Seven innovation strategies to win patients and staff
Executive summary

Healthcare service providers face significant challenges in attracting patients and retaining qualified staff. The most obvious way to outshine one’s competitors is to offer superior clinical capabilities, but such innovations can seem prohibitively expensive. This document presents seven innovation strategies that successful providers use to navigate this complex terrain, enhancing their clinical capabilities in a way that attracts patients, entices and retains clinicians, and builds a reputation for state-of-the-art, world-class care:

1. Investing in new diagnostic and therapeutic modalities
2. Implementing patient-centered process innovations
3. Including clinician leadership within management
4. Pursuing innovation in eHealth
5. Exploring new service delivery models
6. Building expertise in certain specialties
7. Cultivating thought leaders among clinical staff

“Through the Healthcare Executive Alliance initiative, we would like to support you and your teams to find insights, ideas, and solutions for succeeding in today’s quickly evolving healthcare markets. Our goal is to be your inspiring partner, helping you to achieve better outcomes and reduce costs. As a starting point, we developed this set of white papers to help identify key challenges in your healthcare organization, with some first outlines on improvement methods.”

Dr. Bernd Montag
Chief Executive Officer
Siemens Healthineers
Clinical capabilities are among the strongest assets that healthcare systems can use to attract patients as well as qualified clinicians. For instance, cultivating particular expertise in certain in-demand specialties can do much to bolster a hospital’s reputation. Then there are also other, less high-profile patient-centered enhancements that can nonetheless make a difference in efficiency and quality of patient care, such as monitoring systems that interface directly with each patient’s electronic medical record—saving clinicians time while enhancing accuracy. Such investments can not only help improve outcomes, but also help service providers comply with national quality benchmarks.

It goes without saying that all service providers want their institutions to offer top-notch, state-of-the-art care to every patient, but downward cost pressures can sometimes make this aspiration seem out of reach. This white paper examines seven strategies hospital systems can pursue to advance their clinical capabilities in the face of today’s tough economic challenges.
The healthcare market is dominated by global trends

such as digitization, rapid technological and medical progress, and above all, demographic change. A growing and aging world population is creating increasing demand for health services. There are already about 50 million people, most of them elderly, now living with multiple chronic diseases (multimorbidity) in Europe alone. Worldwide, the incidence of “lifestyle diseases” such as cancer or diabetes will undoubtedly continue to increase. The global burden of disease is shifting from infectious diseases to non-communicable diseases, with chronic conditions such as heart disease being the main causes of deaths globally. An increasing volume of patients needing services, coupled with downward cost pressure from insurers, is forcing healthcare providers worldwide to become more efficient. New medical, pharmacological, and technological advances are also creating increasing demand for services by making possible previously impossible diagnostic approaches and treatments. In order to remain competitive, service providers are expected to offer these capabilities despite the need to contain costs. The ability to anticipate these trends and develop innovative business models and processes in response is becoming a key success factor for hospitals. This white paper examines seven strategies that hospital systems can employ to advance their clinical capabilities, respond to the evolving challenges of healthcare today, and attract both clinicians and patients.

Seven innovation strategies to advance clinical capabilities

1. Invest in new diagnostic and therapeutic modalities to improve outcomes and expand services

The most obvious way for service providers to augment their clinical capabilities is to offer the very latest diagnostic and therapeutic technology. Many hospitals forego such investments in an effort to control costs. However, pure purchase-price considerations can be shortsighted when it comes to making these investment decisions – because new technologies can potentially save money in the long run by helping to improve outcomes.

