

# In search of the quickest way to disseminate health care innovations

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## Abstract

**Research Question:** Innovations in health care are slowly disseminated in The Netherlands and elsewhere. That's why the researchers defined their research question: What is the quickest way of disseminating health care innovations?

**Research method:** The design was a comparative, qualitative case study. The researchers invited a group of 52 authors to describe their 21 health care innovations. All case descriptions were published in a book of 261 pages [2].

**Results:** Six types of innovations were distinguished. Most innovations simultaneously improved quality from the patient's point of view (18 out of 21 cases), professional pride (18/21) and speed of introduction (16/21). Clinical outcomes were better or comparable in 13 of the 21 cases.

Brainstorm sessions took place with the innovators and the 22 experts on the quickest way to disseminate the innovations more widely in The Netherlands. These sessions looked for the critical success factors for the dissemination of the 21 projects and identified nine. The following factors were identified:

1. A clear distribution of responsibilities between professionals within the innovation (20/21)
2. Enough educational programs about the innovations for the professionals (18/21)
3. Adequate ICT support for the running of the innovations (15/21)
4. Suitable publicity for the innovations (12/21)
5. An adequate payment system for innovative care providers (7/21)
6. The right size of catchment's area for the innovations (6/21)
7. Enough professional freedom to adopt the innovation (5/21)
8. Fast managerial and public decision-making about the adoption of the innovation (3/21)
9. The embedding of the innovations in quality management assurance policy (1/21).

**Discussion:** The results of the study had some influence on the political health agenda in The Netherlands, leading to greater emphasis on innovations and quality of care.

## Keywords

**innovation, management, implementation, vertical integration, primary health care**

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## Introduction

At the beginning 2002 the former Dutch Minister of Health dr. E. Borst-Eilers gave a New Year's speech to the Royal Dutch Medical Association. She emphasised that many good practices exist in the health services of The Netherlands. However, the dissemination of the good practices to other colleagues or institutes stagnates for many years. This observation was, for the Minister, the reason to invite the first author to compose a book with descriptions of good examples in the field of preventive services, primary health care and hospital care, to analyse common

characteristics of them and to come with advice to accelerate the speed of dissemination of health care innovations. The book had to be produced in close cooperation with the Deputy General of health Nico Oudendijk of the Ministry of Health and within eight months. This article is based on the knowledge in this Dutch written book with 261 pages [2].

## Concepts and methods

In 1962 Rogers published his standard work Diffusions of Innovations [3]. A literature review on dissemination of health care innovations by Van der Linden [4]

showed that this book, reprinted in 1971, 1983 and 1995, is still leading later papers and books in this field. That's why in the beginning of our research we tried to use Rogers' concepts and models to explain the slow dissemination of Health Care Innovations in The Netherlands. Rogers distinguishes five critical factors with influence on the speed of diffusion: 1. relative advantage 2. compatibility 3. simplicity 4. trialability and 5. observability. The first factor relates to the relative advantage for the professional who uses the innovation. The second factor is the degree with which the innovation is applicable within the existing organisational structure. The third factor is the simplicity of the innovation: are a few or many actors and processes involved to diffuse the innovation? The trialability, the fourth factor, has to do with whether the innovation can be diffused in small steps. Or should it be tried out in one big reorganisation of the system? The fifth factor, the observability, relates to the degree the effects of the innovation are visible for professionals and clients.

Most of the innovations we wanted to investigate (Table 1) are not *compatible* with the existing organisational structures and are not *simple*. Nevertheless they have as we will show in this paper, relative advantages for the professionals, are triable and observable. With the absence of the factors *compatibility* and *simplicity* Rogers explains why the diffusion of incompatible and complex innovations is so slow in the USA as well as in The Netherlands. However, Rogers does not provide hypotheses to answer the question "what is the quickest way to disseminate these type of health care innovations"? So we did not opt for a hypothesis testing study but for a hypothesis generating study. That's why we chose for a comparative qualitative case study of good practices in the mentioned fields. We started to answer the research question, using the following concepts.

## Concepts

A health care innovation is a change in the delivery of care, consciously chosen by existing organisations with the object of improving the performance of care delivery. In this study we have distinguished six performance fields: safety, clinical outcome, quality of care from a patient's point of view, costs, speed and professional pride. These fields emerged from studying the individual examples. We divided the 21 examples into six types of innovation (Table 1). We arrived at this classification after studying the individual cases.

The first three types (new methods, standardisation and transmural programs) are innovations of care process. With *process* we mean steps in carrying out and co-ordinating the activities of health care professionals. A formal description of a process is a *protocol*.

The other three innovations are structural changes (new structures for the delivery of primary health care, multidisciplinary care in hospitals and infrastructures). By structure we mean an *organisational structure with formalised, longer standing task distribution and co-ordination mechanisms*. This can be distinguished from a *project (organisation)*, which is temporary, and from *environment*, which is not formalised. A structure is not the same as a *system*, which also contains informal task distribution and co-ordinating mechanisms. With *infrastructure* we mean a dormant organisational structure, which can be mobilised in certain circumstances. In this research two infrastructures are discussed. The first is the organisation for a nationwide vaccination program (Table 1, case 20), which can be activated to meet a threatened epidemic. The other is related to the creation of a database, which can be opened in case of the need of information about innovations (Table 1, case 21).

## Methods

Selection criteria for the examples of good practice were as follows:

1. The examples should have been established for at least two years.
2. There should be scientific evaluation in peer-reviewed journals. PhD theses or reports were desirable but not essential.
3. The examples should be structurally embedded in existing organisations and regions.
4. There should be a low risk of conflict or of termination of the innovation during or immediately after the study.
5. Only one example to be chosen per disease or patient group.
6. An equal distribution of examples over the Provinces of The Netherlands was sought to show that innovations exist everywhere.
7. Not too many examples should be from university hospitals. This would emphasise that the innovations would be applicable in non-academic routine daily practice.
8. The authors should be people with a leadership role within the chosen examples.
9. Authors should have time in the summer of 2002 to write their chapter.

At the end of the study 12 of 21 innovations met the inclusion criterion of scientific evaluation. During the writing process many versions of the chapters were mailed between the researchers and innovators to carry out triangulation by

1. Comparing the texts of the innovators with external publications and other documents about their innovations.

2. External reviewing of submitted papers by experts with knowledge about the specific innovation.
3. Discussing the conclusions of the papers in groups of innovators and chief executives who mostly were familiar with each other's innovations.
4. Editing the papers by omitting value judgements, asking for clarification about statements without supporting argument and about statistical data without precise definitions.

Apart from this triangulation, the chapter editing focused on reaching a common language for all innovators, a set of common definitions and as complete as possible information about performance and success factors. In an early phase we dropped the notion of *best practice*: good examples of each of the described practices were available in The Netherlands. We did not compare them. In [Table 1](#) we summarise the 21 examples selected.

The researchers invited the innovators, patient representatives and Chief Executive Officers of health service institutes to help them synthesise the results of the 21 case studies. Thus, sessions were organised for these groups in September and October 2002. The researchers did group interviews group to gain their opinions about common characteristics as well as about methods of accelerating the dissemination of innovations. All the groups were very enthusiastic in thinking with us.

In this article we first describe the examples by type of innovation. Then we discuss performance and the critical success factors. The last part of the article is the result of brainstorming with innovators, experts and researchers about the critical success factors for dissemination of the health care innovations studied. In all parts of this paper we use the following definitions.

