Decentralization Can Improve Equity, but Can It Be Sustained?

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Abstract
A major theoretical issue about health system reform involving decentralization has been whether it promotes equity of health system funding. An article by the principal author and others in 2003 showed that, under certain conditions and policies, decentralization improved the equity of allocation of financial resources to different income levels of municipalities in Colombia and Chile. Another recurring issue has been whether reforms can be sustained over time. In a follow-up study in 2015, we found that the equity of national allocations was sustained even though the allocation rules for intergovernmental transfers and insurance funding sources had changed, as long as per capita allocation rules were retained. Nevertheless, the wealthier municipalities in Chile were able to increase their own source funding contributing to a larger gap between wealthy and poor municipalities, suggesting that in order to assure continued equity some compensation for these funds be included in intergovernmental transfer rules or that local source funding be restricted by national policy. These reforms may be more likely to be sustained if they become embedded in existing financial systems and if they receive support of status quo constituencies.

Almost 20 years ago, researchers from the Harvard School of Public Health, Universidad de Chile, Bitran y Associados and Johns Hopkins Medical Institutions published a study in the Bulletin of the World Health Organization showing that in both countries a policy to decentralize their health systems had been able to improve the allocation of national and local funds for health to make them more equal among municipalities.¹ This finding was unusual since many authorities on decentralization at that time argued that decentralization was more likely to increase inequality as richer communities could use their own resources as well as greater political influence to gain more national resources than poorer communities.²—⁴ Since that time, increased interest in the sustainability of health reforms has emerged both in the literature on the transition from donor funded programs to national sources and on recent political economy literature on the fate of the welfare state and of recent health reforms.⁵—⁷ In this article, we address the question of whether the improved equity of decentralization in Chile and Colombia was sustained in a period following the original study.

Overview of the Health Systems in Chile and Colombia

Chile and Colombia were good countries to study decentralization as they both initiated reforms that involved decentralization in a similar historical period around the 1990s when decentralization and financing reforms were being advanced in many countries. Both Chile and Colombia are middle-income Latin American countries that implemented similar health reforms programs during the late twentieth century. These reforms are similar in expanding the private sector in both health insurance and the provision of care, changes in the public organization of health-care services, decentralizing some components of the financing and provision of care to lower levels of the unitary government systems, extending insurance coverage to over 90% of the population, offering wider choice to patients, and encouraging significant increases in investment in the health sector.

The major differences between these two countries were that Chile had a dominant single public provider system funded by tax revenues and by a social insurance system, and Colombia had two public provider systems,
one managed by the Ministry of Health and a separate
social insurance system with its own parallel provider
system. While both systems had private providers, the
private sector in Colombia was more developed and
institutionalized.\(^8\) In the 1990s Chile’s reform created
two separate systems, one the traditional public health
services funded by tax revenues and social security taxes
and the other a competitive private insurance system
funded by social security taxes that could only purchase
services from private providers.\(^9\) Colombia’s reform also
involved a two-tiered system—one for those who con-
tributed a social security tax, the contributory regime,
and one for those who were financed by the state, the
subsidized regime. These regimes had separate benefits
packages (POS—Obligatory Health Benefits, and POS-
S—Obligatory Health Benefits for Subsidized Regime).
The POS-S had half the premium (UPC—Per Capita
Unit) of the POS. However, unlike Chile’s reform both
the public social insurance system and the private insur-
ance system were encouraged to use both public and
private providers of health services.\(^10\)

**Decentralization, Equity, and Sustainability**

There are many different arguments in favor of and
opposed to decentralization.\(^11\) Some of the articles on
decentralization at the time of the original study in the
1990s questioned whether decentralization could achieve
equity objectives. The underlying proposition for this is the
idea that wealthier locations are likely to have more
resources and have more political power than poor loca-
tions and therefore are likely to be able to provide more
funding from both national and local sources for local
priorities than are poor locations.\(^12\) The usual argument
against decentralization is that a centralized system is able
to allocate according to equity objectives and would be
able to overcome the differences in local financing by allocating
resources on an equity basis.\(^13,14\) Since the 1990s systematic
reviews of the literature on equity and decentralization
have found mixed evidence and point to the importance of
variations in context and other factors.\(^15,16\) This article
and the previous publication in 2003 contribute to the
theoretical literature with the finding that, at least under
some conditions and with specific policies, decentralization
can result in a more equitable allocation of resources.