For instance, innovative imaging techniques can significantly improve the speed and reliability of diagnosis, and hence of treatment success. They can also reduce the length of hospital stays, and as a result, the overall cost of treatment. Advanced surgical techniques can likewise contribute to earlier patient discharge as well as reductions in post-treatment complications. For instance, studies show that image guidance and navigation in spine surgery can significantly reduce re-operation rates. Another example is a high-tech improvement to the surgical implantation of pacemakers into patients with heart failure, which is being pioneered by specialists at Guy’s and St Thomas’ Hospital using software developed by clinicians and engineers at King’s...
Implement patient-centered process innovations

Process innovations that are close to the patient, and innovations in the field of care, don't have the same obvious marketing appeal as a new robotic surgery suite. However, these innovations nonetheless do increase patient and employee satisfaction, as well as treatment outcomes and process quality, and hence ultimately help boost a hospital’s reputation and market success. A recent analysis of the effectiveness of using a Lean management approach to leverage innovation in a hospital in the United Arab Emirates found that this approach markedly and sustainably improved patient access to services, reduced patient waiting time, improved safety and patient satisfaction, and supported the hospital culture of empowering front-line caregivers.  

Novel clinical procedures and processes can also have a positive effect on medical staff – for example, by reducing the workload, or promoting the flow of information and knowledge sharing along the treatment chain. Last but not least, employee satisfaction has a positive impact on customer or patient satisfaction.  

And ultimately, no service providers want to be the last ones in their region to offer diagnostic and therapeutic capabilities that are being touted by all of their competitors. Therefore, navigating this challenge requires an outcomes-based investment strategy for acquiring the new equipment necessary for remaining competitive, along with a fleet management approach to ensure that each new investment continues to provide clinical value throughout its lifetime.

Companies that systematically focus on innovation in products, services, business models, and customer targeting grow more quickly, generate more revenue, and are more successful. The same goes for healthcare providers, for whom innovation has become a key success factor. "The only way we will improve outcomes and quality for patients in a tighter economic climate is through innovation – both incremental and disruptive," says Sir David Nicholson, long-time Chief Executive of Britain’s National Health Services (NHS). "More of the same is just not an option," adds Nicholson, who devoted his entire career to the NHS: "We need to change the way healthcare is delivered, where it is delivered, who delivers it, and how patients access services."

“More of the same is just not an option... The only way we will improve outcomes and quality for patients in a tighter economic climate is through innovation.”

— Sir David Nicholson, former Chief Executive of the NHS, United Kingdom
Ideas and approaches for promising innovations are not just found in one’s own company or industry. According to the consulting firm PwC, collaborative network approaches (such as open innovation and co-creation) with a wide variety of partners, such as customers, competitors, and companies in other industries, are key success factors for market-driven innovation.¹⁰

So, just like companies in the business and academic sectors, hospitals benefit from participation in innovation networks. To be able to offer patients new treatment options, they need access to new medical procedures. Often, these are based on disruptive new technologies, e.g. minimally invasive surgical techniques, new diagnostic methods, or personalized, gene-based therapies. Participation in research networks and initiatives paves the way for innovative ideas in the day-to-day running of hospitals, especially given that such joint projects are state-funded in many countries.

A particular challenge for companies across all industries is how to create appropriate structures for innovation and develop an effective innovation culture. So while approximately 61 percent of all companies worldwide have set up formal innovation structures, and 44 percent also have separate innovation units in their core markets,¹⁰ innovative ideas are often not effectively put into practice, according to a PwC survey. Larger companies especially often labor under complex, fragmented structures and a silo mentality, which hinder company-wide innovation.¹⁰ Systematic innovation management is not very widespread either, especially in the healthcare sector: Only 27 percent of healthcare executives say their institutions formally manage innovation, which is critical to achieving breakthrough results.¹¹

Healthcare providers with a strong culture of innovation that runs through all business sectors, and promotes ingenuity and knowledge sharing, are especially successful. This was demonstrated in a study of more than 100 German hospitals, conducted by the University of Kiel. On average, the hospitals’ operating results declined from 2005 to 2007. However, some companies were able to maintain or improve their operating results. The researchers found that the main reasons for this success involved a differently structured innovation portfolio and a more systematic approach to innovation management.

First, the successful benchmark hospitals introduced patient-centered process innovations much more frequently, as well as innovations in their care offerings. Thus, they systematically increased patient and staff satisfaction, treatment and process quality, and hence their reputation and market success. The remaining hospitals, by contrast, primarily used non-patient-focused, multiagency process innovations primarily intended to reduce costs and increase efficiency.