## The cases by types of innovation

[Table 1](#) contains 21 sub-pages: one for each innovation. They can be reached by clicking on the title of the innovation. Each sub-page shows the main innovation characteristics. More details are given in the 21 corresponding chapters of the original book. Here we give only an overview of each of the six types of innovation listed in [Table 1](#).

### New methods of care delivery

A better quality of care from the patient's point of view is the main result of such new methods of care delivery as neonatal hearing screening, care of women with incontinence, care for high risk pregnant women at home and the implementation of laparoscopic surgery (case 1–4 in [Table 1](#)). Partly, new medical technology

created these new methods: for example hearing screening and the new surgery. These new technologies made the innovations expensive at first: learning the new methods took time. The laparoscopic intervention itself cost more time and did not substitute for other interventions as in the case of treating women with incontinence. At first four new methods described did not have an adequate fee for service or budget formula. In these innovations the advantages for the patients were clear: earlier detection of deafness (hearing screening), better quality of life (incontinence treatment and treatment of high risk pregnant women at home) and fewer complications afterwards (laparoscopic surgery).

### Standardisation of existing care

An integrated cataract care program, joint care for total hip or knee replacement patients, a diagnostic mammary carcinoma outpatient clinic: each of these three (case 5, 6 and 7 in [Table 1](#)) are examples of care where better performance is achieved by re-designing the care processes. These three became good examples because of external pressure. There was fear of the management of the supplying hospital of being removed (cataract program), of getting a bad reputation about the quality of care (breast clinic) or about the long waiting lists (joint care program). Within these examples there was an ambition to learn from international colleagues and from commercial services sectors, and to work with multidisciplinary protocols. According to the innovators themselves the performance includes better clinical outcomes, safety, shorter admissions, less waiting time for patients, more quality for patients, professional pride and greater cost-effectiveness. However, we noticed a lack of robust scientific studies with control groups and pre test and post test designs to support these examples.

A systematic approach with the treatment of cataracts and the hip and knee replacements appears impersonal, because patients are treated in a process like a car in an automatic wash. However, on the contrary the descriptions show more emphasis on the individual patient. But the standardisation created organisational problems for the rest of the hospitals, which are divided according to medical specialty. A distinction in patient flows was necessary to start these types of innovations.

### Transmural care programs

Five transmural or shared care programs (cases 8–12 in [Table 1](#)) are described in [Table 1](#). They are focused on treatment and care for patients with arthritis, diabetes, COPD, stroke and with psycho geriatric syndromes. In these innovations many simultaneous

changes took place. New protocols were introduced everywhere. New professions occurred (rheumatology program). A new infrastructure for emergencies was created (stroke services). Case managers were introduced (psycho geriatric program) as well as systematic monitoring (diabetes and COPD programs). It was impossible to understand which part of the innovations contributed to what part of the performances. Maybe these are innovations in which each of the components empowers the other ones: then the total is more than the sum of its parts. Anyhow, performances were mostly improved on all the specified fields. One factor was common to the five-transmural programs: the driving force of enthusiastic experienced professionals. Other factors differed. For the diabetes program there was external pressure. The small hospital, which supported the program, survived with its broad cure/care approach of diabetes and other diseases (not described here). With this professional objective the hospital overcame many resistances and competence conflicts between family doctors, internists and between doctors and nurses. Support from one or more national agencies was also an important factor for the stroke service and the diabetes program.

### **New structures for the delivery of primary health care**

A new organisation for out-of-hours services of general practitioners in Nijmegen, a joint venture for integrated home and hospital care in the Twente region and integrated primary and long term care in Almere all led to better performance over a variety of fields, as is shown in cases 13, 14 and 15 in [Table 1](#). Improvements of quality and speed of care as well as cost reductions are mentioned in Twente and Almere, although only scientific evidence is available for the latter. The Nijmegen innovation for GP care during evenings, nights and weekends is one of many, which were implemented across the whole country over a period of five years. They essentially improved GPs' job satisfaction, but not their pride. GPs liked their shorter working hours (job satisfaction increased) but felt guilty not to deliver continuity of care (their pride diminished). The external pressure to introduce this was and is large: otherwise GP recruitment would suffer too much. Maybe both professional quality and the quality from the patient's view improved. However, no research data were available.

External conditions also played a role in Almere: This was that new town and new primary and long-term healthcare organisations could be designed from scratch. The Twente region has clearly defined borders, mostly with neighbouring Germany. Together with a strong and mission-driven health care insurer

the defined borders stimulated the start of the joint venture.

The common feature of all three examples is that completely new structures were developed for large groups of patients with many different health problems. Because of these radical structural changes, there were almost daily bottlenecks with financing and other regulations, more than in the other 21 cases.

### **Multidisciplinary structures within hospitals**

In contrast with the transmural care program innovations within hospitals relate to horizontal rather than vertical chains of care. Multidisciplinary outpatient Coronary Heart Disease (CHD) care, integrated oncological care, comprehensive trauma care and regionally integrated emergency services all belong to the central focus of hospitals. They all provided better performances as is shown in cases 16–19 of [Table 1](#). They have two common features. Firstly there is integration between different medical specialists, e.g. surgeons and internists admitting patients on the same oncological ward. Cardiologists and cardiac surgeons cooperate in the CHD clinic. Secondly, more integration also exists between medical specialists and specialised nurses, for instance in trauma care and in the regional integration of emergency services.

Two of the projects are research led, the CHD clinic and the regional emergency services. During the studies, some care bottlenecks emerged. For the regional emergency services these were wrong use of beds, shortages of nursing and medical staff, high sickness absence and the lack of information about available beds. Because of these problems, professionals and managers took initiatives to improve the regional structures.

The trauma care innovation shows that top-down innovations are only successful when there are local enthusiastic professionals to support them. In The Netherlands, the Ministries of Inland Affairs and of Health, Welfare and Sport Affairs prescribed how trauma care should be organised in a common policy document. But case 19 in [Table 1](#) was the only one, which was really implemented.

### **New public infrastructures**

The last two innovations (cases 20 and 21 in [Table 1](#)) are not comparable with the other 19. The vaccination program against meningococcal C shows how Dutch preventive services have improved since polio epidemic in 1992. In that year the organisation of the campaign was chaotic for public and professionals,

because of unclear task distribution and co-ordination. In the years after 1992 the infrastructure was improved by creating national steering agencies and national protocols for local agencies and municipalities. The first time this new infrastructure could be tested out, was the meningococcal C campaign of 2002. It was a successful campaign during which 6500 professionals reached 92% of children between 0 and 19 years in 1200 vaccination days. The campaign was fast and efficient, with a personal approach. However, robust scientific results about clinical outcomes on the long run are not yet available.

The creation of a scientific database with health indicators and care consumption per citizen in the new Utrecht town part Leidsche Rijn is comparable with such international examples as the databases in Framingham, Seattle, Connecticut and some large Health Maintenance Organisations in the USA. One of the objectives in Leidsche Rijn is to have this infrastructure available as soon as a health care innovation is carried out. Then, a comparative prospective cohort study is possible which offers feed back about health indicators, clinical outcomes, speed and efficiency of care delivery in the innovation as well as in the previous usual care context. The Leidsche Rijn infrastructure is an answer to the weak research done within innovative settings up to now. However, it is difficult to raise funds for this infrastructure, to integrate the different information systems of e.g. primary health care and hospitals and to get citizens involved to answer questionnaires.