The study published in the *Bulletin of the World
Health Organization* in 2003 found that contrary to
some expectations at the time, the centralized health
systems (prior to decentralization) were more inequitable
both in terms of local and national allocations of funds
for the health sector. The health reforms in the 1990s in
both Colombia and Chile decentralized the systems and,
in the process, both the allocations from national sources
and from local own source revenues were more equitable.
Specifically on a per capita basis, the difference between
allocations to rich and poor municipalities were more
equal after decentralization.\(^1\) Details of this study are
presented below to compare those findings to the subse-
quently period in order to address the question of whether
these findings were sustained.

There is current interest in the sustainability of
reforms, especially in the context of the reduction of
international funding for many reforms by the Global
Fund and USAID, among other donors.\(^17\) In a narrow
definition of sustainability, the concern is that specific
activities of the reforms are maintained at a significant
level for at least a reasonable period after the reforms are
initiated and implemented.\(^18\) Much of this literature
emphasizes the integration of funding sources both
national and local and the creation of constituencies
which have an interest in continuing the reform. In
addition, there is concern in the political economy lit-
erature about the sustainability of commitment of dif-
ferent governments with different ideological
perspectives on welfare state reforms.\(^6\) Pierson in partic-
ular notes that reforms like the welfare state now repre-
sent the status quo with constituencies dependent on
those reforms and therefore are hard to change even
when governments ideologically committed to refrench-
ment of the reforms come to power.

In the years after 2003, significant changes in the
manner in which municipalities were funded in Chile
and Colombia raised a critical question about the sustain-
ability of the findings in the original study. Would the
improved equity in allocations be sustained or would they
follow the prediction that wealthier communities would
be able to restore their favorable treatment from national
sources and increase their own source funding for health
services at a faster rate than poorer communities?

The lead author of the original study along with
counterparts from the *Instituto de Salud Publica
Andres Bello* in Chile and *PROESA-Centro de Estudios
en Protección Social y Economía de la Salud* in Colombia
conducted a study in the period following the original
study after 1996 up to 2015 to assess this question of
sustainability. The respective institutions funded this
follow-on study. This article summarizes the original
study and presents the findings on whether the changes
in policy led to sustained equity of allocations at the
municipal levels in both countries.

**Decentralization in Chile and Colombia**

In the 1990s, both Chile and Colombia were considered
to be more decentralized than other countries in Latin
America.\(^8\) In Chile, toward the end of the Pinochet
dictatorship, primary health care clinics and their staffs were transferred from the central Ministry of Health to the municipal governments. Municipal governments were expected to deliver a prescribed package of primary care services with funds from the central government but also expected to provide additional funding from their own sources, mainly commercial and “sin” taxes. This arrangement was continued by the democratic governments after 1989, with some additional services, and eventually a restored national salary scale for the staff to replace the local determination of salaries.19,20

The decentralization in Colombia was more complicated, with a series of significant reform laws. Law 60 in 1993 established decentralization to both the department (similar to provinces in other countries) and the municipal levels. National and local sources of funds were to be assigned according to specific rules, including percentages earmarked for health at the different administrative levels.21,22 Later that year Law 100 established a “managed competition” insurance and provision arrangement that was designed to provide a “contributory regime” of private insurance for wealthier populations that purchased services mainly from private providers, and a more restricted “subsidized regime” of insurance agencies (EPS-S) which mainly purchased services from the public providers. The two regimes each had a uniform package of services and a single price, the contributory regime initially with more services and twice the price of the subsidized regime. Over time, the Law 60 funds, called the “supply side funding,” were significantly reduced and both public and private providers had to compete for insurance funding, called the “demand side” funding. However, this process took some time. At the time of the initial study the supply side funding had not been immediately reduced, putatively to give the public sector time to improve capacities and become more competitive with private providers.

In both countries the decentralization processes were directed to the services of public providers and not to private insurers or providers. In Colombia, however, the expansion of the subsidized regime was achieved by allocating a greater share of the fiscal transfers to local governments to the funding of such regime, which relies partially on private insurance agencies and providers. In addition, Chile only decentralized its primary care system while Colombia decentralized all public services, including hospitals.