The benchmark hospitals also had a clearer strategy. They actively involved their employees in innovation projects, had formal processes, and appropriately allocated responsibilities for innovation projects.¹²
Innovation Leads to Success

Research by Kiel University shows that commercially successful hospitals are more systematic about cultivating a culture of innovation than their less successful competitors.12

<table>
<thead>
<tr>
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<th>Most successful hospitals</th>
<th>Least successful hospitals</th>
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<tbody>
<tr>
<td><strong>Proactivity:</strong></td>
<td>69%</td>
<td>53%</td>
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<tr>
<td>Innovation is initiated and introduced at an earlier stage compared to competitors</td>
<td></td>
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<tr>
<td><strong>Focus on analysis:</strong></td>
<td>67%</td>
<td>51%</td>
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<tr>
<td>Data is systematically collected and decision criteria are systematically analyzed</td>
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<td><strong>Reflection:</strong></td>
<td>73%</td>
<td>61%</td>
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<td>Products and processes are [continually] examined/scrutinized</td>
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<tr>
<td><strong>Focus on learning:</strong></td>
<td>62%</td>
<td>53%</td>
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<td>Learning is understood as a competitive factor. There are mechanisms in place for recording and sharing knowledge</td>
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<tr>
<td><strong>Innovation process:</strong></td>
<td>59%</td>
<td>51%</td>
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<tr>
<td>Clear allocation of responsibilities, defined stages and decision points</td>
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<td><strong>Projects:</strong></td>
<td>84%</td>
<td>72%</td>
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<td>Clear allocation of responsibilities, written project orders/assignments</td>
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<td><strong>Intensity of planning:</strong></td>
<td>71%</td>
<td>57%</td>
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<td>One’s own innovation activities are compared with those of competitors</td>
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Communication and a consistent, comprehensible strategy implementation have a strong influence on the success of innovation. But without metrics, it is difficult to define what success looks like, let alone how to implement it. And without communication, stakeholders won’t know what their companies are doing. Here, many hospital managers still feel the need to catch up: “Innovation is the top area that healthcare CEOs want to measure better. That’s notoriously hard to do. But with innovation critical to new business models emerging in the sector, companies will need to improve,” concludes a PwC study.13
Innovation often cannot be measured directly. However, indicators for quantifying innovation and its success at a given hospital can be derived from scientific studies. Examples include the number of patents registered; the number of ongoing and successfully completed internal research and development projects; the number of clinical studies conducted; participation in interdisciplinary research projects with other healthcare providers and/or industry partners; participation in or promotion of innovative startups (for example, in eHealth or personalized medicine); and, above all, publications or teaching activities by the hospital’s own medical staff.\(^{14}\)

### 3 Include clinician leadership in the top tiers of management

Innovations that are removed from patients, such as improved logistics and accounting processes, may represent very sound, sensible investments. Hospital managers and funding agencies often focus on such non-patient-focused innovations because of the potential savings they promise. However, these innovations contribute less to building a good reputation or a strong competitive position for a hospital than innovations that directly contribute to improving clinical capabilities.\(^{10}\) Such decisions are often made because business administrators and lawyers, rather than clinicians, comprise the top management at health institutions.

A recent systematic review found clinical leadership within hospitals has a positive impact on various types of outcome measures, while only a handful of studies highlighted a negative impact on financial and social performance.\(^{15}\)

While it is increasingly being recognized that clinician leadership within hospitals is not only beneficial, but essential to ensuring that hospitals implement the kinds of patient-centered innovations that are needed to remain competitive, achieving the goal of increasing such leadership can remain elusive. A recent analysis by the American Hospital Association found that only 10 percent of senior hospital executives in the U.S. are physicians. Moreover, these physician leaders have traditionally focused more on clinical matters such as credentialing and peer review than on business operations such as strategy formation, resource allocation, budgeting, and human resources. Similarly, nurses are still underrepresented in healthcare leadership, despite the fact that they make up the largest portion of the healthcare workforce.\(^{16}\)