## The performances and critical success factors of the 21 innovations

Table 2 shows the performances of the 21 innovations in comparison with usual care. The scores were based on analyses of documentation from and on interviews with the innovators. Aggregating the data in sub pages 1 to 21 of Table 1 composes Table 2. Most of the innovations improved quality from the patient's point of view (18 out of 21) and professional self-esteem (18/21). Improvements of speed of care delivery also occurred often (16/21). Less frequent findings were cost reductions (9/21) and improvements of clinical outcome (8/21) and of safety (5/21). Ten innovations were carried out without measuring the possible consequences for clinical outcomes respectively safety.

Table 3 shows the critical factors in becoming a good example as mentioned by the innovators. Everywhere (21/21) enthusiastic leading professionals were needed to make the innovation work. Nearly everywhere

(20/21) this was the case for professionals working as a team. Factors such as external pressure (13/21), scientific evaluation (12/21) and support by one or more national agencies (11/21) were less important. The use of modern Information and Communication Technology (ICT) was less often important in making successful innovations (10/21). This is also the case for the creation of new professions (10/21) and the support of an independent local developing agency. The infrequent influence (4/21) of organised, local patient groups as a factor in the success of innovations was surprising both for innovators and researchers.

## Opportunities for dissemination

Once the 21 cases were described, we discussed their likelihood of being disseminated and the availability of factors, which could make this more successful. The brainstorming took place with the innovators as well as with 22 experts: five from patient organisations, five from the Ministry of Health, Welfare and Sport Affairs and from National Agencies, four from scientific institutes, three hospital Chief Executives, three from non-health sectors and two from consultancy firms.

Four brainstorm sessions were organised for: 1. Innovators, 2. Representatives of patient groups, 3. Other experts within the health care sector and 4. Experts outside the health sector. We made notes of the discussions. Table 4 is based on these and the remarks in the 21 case descriptions. Nine critical factors for dissemination are mentioned in the first column of this table. We discuss these now.

A vague distribution of responsibilities between doctors, nurses and other professionals can reduce the speed of dissemination: professionals want to know for what they are and are not responsible. This, according to innovators and experts, is not a problem: in 20 of the 21 innovations the responsibilities are well described and uncontroversial. Enough educational programs for professionals to introduce the innovations in their own setting can easily be organised: that is no problem in 18 of the 21 cases. Adequate ICT software and hardware can mostly (15/21) be organised to routinely support the innovations everywhere.

The distribution of scientific and experience knowledge about the innovations is a problem for 12 of the 21 innovations. For 9 of the 21 not enough scientific and professional papers, newsletters and websites exist to show new research data and experiences. There are not enough research funds to produce research data and to make the experiences manifest.

An adequate payment system is expected for only 7 of the 21 innovations. During our consultation rounds with innovators and experts the opinions did not go in the direction of fee-for-innovative-services systems to stimulate the dissemination of innovations. The disadvantage of such incentives is the threat of pseudo (fake) innovations without genuine quality and efficiency improvements.

A lack of professional freedom to adopt innovations and slow managerial and public decision-making are two sides of the same coin. The professional freedom respectively policy making processes are thought to be adequate in only 5 respectively 3 of the 21 innovations (Table 4). New processes and structures cannot be introduced top-down, as is shown in the case of the trauma care. At present, health policy making in The Netherlands is focused on the average institution, not on the extremes: the better ones and the worst cases. To create a better position for professionals who want to modernise their services, the innovators and experts expect much of the introduction of an internal market in the Dutch health services. In this market health insurance agencies have to purchase care of the care providers. In our consultation rounds the metaphor was a comparison of these agencies with citizens buying a new washing machine. They look after price, quality and delivery conditions, and they want the latest model. With this countervailing power, professionals willing to adopt innovations get more space for their initiatives and their managers have to make quicker decisions.

Quality management assurance policy and dissemination of innovations were only expected to be available in one of the 21 cases studied (Table 4). In theory, professionals and managers should continuously monitor the quality of care. Sometimes, it may happen that quality management can be improved by introducing an innovation. The introduction gets embedded in the quality assurance policy of the institute. Although innovators and experts agreed with this theory, they did not recognise it in practice. Innovation was one thing and a quality system something else.

## Discussion

So far, the innovations and the opportunities for disseminating them have been described. But the researchers point out three limitations of their study to readers.

Firstly, the sample size of 21 cases is small, as is always in qualitative research. However, they are thoroughly described, which cannot be done with a cross-sectional, observational study. Secondly, bias

may occur because of the selection of only good practices. The selection was made because of the objectives given by the Minister of Health. The 21 innovations were not randomly selected but chosen after serious consideration of the inclusion criteria as described in the introduction. The ordering of the critical factors in Table 3 could be different if we had included failed as well as successful innovations. Future research should be done on failures to get a complete set of critical factors for the success of innovations. The third limitation is the bias, which may occur because 52 innovators described their own work. Maybe they overemphasised the role of enthusiastic, leading professionals and the need for professional freedom in the dissemination process. However, the triangulation procedures mentioned in the introduction minimised the risk of window dressing.

Because of these limitations, the researchers see their study as hypotheses generating future research on the dissemination of health care innovations. A final scientific answer cannot yet be given. Not enough research findings are available about critical factors for the speed of dissemination of innovations. In The Netherlands, our qualitative study is only a beginning. Elsewhere, we could only find support for our findings in Balas [1], Berwick [5] and Woods [6]. Balas showed that evidence based innovations in the US health services need on an average 17 years to be implemented everywhere. Berwick [5] recently confirmed these slow dissemination processes. Woods, in an advice to the Scottish government, did a literature study on national health care reforms in Western countries. He concludes: *There are few right answers to the problems of structuring health care systems, but there are many theories, ideas, prejudices, ideologies and experiences on which to draw. A practical approach would be to experiment, to evaluate and to learn.* We finish this article with expressing the hope that many studies will be carried out to evaluate pragmatic dissemination processes of health care innovations.

Since the publication of the book *Modern patient care in The Netherlands* there are some signs of a change in the Dutch political health agenda. The Ministry of Health, Welfare and Sports Affairs sent a letter to parliament, which was, amongst other things, based on the findings in the book. This so-called *Quality Letter* [7] asked for much more emphasis on quality assurance and on the dissemination of innovations.

