RUPRI Center for Rural Health Policy Analysis
Rural Policy Brief

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Update: Independently Owned Pharmacy Closures in Rural America, 2003-2018

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Purpose

This *Policy Brief* continues the series of reports from the RUPRI Center updating the number of pharmacy closures in rural America with annual data. See our website for other analyses of trends and assessment of issues confronting rural pharmacies.

Key Findings

- Over the last 16 years, 1,231 independently owned rural pharmacies (16.1 percent) in the United States have closed. The most drastic decline occurred between 2007 and 2009. This decline has continued through 2018, although at a slower rate.
- 630 rural communities that had at least one retail (independent, chain, or franchise) pharmacy in March 2003 had no retail pharmacy in March 2018.

Background

Pharmacies are an essential cornerstone in the delivery of health services to rural communities. In rural areas, pharmacies not only provide access to medications but also deliver clinical services such as medication counseling, blood pressure and glucose monitoring, immunizations, patient consultation, treatment of mild illnesses amenable to over-the-counter medications, and other counselling and educational services (including chronic disease and medication therapy management).[1-4] Thus, rural pharmacies play an important role in alleviating the poor access to health services prevalent in many rural communities. Closure of pharmacies in rural communities can have grave implications for the population's access to health services, requiring them to travel to another community for pharmacy services or to rely on mail order services that cannot provide clinical services.[5]

Independent pharmacies (i.e., those not affiliated with a chain or franchise) are a particular source of concern as they are more likely to be the sole source of pharmaceutical services in rural and other areas facing poor access to care.[5] Furthermore, independent pharmacies are faced with particular financial challenges—such as low reimbursements stemming from a limited negotiating power and a greater reliance on drug sales as a primary source of revenue—that make them especially susceptible to closure.[4]

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Previous RUPRI Center analyses have shown a decline in the number of rural independent pharmacies.[2,6-9] The period of sharpest decline coincided with the implementation of a major change to prescription reimbursement - the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA). The MMA established the Medicare Part D program (implementation began in January 2006), which provides prescription drug coverage for Medicare beneficiaries.[10] The sharp decline in the number of rural independent pharmacies in the first years following Medicare Part D implementation has been attributed to the challenges, mostly financial (due to lower payments from Part D plans in comparison to actual costs and previous out-of-pocket payments), that the program posed to these pharmacies.[1,4,11] This brief updates data on closures of rural independently owned pharmacies.

Methods

Monthly data from March 2003 through March 2018 were obtained from the National Council for Prescription Drug Programs (NCPDP) Pharmacy Database.[12] This database contains information on over 83,000 pharmacy service providers (as of March 2018) in the United States, including their geographical location and ownership type. Using NCPDP's categorization of pharmacies, we created subsets of pharmacies meeting the following criteria (in order of use):

- retail, independently owned pharmacies, using NCPDP's definition of an independent pharmacy;[13]
- rural (located in a rural zip code), using the Federal Office of Rural Health Policy's definition of rural;[14] and
- the only independent pharmacy in the community (ZIP code)

Sole community independent pharmacies (i.e., the only pharmacy in a community) were identified by first excluding pharmacies in any ZIP code with more than one pharmacy.[15] Next, any remaining pharmacy in the same city as another retail pharmacy was excluded. Finally, only independent pharmacies were retained in the dataset. Pharmacy closure was identified when the provider number ceased to be included in the monthly dataset or when a closure date was specified.

Results / Findings

The number of independently owned rural pharmacies declined by 16.1 percent (from 7,624 to 6,393) between March 2003 and March 2018 (Figure 1). As described in our 2014 brief,[2] the sharpest decline occurred between 2007 and 2009, with a 7.2 percent decline in the number of these pharmacies (from 7,383 in January 2007 to 6,853 in January 2009). While there was some fluctuation between January 2009 and March 2018, the overall trend in counts of rural independently owned pharmacies during that period was downward (from 6,853 to 6,393).

Similar to rural independent pharmacies, the number of sole community independent pharmacies has declined since 2003 (Figure 2). The steep decline in the number of these pharmacies flattened around mid-2009, but a steady decline has continued.