The level of clinical leadership in hospitals varies by country. For example, while Swedish hospitals almost always employ clinically trained managers, only just over half of Britain’s hospitals do so. Even when doctors do occupy top management positions, those doctors are usually no longer involved in routine clinical practice.\(^{17}\)

Accordingly, when institutions make investment decisions, the focus is often more on the purchase costs and return on investment (ROI) and less on their impact on patient outcomes, patient safety, and employee satisfaction. In order to identify and implement promising innovations with beneficial effects on clinical capabilities, physicians and businesspeople must align each other’s competencies to establish a qualified shared decision-making process. This enables managers who are traditionally more numbers-oriented to develop a necessary understanding of the mindset and needs of their medical departments – and vice versa.
Rhön-Klinikum has shown how the innovation-inhibiting communication gap between businesspeople and doctors can be bridged. This institution has established a Medical Board that is in constant contact with the senior physicians of its hospitals as well as the company’s executive board. “In today’s medical sector, innovations are needed that set you apart from the competition and create real benefits for patient care,” says Professor Bernd Griewing, spokesman for the Medical Board, and Medical Director of Rhön-Klinikum. “Such innovations can only succeed if medicine and business work together as equals.” For fiscal year 2015, the company’s management dedicated around four million euros to a development pool for internal projects on innovation and treatment excellence, such as in the fields of personalized medicine and telemedicine.18

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– Professor Bernd Griewing, Medical Board, and Medical Director of Rhön-Klinikum18

Source: McKinsey & Company17
Innovative approaches are found not only in the West, but also in emerging markets such as China and India, as spending on healthcare in these countries continues to rise in line with their economic growth. Serving these markets will require innovations in technologies, delivery, and business models. Moreover, supply shortages and cost constraints often accelerate innovative developments in these areas.

The emerging telemedicine market is providing underserved rural populations in emerging countries with access to medical expertise for the first time. Telemedicine has proven to contribute to improvements in diagnosis and treatment for aging populations or chronically ill patients. Suitable partners for hospital operators can also come from other industries such as the retail, technology, telecommunications, and retail sectors.

## 4. Pursue innovation in eHealth

Electronic medical record digitization is transforming the flow of information and access to healthcare services – with corresponding implications for patient outcomes and treatment costs.

The Scandinavian countries in particular often serve as benchmarks for digital innovation in the healthcare sector. For example, Denmark is regarded as the most digital country, and is Europe’s top performer in eHealth, with more than 90 percent of doctors exchanging medical data electronically (EU average: 34 percent). So Denmark demonstrates particularly well how digitization can change customer expectations in the healthcare sector and improve patient outcomes going forward.

### Digital Denmark

This Scandinavian country has significantly increased the productivity of its healthcare facilities through digitization. Here are two examples.

#### Integrated database:

In early 2016, hospitals in the Capital Region of Denmark and Zealand Region became European frontrunners in the implementation of a new technology: the Medical Device Integration Platform (MDI). In the past, healthcare personnel manually read patients’ vital values several times a day and then entered the values into the electronic patient records. The new technology now enables data from medical measuring devices to be collected and transferred automatically to the electronic patient records. This solution facilitates better follow-up and targeted patient treatment, which helps improve patient safety.

#### Telemedicine for pregnant women:

A project conducted by Aarhus University Hospital equipped pregnant women with a tablet, a blood pressure monitor, and equipment to measure contraction activity and fetal heartbeat in their own homes and then send the results to the hospital via their tablets. The report shows that home monitoring reduces the number of hospitalizations for pregnant women with complications, which also reduces cost of treatment.
and consumer products sectors, and can often innovate at a faster pace than traditional healthcare companies, with lower costs, and thereby – in collaboration with traditional healthcare companies and governments – improve capabilities and outcomes.