## Acknowledgements

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## Appendix 1

**Table 1.** The included good examples of health care innovations in the Netherlands

|  |
|--|
| <p>I New methods of health care delivery</p> <ol style="list-style-type: none"> <li>1. Neonatal hearing screening in 10 ICUs</li> <li>2. Physical therapy in primary health care for incontinent women in the region Nijmegen</li> <li>3. Treatment and care for high risk pregnant women in Tilburg and Utrecht</li> <li>4. Laparoscopic surgery in The Netherlands</li> </ol>  |
| <p>II Standardization of existing care</p> <ol style="list-style-type: none"> <li>5. A cataract care program in Rotterdam</li> <li>6. Joint care for orthopaedic patients in Den Bosch</li> <li>7. An one stop OPD for women with mamma CA in Delft</li> </ol>   |
| <p>III Transmural care programs</p> <ol style="list-style-type: none"> <li>8. Nurse practitioners in reuma care in Groningen</li> <li>9. Intergrated diabetes care in Gorinchem</li> <li>10. Intergrated COPD care in Utrecht</li> <li>11. Intergrated stroke services in Maastricht</li> <li>12. Intergrated care for psychogeriatric patients in The Hague</li> </ol>  |
| <p>IV New structures for the delivery of primary health care</p> <ol style="list-style-type: none"> <li>13. Out of duty services for general practitioners, provided from one regional post in Nijmegen</li> <li>14. A joint venture between a hospital and a home care organization in Twente</li> <li>15. Intergrated primary health care in Almere</li> </ol>   |
| <p>V Multidisciplinary structures within hospitals</p> <ol style="list-style-type: none"> <li>16. An intergrated OPD for patients with cardiovascular diseases in Utrecht</li> <li>17. An intergrated hospital ward for patients with cancer in Arnhem</li> <li>18. Intergrated Emergency and Incident Care of hospitals and ambulance centers in Rotterdam</li> <li>19. Intergrated regional acute care in Eindhoven</li> </ol> |
| <p>VI New public infrastructures</p> <ol style="list-style-type: none"> <li>20. A national vaccination program Meningococcen C</li> <li>21. The Leidsche Rijn Health care Project in Utrecht</li> </ol>  |

**Table 2.** Performances of the 21 innovations in comparison to care-as-usual

|                               | Total | More | Comparable | Less | No data available |
|-------------------------------|-------|------|------------|------|-------------------|
| Safety                        | 21    | 5    | 6          | –    | 10                |
| Clinical outcome              | 21    | 6    | 7          | –    | 8                 |
| Quality from patients of view | 21    | 18   | –          | –    | 3                 |
| Costs                         | 21    | 2    | 1          | 9    | 9                 |
| Speed                         | 21    | 16   | –          | 2    | 3                 |
| Professional proud            | 21    | 18   | 1          | 1    | 1                 |

**Table 3.** Critical factors for success of the 21 innovations mentioned by project leaders

|  |    |
|--|----|
| Enthusiastic leading professionals       | 21 |
| Professional working as a team           | 20 |
| External pressure                        | 13 |
| Scientific evaluation                    | 12 |
| Support of one or more national agencies | 11 |
| Use of modern ICT during intervention    | 10 |
| Development of new profession            | 10 |
| Independent local developing agency      | 9  |
| Influence of patient groups              | 4  |

**Table 4.** By project leaders and authors anticipated available critical factors for success

|  |    |
|--|----|
| Clear distribution of responsibilities within innovation           | 20 |
| Enough educational programs for professionals about the innovation | 18 |
| Adequate ICT   | 15 |
| Distribution of professional publications                          | 12 |
| Adequate payment system  | 7  |
| Optimal catchment area for the innovation                          | 6  |
| Professional freedom for initiatives                               | 5  |
| Fast managerial and public decision making                         | 3  |
| Embedding in quality management assurance policy                   | 1  |

## Appendix 2

### 1. Hearing screening in new born babies

**Type of innovation:** new method of care providing

**Target group of patients:** very preterm and very low birthweight infants in neonatal intensive care units

**Intervention:** automated auditory Brainstem response infant screening method

**Patient series:** 2484 babies

**Innovation period:** 1998–2001

**Results in comparison to care as usual:**

- Safer? *yes*
- Better clinical outcome? *yes*
- Better quality through the patient's eye? *yes, babies stay asleep during intervention*
- Cost savings? *yes, per test and per found deaf baby*
- Faster? *Intervention is carried out in a shorter period of a few minutes*
- Contribution to professional proud? *yes*

**Critical factors for success:**

- Enthusiastic leading professionals? *yes*
- Influence of patient groups? *no*
- External pressure? *no*
- Development of new profession? *no*
- Professionals working as a team? *yes*
- Scientific evaluation in peer reviewed journal(s), PhD thesis or reports? *yes, see below*
- Support of one or more national agencies? *yes*
- Independent local developing agency? *no*
- Use of modern ICT during intervention? *yes*

**Anticipated availability of critical factors for dissemination of this innovation to other areas:**

- Distribution of professional publications? *yes*
- Professional freedom for initiative? *yes*
- Fast managerial and public decision making? *no*
- Adequate ICT? *yes*
- Enough educational programs for professionals about the innovation? *yes*
- Clear distribution of responsibilities within the innovation? *yes*
- Adequate payment system? *no*
- Optimal catchment area for the innovation? *yes*
- Embedded in quality management assurance policy? *no*

**Illustrative Photograph available?** *yes*

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**Publication:** Straaten HLM, van, Verkerk PH. *Neonatal hearing screening in just born babies in Neonatal Intensive Care Units (Neonatale gehoorscreening bij pasgeborenen in een neonatale intensive care unit)*. T Jeugdgezondheidszorg, 2000; 32:82–84. In Dutch

### 2. Physical therapy in primary health care for women with incontinence complaints

**Type of innovation:** new method of care providing

**Target group of patients:** women with stress incontinence, urge incontinence or both, diagnosed by GPs

**Intervention:** a three-month program of exercise therapy, in group or individual

**Patient series:** 530 women, 126 individuals and 404 group members

**Innovation period:** 1991–1997

**Results in comparison to care as usual:**

- Safer? *not available*
- Better clinical outcome? *yes. Sixty percent of the patients had less complaints after the program*

- **Client satisfaction?** More self-esteem and social activities of the patients after the program
- **Cost savings?** Reduction in incontinence material from € 184 to € 75 per year
- **Faster?** no
- **Contribution to professional proud?** yes

**Critical factors for success:**

- **Enthusiastic leading professionals?** yes
- **Influence of patient groups?** no
- **External pressure?** no
- **Development of new profession?** no
- **Professionals working as a team?** yes
- **Scientific evaluation in peer reviewed journal(s), PhD thesis or reports?** yes, see below
- **Support of one or more national agencies?** yes, but innovation was too much a research project
- **Independent local developing agency?** no
- **Use of modern ICT during intervention?** no

**Anticipated availability of critical factors for dissemination of this innovation to other areas:**

- **Distribution of professional publications?** yes
- **Professional freedom for initiative?** no, conflicting guidelines of GP's and physical therapists
- **Fast managerial and public decision-making?** yes, a group therapy tariff was introduced
- **Adequate ICT?** yes
- **Enough educational programs for professionals about the innovation?** yes
- **Clear distribution of responsibilities within the innovation?** yes
- **Adequate payment system?** yes, but no national expansion of the number of therapeutical sessions
- **Optimal catchment area for the innovation?** yes
- **Embedded in quality management assurance policy?** no

**Illustrative Photograph available?** no

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**Publication:** Janssen T, Miltenburg TH. *Effectiveness of exercise therapy for incontinent patients: individual and group therapy compared (Effectiviteit van oefen therapie bij incontinentie. Individuele en groepsgerichte oefen therapie vergeleken)*. ITS, Nijmegen PROVIN-onderzoek, 1998. In Dutch.0

### 3. Home treatment and care for high risk pregnant women

**Type of innovation:** new method of care providing

**Target group of patients:** Pregnant women with health problems who would be admitted in a hospital in a care-as-usual setting

**Intervention:** daily visit by midwives to the pregnant women at home; clinical monitoring of the baby

**Patient series:** Randomized Clinical Trial: 240 patients in experimental group and 175 in control grouping three hospitals