The Original Study Methodology and Summary of Findings

Supported by a USAID funded project, two country teams collected data on health financing from both national and municipal sources in Chile and Colombia. The data on Chile for the years 1991–1996 were provided by the Ministry of Interior (SEDERE). The data on Colombia for 1994–1997 were provided by the National Planning Agency. The several sources of financing for each country were presented as national transfers to municipalities and the own-source local revenue allocations of municipal budgets for each of the years of the study. Both were converted to per capita amounts and presented in terms of the difference between the wealthiest and poorest decile of municipalities, based on municipal local revenue.

The Chilean data showed that over the 5 years the difference in combined national and local funding, which in 1991 was 2.2 times more per capita in the wealthiest municipal decile than in poorest by 1996, was reduced to 1.6 times more. Broken down by funding sources the study found that by 1996, the difference in national funding had been reduced to 0.9 times different with the poorest municipalities getting the highest per capita funding. The local “own-source” funding also became more equitable. The poorest municipalities were spending similar per capita amounts from their own source revenue to all other deciles but the wealthiest.

The Colombian data were even more significant, reducing the gap between wealthiest and poorest from 6.1 times more for national sources, and from 41.5 times more for local municipal sources in 1994, to 1.18 times and 11.9 times, respectively. In both countries the majority of the funds came from the national sources, but a significant portion came from the municipalities “own-source” revenues. Funding from both sources significantly increased in the 1990s. The studies concluded that the process of decentralization had resulted in improved equity of allocation from both national and local sources.

Policy Changes in Chile and Colombia

In the 1990s both countries had several funding sources for the national intergovernmental transfers to municipalities for their health services, and the municipalities were encouraged to provide local source funding, in some cases from local “sin” taxes earmarked for health. In both countries, the manner in which these funds were assigned changed in different ways.

In Chile the national funding sources in the 1990s were managed by the Fondo Nacional de Salud (FONASA), a semi-autonomous national agency which provided the intergovernmental transfers to municipalities based on a “ceiling” for each municipality (originally based on its historical budget but later negotiated in a nontransparent manner).23 The funds came from a national budget source for reinforcing primary health care in general and a separate set of assignments for specific primary care program activities.
In the mid-1990s the national sources were combined into a “capitation” assignment based on three criteria: population size, a basic per capita amount based on cost studies for primary care services, and adjustments for ruralness and municipal income. National sources generally increased over time and additional source of funds for primary care came from the Guaranteed Health Access (GES) reforms of 2005 and were added to the capitation calculation.24

In Colombia, the situation was more complex. The national sources in the 1990s were part of Law 60 and came from the situado fiscal, which passed through the departments to the municipalities, and the participación ingresos corrientes, which was sent directly to the municipalities. The situado fiscal was subject to constitutional earmarking with some limited choice allowed at the department level. Locally collected “sin” taxes (excise taxes on tobacco, alcohol and lotteries) were explicitly earmarked for the health sector.25

The process of reform in Law 100 that created the subsidized regime and the EPS-S’s was slowly implemented. This process had little effect on equitably allocating resources across regions but over time funding from the national sources moved from the situado fiscal and participación ingresos corrientes to insurance payments to the EPS-S’s. The contributory regime also provided a small cross-subsidy of 1% of payroll to finance the subsidized regime.

In 2001, Law 715 entirely replaced Law 60 and tried to reconcile decentralization arrangements with the managed competition approach of Law 100. Transfers were simplified. “Situado fiscal” and “participación ingresos corrientes” were replaced by a single system called SGP (Sistema General de Participaciones). Twenty-three and a half percent of the transfers received by local governments were to be allocated to health (the rest to education and water and sewage). Within each local government, health transfers were split in three categories: a) collective public health, b) supply of services in public facilities for population not yet enrolled, and c) demand side services, which are capitated payments to EPS for enrolling people in the subsidized regime. Category b was meant to be temporary. Formulas were such that, within each local government, the share of the health resources pie destined to demand subsidies increased up to 80% to finance the subsidized regimen and the share of supply subsidies in public facilities shrunk to 10%.21,26,27 Spending in collective public health was fixed at 10% of the received health-related transfers and it was distributed across municipalities according to the population not yet enrolled, poor local population and local health risks and administrative capacities (Decreto 159/2002). The subsidized regime also started receiving funds directly from the Presupuesto General de la Nación—PGN (Law 1122/2007). Thus, health transfers have been taking into account poverty criterion over time.b

In order to simplify the flow of resources the fiscal transfers destined to the subsidized regime are no longer sent directly to local governments. Rather, since 2011, they are sent by the central national fund directly to EPS in the subsidized regimen on behalf of local governments, based on the recognized number of enrollees in the subsidized regime (Law 1438/2011).