Figure 1. Monthly Count of Rural Independently Owned Pharmacies, 2003-2018

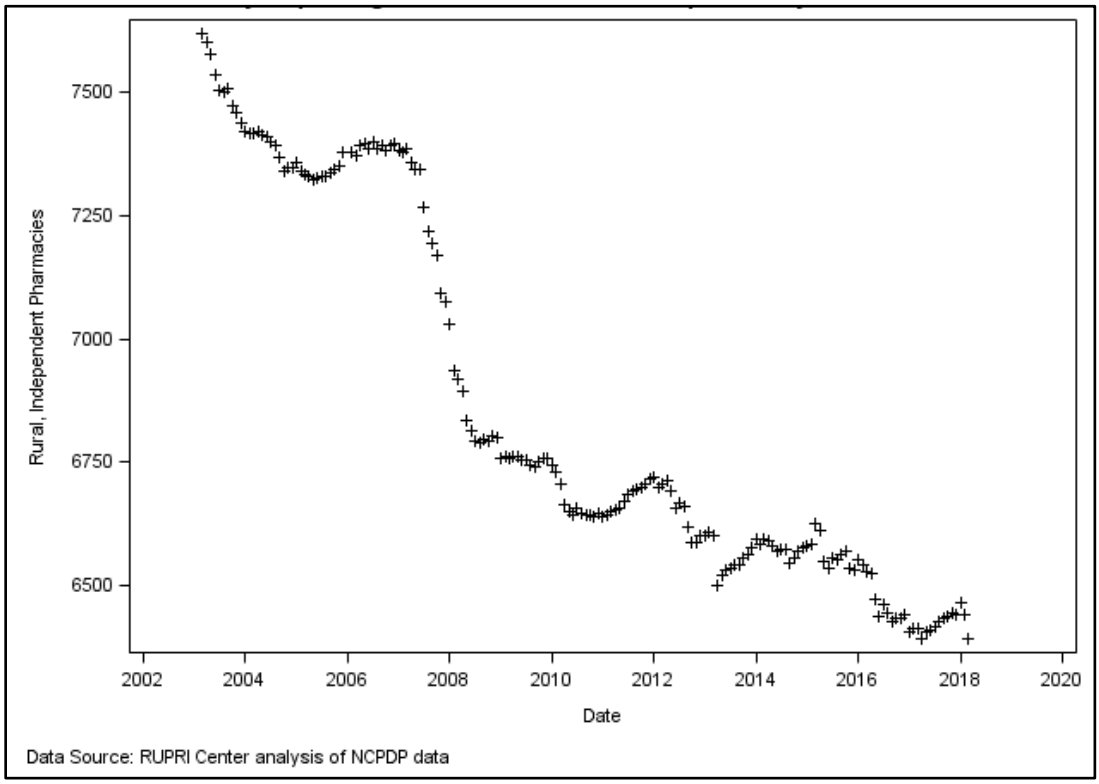

Figure 2. Monthly Count of Rural Independently Owned Pharmacies That Were the Only Pharmacy in a Community, 2003-2018