**Innovation period:** 1992–1998

**Results in comparison to care as usual:**

- **Safer?** The same as in care as usual setting
- **Better clinical outcome?** The same as in care as usual setting
- **More client satisfaction?** yes, Families were not splitted up; no travelling for partners to hospital
- **Cost savings?** yes: Cost effectiveness ratio's of 56% to 66%
- **Faster?** no, one hospital with longer duration
- **Contribution to professional proud?** yes

**Critical factors for success:**

- **Enthusiastic leading professionals?** yes
- **Influence of patient groups?** no
- **External pressure?** yes, too much workload in inpatient setting
- **Development of new profession?** yes, home visiting midwives and nurses coming from hospitals
- **Professionals working as a team?** yes
- **Scientific evaluation in peer reviewed journal(s), Phd thesis or reports?** Yes, See below
- **Support of one or more national agencies?** yes
- **Independent local developing agency?** no
- **Use of modern ICT during intervention?** no

**Anticipated availability of critical factors for dissemination of this innovation to other areas:**

- **Distribution of professional publications?** yes
- **Professional freedom for initiative?** no
- **Fast managerial and public decision-making?** no
- **Adequate ICT?** yes
- **Enough educational programs for professionals about the innovation?** yes
- **Clear distribution of responsibilities within the innovation?** no, conflicting views by nurses, midwives and gynaecologists
- **Adequate payment system?** yes
- **Optimal catchment area for the innovation?** no

- **Embedded in quality management assurance policy?** *no*

**Illustrative Photograph available?** *no*

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**Publication:** Idema-Kuiper HR. Integrated Home Care for high risk pregnant women (Geïntegreerde thuiszorg bij risicozwangeren). Academic Thesis Utrecht University, 1996. In Dutch

#### 4. Implementation of laparoscopic surgery in The Netherlands

**Type of innovation:** Implementation of laparoscopy surgery in The Netherlands

**Target group of patients:** inguinal hernia repair; gallstone lithotripsy; cholecystectomy

**Intervention:** laparoscopic surgery instead of conventional surgery

**Patient series:** 100 operations, less than in Belgium and Germany

**Innovation period:** 1992–2001

**Results in comparison to care as usual:**

- **Safer?** comparable
- **Better clinical outcome?** comparable
- **Client satisfaction?** yes
- **Cost savings?** yes, costs of operation higher, but less hospital days per patient
- **Faster?** yes
- **Contribution to professional proud?** comparable

**Critical factors for success:**

- **Enthusiastic leading professionals?** *yes*
- **Influence of patient groups?** *no*
- **External pressure?** *no*
- **Development of new profession?** *yes*
- **Professionals working as a team?** *yes*
- **Scientific evaluation in peer reviewed journal(s), PhD thesis or reports?** *yes, see below*
- **Support of one or more national agencies?** *no*
- **Independent local developing agency?** *no*
- **Use of modern ICT during intervention?** *yes*

**Anticipated availability of critical factors for dissemination of this innovation to other areas:**

- **Distribution of professional publications?** *yes*
- **Professional freedom for initiative?** *no*
- **Fast managerial and public decision making?** *no*
- **Adequate ICT?** *yes*
- **Enough educational programs for professionals about the innovation?** *no*
- **Clear distribution of responsibilities within the innovation?** *yes*
- **Adequate payment system?** *no*
- **Optimal catchment area for the innovation?** *yes*
- **Embedded in quality management assurance policy?** *no*

**Illustrative Photograph available?** *yes*

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**Publications:** Liem MS, Graaf Y van der, Steensel CJ van, Boelhouwer RU, Clevers GJ, Meijer WS, Stassen LP, Vente JP, Weidema WF, Schrijvers AJP, Vroonhoeven TJ van. *Comparison of conventional arterial surgery and laparoscopic surgery for inguinal-hernia repair. N Eng J Med* 1997;29:1541–7

Knook MTT. *Endoscopic inguinal hernia repair*. Academic Thesis, Erasmus University Rotterdam, Rotterdam, 2002

Bais JE, Bartelsman JF, Bonjer HJ, Cuesta MA, Go PM, Klinkenberg-Knol EC, Lanschot JJ van, Nadorp JH, Smout JJ, Graag Y van der, Gooszen HG. *Laparoscopic or conventional Nissen fundoplication for gastro-oesophageal reflux disease: randomised clinical trial. Lancet* 2000;355:170–4

Go PM, Gouma DJ. *Laparoscopic cholecystectomy; a 'look intervention' as an alternative to gallstone lithotripsy. Ned Tijdschr Gneesk.* 1990;134:1681–2

#### 5. Standardization of cataract treatment in the Rotterdam eye hospital

**Type of innovation:** *standardization*

**Target group of patients:** *cataract patients*

**Intervention:** *standardized treatment after Core Process Design*

**Patient series:** *4900 in 2001*

**Innovation period:** *1990 ± 1997*

**Results in comparison to care as usual:**

- **Safer?** comparable
- **Better clinical outcome?** comparable

- Better client satisfaction? *yes*
- Cost savings? *yes*
- Faster? *yes*
- Contribution to professional proud? *yes*

**Critical factors for success:**

- Enthusiastic leading professionals? *yes*
- Influence of patient groups? *no*
- External pressure? *yes*
- Development of new profession? *no*
- Professionals working as a team? *yes*
- Scientific evaluation in peer reviewed journal(s), PhD thesis or reports? *yes, see below*
- Support of one or more national agencies? *no*
- Independent local developing agency? *no*
- Use of modern ICT during intervention? *yes*

**Anticipated availability of critical factors for dissemination of this innovation to other areas:**

- Distribution of professional publications? *no*
- Professional freedom for initiative? *yes*
- Fast managerial and public decision making? *yes*
- Adequate ICT? *yes*
- Enough educational programs for professionals about the innovation? *no*
- Clear distribution of responsibilities within the innovation? *yes*
- Adequate payment system? *yes*
- Optimal catchment area for the innovation? *no*
- Embedded in quality management assurance policy? *no*

**Illustrative Photograph available? *yes***

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**Publication:** Nijkamp MD, Ruiter RAL, Roeling M, Borne B van den, Hiddema F, Hendrikse F Nuyts. *Factors related to fear in patients undergoing cataract surgery: A qualitative study focusing on factors associated with fear and reassurance among patients who need to undergo cataract surgery.* Patient education and counselling

## 6. Joint Care for Orthopaedic patients

**Type of innovation:** *standardization*

**Target group of patients:** *Total hip and Total hip replacement patients*

**Intervention:** *standardized treatment and postoperative group therapy*

**Patient series:** *80*

**Innovation period:** *1998*

**Results in comparison to care as usual:**

- Safer? *comparable*
- Better clinical outcome? *no*
- Better client satisfaction? *yes*
- Cost savings? *Reduction of length of stay with more than 50%*
- Faster? *yes*
- Contribution to professional proud? *yes*

**Critical factors for success:**

- Enthusiastic leading professionals? *yes*
- Influence of patient groups? *no*
- External pressure? *yes*
- Development of new profession? *no*
- Professionals working as a team? *yes*
- Scientific evaluation in peer reviewed journal(s), PhD thesis or reports? *no*
- Support of one or more national agencies? *no*
- Independent local developing agency? *no*
- Use of modern ICT during intervention? *no*

