves to be a part of its success.

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