**Findings of the Follow-on Study**

The follow-on study was done by teams in Chile and Colombia utilizing available financial data cited in the tables. The methodology followed the same basic approach of the earlier study that compared yearly per capita financial data on national and local funding sources for municipalities arranged by decile from the lowest income municipalities to the wealthiest. The objective was to see if the reduced gap between the richest and poorest municipalities was sustained in a following period for which there was similar data to the data collected in the original study. Funding for the study was limited to collecting and analyzing data from the period 2001 in Chile and 2005 in Colombia up to 2013 in both countries and additional funding was not available to analyze data for later years.

The follow-on study in Chile found some variation year by year over the period 2001 to 2013 but a comparison of the first and last years in Table 1 is consistent with the general trend. Similar to the 1990s study the 2000s study found that the gap between wealthier and poorer municipalities overall was maintained, and over that period the gap was modestly reduced further (from 1.8 times to 1.6 times). The FONASA funds gap between wealthiest and poorest municipal deciles between 1996 (the last year of the original study) and 2001 (the first year of the follow-on study) had been further reduced from 1.6 times to 1.2 times and that gap remained the same in 2013 at the end of the follow-on period. However, the gap in own source municipal funding became more unequal, with the wealthiest decile almost doubled, increasing from 4.8 times to 8.0 times more.

There was a marked increase in funding from all sources over the period 2001–2013, and the municipal contribution on average declined from 30% to 15% of total public funding.

In Colombia, the overall gap between the wealthiest and poorest deciles of municipalities over the period 2005–2013 reduced from 1.6 times to 1 time. (see Table 2)
Table 1. Municipal income for health in Chile by source and municipal income decile: comparison of 2001 and 2013 in real per capita (base year 2013) and PPP USD.

| DECILES | 2001 | 2013 |
|---------|------|------|
|         | Average per capita income FONASA | Average per capita municipal income | Average per capita income FONASA + average per capita municipal income | Average per capita income FONASA | Average per capita municipal income | Average per capita income FONASA + average per capita municipal income |
| 1       | $ 88.1 | $ 17.8 | $ 105.9 | $ 151.9 | $ 8.3 | $ 160.2 |
| 2       | $ 84.5 | $ 35.1 | $ 119.6 | $ 125.7 | $ 10.6 | $ 136.3 |
| 3       | $ 92.8 | $ 24.6 | $ 117.4 | $ 145.8 | $ 10.0 | $ 155.8 |
| 4       | $ 95.6 | $ 26.0 | $ 121.7 | $ 149.4 | $ 9.5 | $ 158.9 |
| 5       | $ 99.5 | $ 42.4 | $ 141.9 | $ 165.0 | $ 12.4 | $ 177.4 |
| 6       | $ 103.4 | $ 38.1 | $ 141.5 | $ 145.2 | $ 19.8 | $ 165.0 |
| 7       | $ 107.7 | $ 39.1 | $ 146.8 | $ 159.1 | $ 15.4 | $ 174.5 |
| 8       | $ 109.9 | $ 30.9 | $ 140.8 | $ 162.0 | $ 23.4 | $ 185.4 |
| 9       | $ 111.1 | $ 51.8 | $ 163.0 | $ 157.4 | $ 22.0 | $ 179.4 |
| 10      | $ 109.6 | $ 86.1 | $ 195.7 | $ 186.5 | $ 66.5 | $ 252.9 |
| Average | $ 100.2 | $ 39.2 | $ 139.4 | $ 154.8 | $ 19.8 | $ 174.6 |
| decile 10/1 | 1.2 | 4.8 | 1.8 | 1.2 | 8.0 | 1.6 |

Note: Purchasing power parity (PPP) conversion factor year 2013 equal to 349.68 World Bank.