**Anticipated availability of critical factors for dissemination of this innovation to other areas:**

- Distribution of professional publications? *yes*
- Professional freedom for initiative? *n.a.*
- Fast managerial and public decision making? *no*
- Adequate ICT? *yes*
- Enough educational programs for professionals about the innovation? *yes*
- Clear distribution of responsibilities within the innovation? *yes*
- Adequate payment system? *no, limited budgets for the number of orthopaedic operations*

- Optimal catchment area for the innovation? *no*
- Embedded in quality management assurance policy? *no*

Illustrative Photograph available? *yes*

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#### 7. A one stop OPD for Mamma Care-patients in Delft

Type of innovation: *standardization*

Target group of patients: *patients with a suspected Mamma Care*

Intervention: *all diagnostic procedures practiced and diagnosis given in one morning*

Patient series: *20 patients contacts per week in 2000*

Innovation period: *1994–1997*

Results in comparison to care as usual:

- Safer? *comparable*
- Better clinical outcome? *comparable*
- Better client satisfaction? *yes*
- Cost savings? *no available data*
- Faster? *yes*
- Contribution to professional proud? *yes*

Critical factors for success:

- Enthusiastic leading professionals? *yes*
- Influence of patient groups? *no*
- External pressure? *yes*
- Development of new profession? *no*
- Professionals working as a team? *yes*
- Scientific evaluation in peer reviewed journal(s), PhD thesis or reports? *no*
- Support of one or more national agencies? *no*
- Independent local developing agency? *no*
- Use of modern ICT during intervention? *yes*

Anticipated availability of critical factors for dissemination of this innovation to other areas:

- Distribution of professional publications? *no*
- Professional freedom for initiative? *no*
- Fast managerial and public decision making? *no*
- Adequate ICT? *yes*
- Enough educational programs for professionals about the innovation? *no*
- Clear distribution of responsibilities within the innovation? *yes*
- Adequate payment system? *no*
- Optimal catchment area for the innovation? *no*
- Embedded in quality management assurance policy? *no*

Illustrative Photograph available? *yes*

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#### 8. Nurse Practitioners in Reuma Care

Type of innovation: *chain of care*

Target group of patients: *reuma patients*

Intervention: *reumatologists substituted by nurse practitioners*

Patient series: *20 patients contacts per week in 2000*

Innovation period: *1992–2001*

Results in comparison to care as usual:

- Safer? *comparable*
- Better clinical outcome? *comparable*
- Better client satisfaction? *yes*
- Cost savings? *yes*
- Faster? *yes*
- Contribution to professional proud? *yes*

Critical factors for success:

- Enthusiastic leading professionals? *yes*
- Influence of patient groups? *yes*
- External pressure? *no*
- Development of new profession? *yes*
- Professionals working as a team? *yes*
- Scientific evaluation in peer reviewed journal(s), PhD thesis or reports? *yes, see below*
- Support of one or more national agencies? *yes*

- Independent local developing agency? *yes*
- Use of modern ICT during intervention? *no*

**Anticipated availability of critical factors for dissemination of this innovation to other areas:**

- Distribution of professional publications? *no*
- Professional freedom for initiative? *no*
- Fast managerial and public decision making? *no*
- Adequate ICT? *yes*
- Enough educational programs for professionals about the innovation? *yes*
- Clear distribution of responsibilities within the innovation? *yes*
- Adequate payment system? *no*
- Optimal catchment area for the innovation? *no*
- Embedded in quality management assurance policy? *no*

**Illustrative Photograph available?** *No*

e-mail: [pwgraaf@rdgg.nl](mailto:pwgraaf@rdgg.nl)

**Publications:** Elberse WP, Matser J. *Rheumatology nurse councillors in Groningen (Reumaconsulenten in Groningen)*. Vakgroep Algemene Gezondheidszorg en Epidemiologie, Rijksuniversiteit Utrecht, rapp.nr 9126. Utrecht, 1991. In Dutch  
Elberse WP, Schrijvers AJP. *Rheumatology Nurse Councillors in The Netherlands (Reumaconsulenten in Nederland)*. Vakgroep Algemene Gezondheidszorg en Epidemiologie, Rijksuniversiteit Utrecht, rapp.nr 9204. Utrecht, 1992. In Dutch

## 9. Integrated Diabetes Care in the region Gorinchem

**Type of innovation:** *chain of care*

**Target group of patients:** *diabetes care*

**Intervention:** *Integrated protocolized Health Care for patients with diabetes I and II*

**Patient series:** *11 patients in 2002*

**Innovation period:** *1994–1997*

**Results in comparison to care as usual:**

- Safer? *not available*
- Better clinical outcome? *yes*
- Better client satisfaction? *yes*
- Cost savings? *unknown, presumably yes*
- Faster? *yes*
- Contribution to professional proud? *yes*

**Critical factors for success:**

- Enthusiastic leading professionals? *yes*
- Influence of patient groups? *yes*
- External pressure? *yes*
- Development of new profession? *yes*
- Professionals working as a team? *yes*
- Scientific evaluation in peer reviewed journal(s), PhD thesis or reports? *yes, see below*
- Support of one or more national agencies? *yes*
- Independent local developing agency? *yes*
- Use of modern ICT during intervention? *no*

**Anticipated availability of critical factors for dissemination of this innovation to other areas:**

- Distribution of professional publications? *no*
- Professional freedom for initiative? *no*
- Fast managerial and public decision making? *no*
- Adequate ICT? *no*
- Enough educational programs for professionals about the innovation? *yes*
- Clear distribution of responsibilities within the innovation? *yes*
- Adequate payment system? *no*
- Optimal catchment area for the innovation? *no*
- Embedded in quality management assurance policy? *no*

**Illustrative Photograph available?** *No*

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**Publication:** Arend IJM van den. *Towards optimal diabetes care: Final report of an evaluation of the diabetes innovation project in Gorinchem/Leerdam (Op weg naar een optimale diabeteszorg. Eindrapport evaluatie van het diabetes zorginnovatieproject te Gorinchem/Leerdam)*. Vakgroep Algemene Gezondheidszorg en Epidemiologie, januari 1996. In Dutch

#### 10. Integrated Care for COPD-patients in Utrecht

**Type of innovation:** *chain of care*

**Target group of patients:** *COPD-patients in Utrecht*

**Intervention:** *Multidisciplinary protocolized and continuous care*

**Patient series:** *3500 patients in 2002*

**Innovation period:** *1997–today*

**Results in comparison to care as usual:**

- Safer? not available
- Better clinical outcome? yes, less under- and overtreatment
- Better client satisfaction? not measured
- Cost savings? no data available
- Faster? yes
- Contribution to professional proud? yes

**Critical factors for success:**

- Enthusiastic leading professionals? *yes*
- Influence of patient groups? *no*
- External pressure? *yes*
- Development of new profession? *yes*
- Professionals working as a team? *yes*
- Scientific evaluation in peer reviewed journal(s), PhD thesis or reports? *no, not yet*
- Support of one or more national agencies? *no*
- Independent local developing agency? *yes*
- Use of modern ICT during intervention? *no*

**Anticipated availability of critical factors for dissemination of this innovation to other areas:**

- Distribution of professional publications? *no*
- Professional freedom for initiative? *no*
- Fast managerial and public decision making? *no*
- Adequate ICT? *no*
- Enough educational programs for professionals about the innovation? *yes*
- Clear distribution of responsibilities within the innovation? *yes*
- Adequate payment system? *no*
- Optimal catchment area for the innovation? *no*
- Embedded in quality management assurance policy? *no*