An example of such a transnational and cross-sectoral innovation partnership is Apollo Hospitals in India. With more than 8,400 beds in 50 hospitals and nearly 100 primary-care clinics, it is one of the largest healthcare groups in Asia. The company collaborates with AliveCor, an American maker of a U.S. FDA-approved smartphone device to detect atrial fibrillation, to provide these monitors to patients across India.28

5 Improve outcomes through innovative service delivery models

Integrated care programs have the potential to more adequately respond to the comprehensive needs of people with multimorbidities by taking a holistic approach, while making efficient use of resources. Such programs are characterized by patient-centered, proactive, and coordinated multidisciplinary care, using new technologies to support patients’ self-management and improve collaboration between caregivers.29

A good example of a successful cooperation between doctors and patients is the “Gesundes Kinzigtal (GK)” program in Germany’s Black Forest region, which has been in place since 2005. The comprehensive, population-based integrated care program aims to foster patient self-management and enhance shared decision making between physicians and patients. Its physicians provide regular pharmacological guidance to optimize medication for the treatment of the program’s multimorbid patients. Moreover, digital cockpit reports allow the physicians to compare their prescribing behavior with that of other participating physicians. At regular “quality circle” meetings, the physicians exchange information about how to improve their case management and prescription behavior. The program is continuously evaluated, showing an overall positive trend.29

At the same time, the program shows that improved treatment results don’t necessarily require groundbreaking technical innovations. Instead, significant progress can often be made through targeted knowledge and information exchange as part of organizational innovation.29

6 Consider specialization instead of diversification

A critical mass of patient cases and indications is a prerequisite for capability advancements in any institution. Disease-specific competence centers or service lines support hospitals in becoming established as clinical opinion leaders, recruiting highly qualified staff, and investing more successfully in technical equipment.

Experience derived from managing a large number of cases can also increase clinical capabilities and thereby improve patient outcomes. One way that hospitals can effectively attract more patients and enhance their clinical experience and capabilities is to organize themselves by service lines in strategically defined clinical areas. Specializing in certain service lines allows hospitals to build a critical mass of patients, and thus to realize economies of skill and scale: “Hospitals that make the leap to a service-line orientation become more productive, improve their quality of care, recruit physicians more effectively, and build market share.”30
The Martini Klinik in Hamburg is an impressive example of how this approach can work. Founded in 2005 as a private specialist clinic for prostate cancer on the campus of the University Hospital Hamburg-Eppendorf, the Martini Klinik today performs around 2,200 prostate cancer operations per year, and claims to be the world’s largest prostate cancer center. Its scores are far above average in significant outcome indicators such as incidence of incontinence or erectile dysfunction.31

The Virginia Mason Medical Center in Seattle, too, has achieved significantly better results in patient-related outcome metrics such as reduced sick days and physiotherapy units since the inception of its dedicated, integrated interdisciplinary spine team in 2005. At the same time, productivity has improved significantly. Over the past decade, the number of spine patients treated has increased from 1,400 per year to around 2,300, without having to add space or staff.32

By developing a focused service-line strategy, hospitals can also free up additional financial resources, which can then be redirected to further improve their clinical capabilities in key areas through investment in modern, patient- and user-friendly technical equipment and/or innovative services and care concepts. Proven treatment successes, such as those achieved by the Martini Klinik, help establish a hospital’s position as a clinical opinion leader, and consolidate access to medical networks and clinical trials. Clinical capabilities and clinical opinion leadership thus reinforce each other for the benefit of patients.

Typically, experience and options for comparing treatment, as well as the data basis for arriving at new clinical insights, increase as the number of patient cases grows.33 For this reason, instead of continuing to offer a wide variety of services for every kind of patient, more and more hospitals are shifting to setting up disease-specific competence centers such as the Spine Unit at Virginia Mason Medical Center32, but also for certain cancers, for stroke units, the treatment of pain, or for organ transplantation. With this approach, service lines that are oriented to certain diagnoses are replacing traditional departmental structures such as radiology or surgery.