As noted above the data sources were complicated by the change in funding mechanisms and it was not possible to disaggregate the municipal “sin” taxes from the national sources of funding.

Discussion

In general, the follow-on studies showed that the greater equity of allocation of funding achieved in the 1990s was sustained in the early 2000s (up to 2013), even though changes in how the funds were assigned in both countries. In both countries the new funding assignments actually further reduced the gap in total per capita spending between the wealthiest and poorest deciles. This occurred in Chile even though the gap in “own-source” funding widened in part since the municipalities on average became more dependent on the more equitable national funding sources. We did not find a similar effect in Colombia.

The initial funding mechanisms in the 1990s in Chile were mainly a function of changes from “historically based budgets” to “needs base formula” which were based largely on population size, adjusted in minor ways for ruralness and municipal income. In Colombia, the “supply side” funding in the 1990s was similar to the Chilean “historically based budget” and the national sources were shifted dramatically when a “needs based formula” was applied. In the 2000s as the subsidized funding came to dominate the new funding arrangements through “demand side” assignment to EPSs the funds were assigned also according to a population sized per capita basis.

Table 2. Municipal income for health by source and decile of municipal income 2005 to 20,013 compared for Colombia in real per capita (base year 2013) and PPP USD.

| DECILE | Supply side resources (transfers + subsidies + public health provision) | Demand side resources (contributory and subsidized regimen) | Total health resources (supply side and demand side) | Supply side resources (transfers + subsidies + public health provision) | Demand side resources (contributory and subsidized regimen) | Total health resources (supply side and demand side) |
|--------|-------------------------------------------------------------------------|------------------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------------------|------------------------------------------------------------|--------------------------------------------------|
| 1      | $ 9.0                                                                   | $ 309.9                                                    | $ 314.2                                          | $ 8.1                                                                   | $ 476.1                                                    | $ 491.7                                          |
| 2      | $ 13.7                                                                  | $ 278.6                                                    | $ 314.9                                          | $ 9.2                                                                   | $ 465.9                                                    | $ 479.6                                          |
| 3      | $ 18.6                                                                  | $ 271.8                                                    | $ 347.0                                          | $ 10.7                                                                  | $ 455.5                                                    | $ 469.9                                          |
| 4      | $ 27.1                                                                  | $ 285.3                                                    | $ 370.8                                          | $ 12.1                                                                  | $ 442.7                                                    | $ 456.8                                          |
| 5      | $ 44.1                                                                  | $ 276.4                                                    | $ 376.4                                          | $ 14.2                                                                  | $ 441.2                                                    | $ 456.9                                          |
| 6      | $ 54.9                                                                  | $ 289.0                                                    | $ 374.9                                          | $ 15.6                                                                  | $ 437.5                                                    | $ 454.5                                          |
| 7      | $ 85.4                                                                  | $ 293.1                                                    | $ 373.0                                          | $ 17.5                                                                  | $ 431.6                                                    | $ 454.9                                          |
| 8      | $ 139.6                                                                 | $ 304.6                                                    | $ 367.4                                          | $ 16.0                                                                  | $ 430.6                                                    | $ 442.0                                          |
| 9      | $ 160.2                                                                 | $ 351.0                                                    | $ 404.4                                          | $ 19.4                                                                  | $ 441.9                                                    | $ 463.3                                          |
| 10     | $ 179.2                                                                 | $ 396.3                                                    | $ 491.9                                          | $ 47.2                                                                  | $ 470.8                                                    | $ 481.6                                          |
| Average | $ 272.2                                                                 | $ 305.2                                                    | $ 377.4                                          | $ 16.2                                                                  | $ 449.1                                                    | $ 465.3                                          |
| decile 10/1 | 20.0                                                                   | 1.3                                                       | 1.6                                              | 5.8                                                                     | 1.0                                                        | 1.0                                              |

Note: Purchasing power parity (PPP) conversion factor year 2015 equal to 1276.47 World Bank.
Other literature supports the equity impact for per capita reimbursement mechanisms. However, per capita mechanisms assume everyone has similar access to health care and have similar health risks. They therefore may require adjustments for population density and health risks, among other factors. In Chile and Colombia the allocation formula did adjust for population densities.