**Illustrative Photograph available?** *yes*

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#### 11. Stroke services in the region Heuvelland

**Type of innovation:** *chain of care*

**Target group of patients:** *patients with a stroke*

**Intervention:** *multidisciplinary protocolized and continuous care*

**Patient series:** *all stroke patients in the region*

**Innovation period:** *1995–today*

**Results in comparison to care as usual:**

- Safer? *yes*
- Better clinical outcome? *yes*
- Better quality through the patient's eye? *yes*
- Cost savings? *no date available*
- Faster? *yes*
- Contribution to professional proud? *yes*

**Critical factors for success:**

- Enthusiastic leading professionals? *yes*
- Influence of patient groups? *no*
- External pressure? *yes*
- Development of new profession? *no*
- Professionals working as a team? *yes*
- Scientific evaluation in peer reviewed journal(s), PhD thesis or reports? *yes, see below*
- Support of one or more national agencies? *yes*
- Independent local developing agency? *yes*
- Use of modern ICT during intervention? *no*

**Anticipated availability of critical factors for dissemination of this innovation to other areas:**

- **Distribution of professional publications?** *yes*
- **Professional freedom for initiative?** *no*
- **Fast managerial and public decision making?** *no*
- **Adequate ICT?** *no*
- **Enough educational programs for professionals about the innovation?** *yes*
- **Clear distribution of responsibilities within the innovation?** *yes*
- **Adequate payment system?** *yes*
- **Optimal catchment area for the innovation?** *no*
- **Embedded in quality management assurance policy?** *no*

**Illustrative Photograph available?** *No*

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**Publication:** Rosendal H, Wolters CAM, Beusmans GHMI, Boiten J, Crebolder HFJM.

*Stroke service in the Netherlands: an exploratory study of effectiveness, patient satisfaction and utilisation of healthcare.* Int. Journal of Intergrated Care-Volume 2: March 2002

## 12. Integrated care for psycho geriatric patients in The Hague

**Type of innovation:** *chain of care*

**Target group of patients:** *patients at home with an advice to be admitted to a nursing home*

**Intervention:** *Multidisciplinary protocolized and continuous care supported by a care manager*

**Patient series:** *32*

**Innovation period:** *1995–1996*

**Results in comparison to care as usual:**

- **Safer?** *not measured*
- **Better clinical outcome?** *yes, for the partners of the patients*
- **Better quality through the patient's eye?** *yes, for the partners*
- **Cost savings?** *postponing admission in nursing home*
- **Faster?** *yes*
- **Contribution to professional proud?** *yes*

**Critical factors for success:**

- **Enthusiastic leading professionals?** *yes*
- **Influence of patient groups?** *no*
- **External pressure?** *no*
- **Development of new profession?** *yes*
- **Professionals working as a team?** *yes*
- **Scientific evaluation in peer reviewed journal(s), PhD thesis or reports?** *Yes see below*
- **Support of one or more national agencies?** *no*
- **Independent local developing agency?** *yes*
- **Use of modern ICT during intervention?** *no*

**Anticipated availability of critical factors for dissemination of this innovation to other areas:**

- **Distribution of professional publications?** *yes*
- **Professional freedom for initiative?** *no*
- **Fast managerial and public decision making?** *no*
- **Adequate ICT?** *no*
- **Enough educational programs for professionals about the innovation?** *yes*
- **Clear distribution of responsibilities within the innovation?** *yes*
- **Adequate payment system?** *no*
- **Optimal catchment area for the innovation?** *no*
- **Embedded in quality management assurance policy?** *no*

**Illustrative Photograph available?** *yes*

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**Publication:** Weert-van Oene GH, Meijden WKD van der, Halsema JAM, Schrijvers

*AJP. United powers and shared burdens, (Vereende krachten, gedeelde lasten).* Vakgroep Algemene gezondheidszorg en Epidemiologie. Utrecht, 1996. In Dutch

## 13. Centralized out-of-duty services for General Practitioners

**Type of innovation:** *restructuring of services*

**Target group of patients:** *acute patients during non-office hours*

**Intervention:** *regional call center, consultations on one site, regional organized homevisits*

**Patient series:** *400.000 patients in 2002*

**Innovation period:** *1996–today*

**Results in comparison to care as usual:**

- **Safer?** *no data available*

- **Better clinical outcome?** no data available
- **Better quality through the patient's eye?** yes
- **Cost savings?** no
- **Faster?** no data available
- **Contribution to professional proud?** no

**Critical factors for success:**

- **Enthusiastic leading professionals?** yes
- **Influence of patient groups?** no
- **External pressure?** yes
- **Development of new profession?** yes
- **Professionals working as a team?** yes
- **Scientific evaluation in peer reviewed journal(s), PhD thesis or reports?** yes, see below
- **Support of one or more national agencies?** no
- **Independent local developing agency?** no
- **Use of modern ICT during intervention?** yes

**Anticipated availability of critical factors for dissemination of this innovation to other areas:**

- **Distribution of professional publications?** no
- **Professional freedom for initiative?** yes
- **Fast managerial and public decision making?** yes
- **Adequate ICT?** yes
- **Enough educational programs for professionals about the innovation?** yes
- **Clear distribution of responsibilities within the innovation?** yes
- **Adequate payment system?** yes
- **Optimal catchment area for the innovation?** no

**Embedded in quality management assurance policy?** yes

**Illustrative Photograph available?** yes

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**Publication:** Wieringen A Van, Ijzermans C, Vrakking A, Weert H van, Sixma H, Bindels P.

*Users assess out of hour services provided by an central post for GP's (Gebruikers oordelen over een huisartsenpost). Huisarts Wet 2000;43 (12). In Dutch*

#### 14. Continuous Care between home care and hospital care in Twente

**Type of innovation:** restructuring of relations

**Target group of patients:** all patients in the region

**Intervention:** creation of more than one joint venture between home care organization and hospital

**Patient series:** -

**Innovation period:** 1990–today

**Results in comparison to care as usual:**

- **Safer?** no data available
- **Better clinical outcome?** no data available
- **Better quality through the patient's eye?** yes
- **Cost savings?** yes, shorter length of stay
- **Faster?** yes
- **Contribution to professional proud?** yes

**Critical factors for success:**

- **Enthusiastic leading professionals?** yes
- **Influence of patient groups?** no
- **External pressure?** no
- **Development of new profession?** yes
- **Professionals working as a team?** yes
- **Scientific evaluation in peer reviewed journal(s), PhD thesis or reports?** yes, see below
- **Support of one or more national agencies?** no
- **Independent local developing agency?** yes
- **Use of modern ICT during intervention?** no

**Anticipated availability of critical factors for dissemination of this innovation to other areas:**

- **Distribution of professional publications?** no
- **Professional freedom for initiative?** no
- **Fast managerial and public decision making?** no
- **Adequate ICT?** no
- **Enough educational programs for professionals about the innovation?** yes
- **Clear distribution of responsibilities within the innovation?** yes
- **Adequate payment system?** no

- **Optimal catchment area for the innovation?** *no*
- **Embedded in quality management assurance policy?** *no*