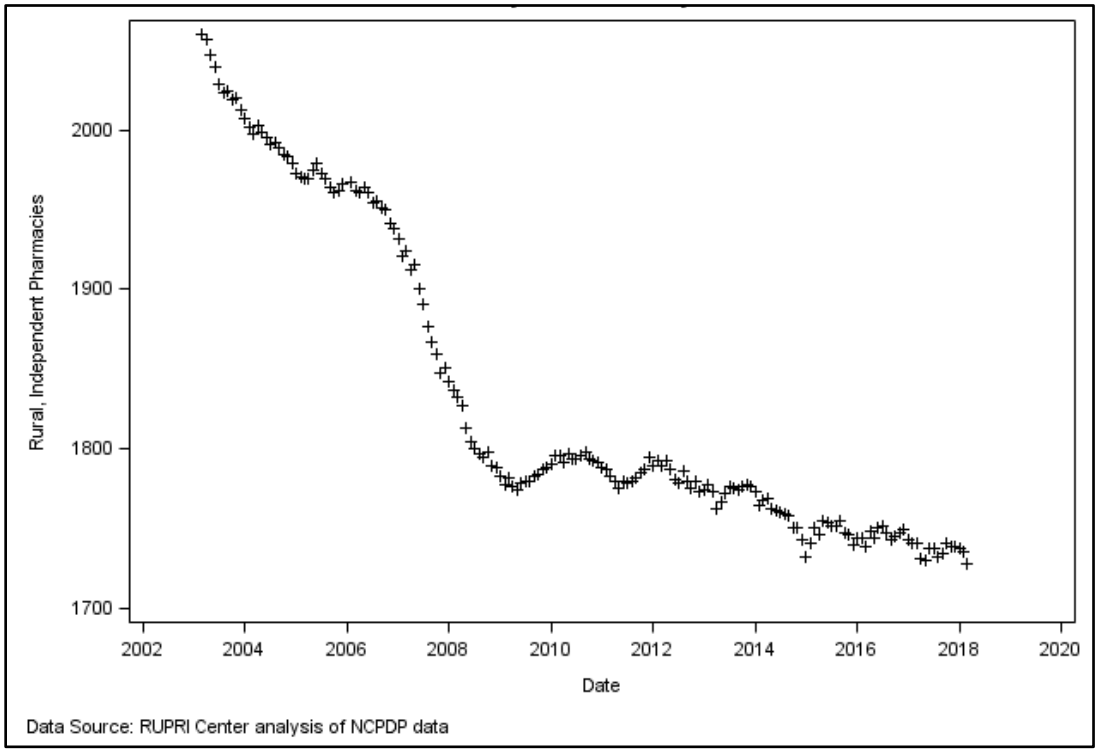

Table 1 (on Pg. 5) updates findings from earlier RUPRI Center briefs tracking the closures of rural pharmacies with data from 2014 to 2018. The number of rural communities losing their only retail (independent, chain, or franchise) pharmacy, or being reduced to a single retail

pharmacy, continued to grow. Between January 2014 and March 2018, an additional 140 communities went from having one or more retail pharmacies to having no retail pharmacy. Overall, 630 rural communities lost all local pharmacy services in the last 16 years (March 2003–March 2018), while 302 rural communities lost all but one local pharmacy.

Discussion

The sharp decline in the number of rural, independent pharmacies in the first years following Medicare Part D implementation has been attributed to the challenges, mostly financial, that the program posed to these pharmacies.[1,4,11] Although a number of studies have shown that the Part D program led to increased use of prescriptions drugs by the elderly,[16-18] this increase in sales was offset by the reduced revenue that those prescriptions provided. For many rural independently owned pharmacies, Medicare Part D replaced direct payments from cash-paying customers with low and late reimbursements from Part D plans, leaving many of these pharmacies unable to generate positive revenue from prescription sales. These fiscal challenges have made it difficult for many rural independent pharmacies—who rely heavily on revenue from prescription sales (compared to their chain pharmacy counterparts)—to stay open. The fiscal challenges posed by the Part D program are perceived to be causes of the sharp decline in rural independent pharmacies in the early years of the Part D program. However, the slower decline in the number of these pharmacies in later years may signal an "acclimatization" of some of these pharmacies to Part D's challenges. The continual (albeit slower) loss in rural pharmacies is still a source of concern given its effects on access to pharmaceutical and other essential health services for rural residents. Residents of rural communities that have lost their only pharmacy often have no choice but to travel to other communities to obtain prescriptions—a barrier for individuals with limited mobility. Mail order services are frequently cited as a means for obtaining prescription service for isolated residents, but mail order cannot provide the benefits of face-to-face consultation or the same clinical services that are available from a local pharmacy. Tele pharmacy services may provide an alternative to local pharmacies. However, diffusion of this service has been slow. It is thus important to continue to monitor trends in rural pharmacy closures and examine how future changes in the Part D program and prescription reimbursement policies impact these trends given the crucial role these pharmacies play in rural access to care.