Denmark has been particularly pioneering in this respect and in 2010 introduced the nationwide “specialist plan,” which centralizes medical specialties within a few selected, highly specialized units. Denmark’s positive experiences with the specialist plan have gained international recognition. Norway and Sweden both regard the Danish specialist plan as so successful that both are preparing to introduce their own versions of the Danish model.34

The University Hospital in Aachen, Germany, has successfully cooperated with Maastricht University Hospital – just 25 kilometers away in the Netherlands – since 2004.35 The collaboration has led to significant efficiency improvements, especially in teaching and research. The cross-border cooperation of specialists – including via videoconference during surgery – has resulted in an improvement in treatment quality as well as cost advantages. For very expensive treatments, both hospitals have agreed to set their own foci. For instance, all heart transplants are now carried out in Aachen.36

Industry partners also welcome such collaborations. The pooling of experience in industrial and clinical research, and shared expertise in dealing with modern high-performance medicine, accelerates scientific progress and makes it available more quickly for use by clinical practitioners and patients. The specialization and focus on
Opinion leaders represent an often-untapped resource to ensure that patients receive medical care based on the best evidence. They can have a significant influence on whether and how quickly innovations are implemented in clinical practice for the benefit of patients. As respected and well-connected sources of information, they can serve as a bridge to span the knowledge-translation gap from bench to bedside, through early adoption of new evidence and subsequently influencing the majority of practitioners in a clinical group. Although few empirical studies exist on the influence of clinical opinion leaders on change processes, there is still evidence that opinion leaders can more effectively influence practice (via group discussions, informal consultations, and protocol revisions) than standardized lectures, distribution of education materials, audit and feedback, or combined interventions. Hospital managers can use this effect if they are looking to improve clinical capabilities through new treatments or processes.

Ways to identify opinion leaders

- Regional or nationally recognized celebrity
- Leadership survey within a group
- Staff-selected (based on group observation)
- Positional merit (currently in leadership position)
- Identified by experts within a community
- Identified by select community members
- “Snowball method”: potential leaders identify other potential leaders
- Sociometric (interview majority of group/community members to identify leaders)
- Sample sociometric (interview random sample of group/community members to identify leaders)

Although full-service general hospitals are still the mainstay of acute-care delivery in most countries, this tradition is undergoing a revolution in the U.S., among other places. Immense clinical complexity; the advent of performance transparency for evaluating quality, service, and costs; and growing competitive intensity are challenging the notion that any hospital can excel across a broad spectrum of clinical service lines. Even if generalists won’t disappear entirely, focusing on a few clinical service lines can help hospitals compete, while also improving operations, raising clinical quality, and enhancing service to their communities.
Seven innovation strategies to advance clinical capabilities:

1. **Invest in clinical technology to improve outcomes and expand services.**
   Innovative medical technology directly influences clinical capabilities. Service providers need an outcomes-based investment strategy designed to advance their clinical capabilities, and a fleet management approach that supports state-of-the-art, outcome-based medicine.

2. **Use patient-centered process innovations to expand clinical capabilities.**
   Process innovations that are close to the patient, and innovations in the field of care, help increase patient and employee satisfaction as well as treatment and process quality, and hence a hospital’s reputation and market success.

3. **Include clinician leadership in the top tiers of management.**
   To synchronize innovation budgets and clinical capabilities, medical and business management teams should interact as equals.

4. **Pursue innovation in eHealth.**
   Electronic medical record digitization is transforming the flow of information and access to healthcare services – with corresponding implications for improving patient outcomes and reducing treatment costs.

5. **Improve outcomes through innovative service delivery models.**
   Integrated care programs have the potential to more adequately respond to the comprehensive needs of people with multimorbidities by taking a holistic approach, while making efficient use of resources.

6. **Consider specialization instead of diversification.**
   Disease-specific competence centers or service lines support hospitals in becoming established as clinical opinion leaders, recruiting highly qualified staff, and investing more successfully in technical equipment.

7. **Cultivate opinion leaders.**
   Opinion leaders represent an often-untapped resource to ensure that patients receive medical care based on the best evidence. They can have a significant influence on whether and how quickly innovations are implemented in clinical practice for the benefit of patients. And, they bolster a service provider’s reputation, attracting high-quality staff as well as patients.
References


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