Part of the explanation for why these reforms were sustained may come from the sustainability literature. Following the sustainability literature’s propositions, both Chile and Colombia implemented decentralization reforms in ways that integrated the funding for the health sector into both central and local funding streams and by giving more responsibility to local government created constituencies interested in continuing these funding sources to maintain the increased levels of service that these funds initiated. It became harder to reallocate national intergovernmental funds from poor municipalities that now depended on them, and those communities had some influence in the democratic political regimes in both countries after Chile became a democracy again in 1989. In terms of Pierson’s propositions, the new arrangements were now the status quo and again the interests of both wealthy and poor were not to change the status quo significantly. Indeed, the general consensus of the political elites for almost the first two decades of this century was to maintain the status quo.

Limitations

In methodological terms this is an observational study and was not conducted with controls as a random controlled trial might do to attribute causality to the findings. It is difficult to do a random controlled study of decentralization in countries that apply the same policies to all observation units. Nevertheless, we have attempted to account for other explanations such as the changes in insurance and benefits packages for the allocations changes observed which were most likely to be the result of the decentralization policies we are addressing. The findings, although they show sustainability over the period studied (2001–2013), are nevertheless time bound to that period and may not have been sustained in the subsequent period (after 2013), especially in conditions of shock like populist protests and the Covid pandemic. Also the results may hold only for the conditions in the two countries studied so generalizing from their experiences to other countries and other kinds of policies needs to be done with caution. Finally, the data used do not account for private sector sources which would likely show greater total expenditure differences between wealthier and poorer municipalities.

The findings of the follow-on study are limited to the period data were available (up to 2013) and are therefore not necessarily indicative of the current situation. Research funding limited the ability to assess the later period. The analysis only suggests that during a substantial period after the original study similar equity conditions were sustained. Many other changes in policies and conditions might change the results of future studies, including populist protests and the Covid 19 pandemic.

Conclusions

The follow-on study shows that the original finding supporting the theory that decentralization reforms can result in improved equity in funding allocations in both countries was sustained at least for a period of 15 years even as the systems were further reformed in part with new social insurance arrangements. As long as the funding assignments from national sources followed a similar per capita-based rule, the improved equity was sustained.

The Chilean study, however, shows that wealthier municipalities may be able to increase their own source funding more than poorer municipalities, supporting the theory that decentralization might result in more inequities. This effect, however, was minor given the much larger contribution from intergovernmental transfers. If that situation were to change, policies might address it by increasing the national portion of funding that the poorer municipalities rely on or by limiting the ability of local governments to use their own source revenues.

Lessons for other countries are that decentralization, because in part it incorporates new funding assignment rules, can be a source of improved equity and this equity can be maintained even through shifts in those rules, as long as the basis for allocation remains primarily based on capitation.

In broader terms, the findings suggest that future studies should assess the sustainability of these equity-oriented reforms to see if they might be more likely if the reforms become embedded in the financing structure of the country, as in this case, for both national and local funding sources, and if the reforms create sufficient constituencies who can support the changes that are now part of the status quo.

Notes

a. For comparative purposes between the countries and over time the average per capita in 1997 in US dollars in Colombia was $57.77 and in Chile in 1996 was $33.57. Chile only decentralized primary care, while Colombia decentralized both primary and hospital care, partially explaining the country difference.
b. The legislated funding arrangements in Colombia are limited to the basic packages of services, currently known as PBS (Plan Básico de Salud). However, through judiciary decisions and exceptional mechanisms, funding has been allocated de facto for services not in the package. This “non-PBS” funding does not follow any explicit rule regarding the target population or geography. Although this ad-hoc funding source is important, especially for tertiary care, it remains an exception to the general funding and decentralization schemes.

Acknowledgments

We would like to acknowledge our debt to the authors of the original 2003 article and to the suggestions of Jaime Cardona, Michael Reich and the anonymous reviewers on earlier drafts of this article.

Disclosure of Potential Conflicts of Interest

No potential conflict of interest was reported by the author(s).

Funding

This work was supported by a Faculty Grant from the David Rockefeller Center for Latin American Studies, Harvard University and by salary support from the Instituto de Salud Publica Andres Bello of the Universidad Andres Bello, Santiago, Chile and PROESA-Centro de Estudios en Protección Social y Economía de la Salud, Universidad ICES, Cali, Colombia.

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