Table 1. Number of Rural ZIP Codes, by State, Going from 1 or More Pharmacy to None, or from More than 1 to only 1, 2003-2018

	Mar 2003 – May 2009			Mar 2003 – Dec 2013			Mar 2003 – Mar 2018		
	1 to 0	>1 to 1	>1 to 0	1 to 0	>1 to 1	>1 to 0	1 to 0	>1 to 1	>1 to 0
AK	0	1	0	0	1	0	1	1	0
AL	12	8	0	14	9	0	16	12	2
AR	8	4	1	9	7	1	11	12	1
AZ	5	3	0	9	4	0	12	3	2
CA	12	3	0	14	4	0	22	6	0
CO	9	5	0	10	5	0	13	3	0
CT	5	0	1	4	1	1	5	0	1
DC	0	0	0	0	0	0	0	0	0
DE	0	0	0	1	0	0	1	0	0
FL	5	1	0	6	2	0	10	1	1
GA	14	3	1	16	3	1	27	7	1
HI	0	0	0	1	1	0	2	2	0
IA	8	2	0	16	7	0	21	10	0
ID	4	3	0	5	4	1	6	3	0
IL	9	6	0	14	11	0	14	15	1
IN	14	4	0	16	8	0	15	6	0
KS	7	6	0	8	10	1	8	13	1
KY	13	5	0	13	8	0	9	13	0
LA	14	3	0	15	6	0	20	8	4
MA	0	1	0	0	1	0	0	1	0
MD	1	1	0	2	1	0	2	0	0
ME	5	4	1	7	2	1	5	4	1
MI	17	10	0	24	11	0	26	10	1
MN	11	10	0	26	13	0	30	15	0
MO	8	4	0	8	6	0	8	8	0
MS	8	4	1	9	6	3	13	7	4
MT	9	7	0	10	8	1	8	9	1
NC	9	10	0	16	8	0	22	10	4
ND	3	5	0	5	6	0	10	6	0
NE	11	3	0	13	8	1	17	8	3
NH	1	4	1	2	5	1	2	5	0
NJ	0	0	0	0	0	0	0	0	0
NM	3	1	0	4	1	0	4	2	0
NV	1	0	0	2	0	0	2	1	0
NY	8	5	0	11	6	0	16	6	0
OH	11	6	0	18	8	0	16	10	0
OK	14	10	1	16	12	1	26	6	2
OR	4	5	0	7	4	1	10	6	0
PA	12	5	0	12	9	0	16	10	1
RI	0	0	0	0	0	0	1	0	0
SC	1	1	1	2	3	1	7	3	1
SD	6	5	0	10	5	0	9	8	0
TN	5	2	0	5	1	0	8	4	1
TX	27	15	0	32	18	0	44	24	2
UT	3	0	0	3	0	0	2	0	1
VA	8	5	1	13	4	1	15	5	1
VT	4	2	0	3	2	0	7	2	1
WA	6	4	0	11	6	0	14	9	0
WI	15	3	0	18	7	1	22	7	1
WV	9	4	0	9	3	1	13	1	2
WY	0	2	1	2	1	1	1	0	0
Total	**359**	**195**	**10**	**471**	**256**	**19**	**589**	**302**	**41**

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12. dataQ Pharmacy Database. National Council for Prescription Drug Programs. at http://www.ncpdp.org/Products/dataQ%C2%AE-Pharmacy-Database.)
13. NCPDP defines an independent pharmacy as one to three pharmacies under common ownership.
14. Consistent with the definition that the Federal Office of Rural Health Policy (ORHP) uses for program eligibility, we define “rural” as ZIP codes classified as Rural Urban Commuting Area (RUCA) codes 4-10.6 inclusive, including those that are within metropolitan areas. Since we are using ZIP codes in this analysis, we have not extended the definition to include large area census tracts within metropolitan areas with RUCA codes 2 and 3 that are “at least 400 square miles in area with a population density of no more than 35 people”, which ORHP also considers rural (https://www.hrsa.gov/rural-health/about-us/definition/index.html). The 16-year scope of this project spans the 2010 decennial census which means that there are a number of locales that were redefined as non-rural owing to the spread of metropolitan areas. RUCA codes from 2003 were used for this report in order to remain consistent with the findings from previous reports.
15. This method may retain a small number of isolated pharmacies in communities embedded in geographically large ZIP codes. However, this approach assures that we will not include two pharmacies in neighboring communities because each is in a separate community. Thus, this is a conservative estimate of total pharmacies that are the only ones in their communities.
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