**Illustrative Photograph available?** *yes*

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**Publication:** Lammeren GJ van, Zweggelt FC. *Results of the evaluation of hotel based hospital care (Resultaten van het evaluatie-onderzoek van het Zotel)*. NZI-rapport, augustus 1996. In Dutch

#### 15. Integrated primary health care in the town Almere

**Type of innovation:** restructuring primary health care and long term care

**Target group of patients:** 160.000 patients in 2002

**Intervention:** all PHC and CTC provided from neighbourhood centres

**Patient series:** -

**Innovation period:** 1980–today

**Results in comparison to care as usual:**

- **Safer?** no data available
- **Better clinical outcome?** comparable
- **Better quality through the patient's eye?** *yes*
- **Cost savings?** comparable, less hospital care and more PHC
- **Faster?** no data available
- **Contribution to professional proud?** *yes*

**Critical factors for success:**

- **Enthusiastic leading professionals?** *yes*
- **Influence of patient groups?** *yes*
- **External pressure?** *yes*
- **Development of new profession?** *yes*
- **Professionals working as a team?** *yes*
- **Scientific evaluation in peer reviewed journal(s), PhD thesis or reports?** *yes, see below*
- **Support of one or more national agencies?** *yes*
- **Independent local developing agency?** *yes*
- **Use of modern ICT during intervention?** *yes*

**Anticipated availability of critical factors for dissemination of this innovation to other areas:**

- **Distribution of professional publications?** *no*
- **Professional freedom for initiative?** *no*
- **Fast managerial and public decision making?** *no*
- **Adequate ICT?** *yes*
- **Enough educational programs for professionals about the innovation?** *yes*
- **Clear distribution of responsibilities within the innovation?** *yes*
- **Adequate payment system?** *no*
- **Optimal catchment area for the innovation?** *no*
- **Embedded in quality management assurance policy?** *no*

**Illustrative Photograph available?** *yes*

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**Publication:** Sixma. *New land, new town, new health care system*. Academic Thesis, Utrecht University, 1997.

#### 16. Multidisciplinary out-hospital care for patients with coronary heart diseases

**Type of innovation:** Disease Management Program within hospital

**Target group of patients:** CHD-patients

**Intervention:** protocolized multidisciplinary care program including preventive services

**Patient series:** all CHD-patients in University Medical Centre Utrecht

**Innovation period:** 1996–today

**Results in comparison to care as usual:**

- **Safer?** no data available
- **Better clinical outcome?** no data available
- **Better quality through the patient's eye?** all diagnostic procedures done in one morning
- **Cost savings?** no data available
- **Faster?** *yes*
- **Contribution to professional proud?** *yes*

**Critical factors for success:**

- **Enthusiastic leading professionals?** *yes*

- Influence of patient groups? *no*
- External pressure? *no*
- Development of new profession? *no*
- Professionals working as a team? *yes*
- Scientific evaluation in peer reviewed journal(s), PhD thesis or reports? *no*
- Support of one or more national agencies? *yes*
- Independent local developing agency? *no*
- Use of modern ICT during intervention? *yes*

**Anticipated availability of critical factors for dissemination of this innovation to other areas:**

- Distribution of professional publications? *no*
- Professional freedom for initiative? *No*
- Fast managerial and public decision making? *No*
- Adequate ICT? *Yes*
- Enough educational programs for professionals about the innovation? *Yes*
- Clear distribution of responsibilities within the innovation? *Yes*
- Adequate payment system? *No*
- Optimal catchment area for the innovation? *No*
- Embedded in quality management assurance policy? *No*

Illustrative Photograph available? *yes*

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### 17. Multidisciplinary Oncological patients in the region Arnhem

**Type of innovation:** disease management program

**Target group of patients:** cancer patients with recidives and metastases; palliative patient

**Intervention:** protocolized, multidisciplinary continuous care

**Patient series:** 814 admissions in 2001 and 1684 OPD-contacts

**Innovation period:** 1990–today

**Results in comparison to care as usual:**

- Safer? *yes*
- Better clinical outcome? *no data available*
- Better quality through the patient's eye? *not measured*
- Cost savings? *no data available*
- Faster? *yes*
- Contribution to professional proud? *yes*

**Critical factors for success:**

- Enthusiastic leading professionals? *yes*
- Influence of patient groups? *no*
- External pressure? *yes*
- Development of new profession? *yes*
- Professionals working as a team? *yes*
- Scientific evaluation in peer reviewed journal(s), PhD thesis or reports? *Yes, se below*
- Support of one or more national agencies? *no*
- Independent local developing agency? *no*
- Use of modern ICT during intervention? *no*

**Anticipated availability of critical factors for dissemination of this innovation to other areas:**

- Distribution of professional publications? *Yes*
- Professional freedom for initiative? *No*
- Fast managerial and public decision making? *No*
- Adequate ICT? *No*
- Enough educational programs for professionals about the innovation? *Yes*
- Clear distribution of responsibilities within the innovation? *Yes*
- Adequate payment system? *No*
- Optimal catchment area for the innovation? *No*
- Embedded in quality management assurance policy? *No*

Illustrative Photograph available? *yes (a, b)*

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**Publication:** Meiss-de Haas ChL, Falkmann H, Schrijvers AJP. *Organisational design for an integrated oncological department*. International Journal of Integrated Care (IJIC): vol. 1 (2001), issue 4. ISSN 1568–4156.

Velde, C. de c.s. *Co-operation in networks. An analysis of a chain of oncological, haematological and palliative care in the Arnhem region (Samenwerking in netwerken. Een analyse van de zorgketen oncologie/haematologie inclusief het netwerk palliatieve zorg in de regio Arnhem)*.

Internal report of Rynstaate Hospital Arnhem, 2002. In Dutch

### 18. A chain of care for traumatology patients

**Type of innovation:** restructuring ambulance and E & A hospital services

**Target group of patients:** traumatological patients

**Intervention:** protocolized, multidisciplinary, continuous care

**Patient series:** all patients in the region Rotterdam and Dordrecht

**Innovation period:** 1997–today

**Results in comparison to care as usual:**

- Safer? *yes*
- Better clinical outcome? *no data available*
- Better quality through the patient's eye? *yes, ambulance cars arrive sooner*
- Cost savings? *no*
- Faster? *yes*
- Contribution to professional proud? *yes*

**Critical factors for success:**

- Enthusiastic leading professionals? *yes*
- Influence of patient groups? *no*
- External pressure? *yes*
- Development of new profession? *no*
- Professionals working as a team? *yes*
- Scientific evaluation in peer reviewed journal(s), PhD thesis or reports? *no*
- Support of one or more national agencies? *yes*
- Independent local developing agency? *no*
- Use of modern ICT during intervention? *yes*

**Anticipated availability of critical factors for dissemination of this innovation to other areas:**

- Distribution of professional publications? *yes*
- Professional freedom for initiative? *no*
- Fast managerial and public decision making? *no*
- Adequate ICT? *yes*
- Enough educational programs for professionals about the innovation? *yes*
- Clear distribution of responsibilities within the innovation? *yes*
- Adequate payment system? *yes*
- Optimal catchment area for the innovation? *yes*
- Embedded in quality management assurance policy? *no*

**Illustrative Photograph available?** *no*

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### 19. Regional co-ordinated acute admissions in hospitals in Eindhoven

**Type of innovation:** restructuring hospital services

**Target group of patients:** acute hospital patients

**Intervention:** campaign 'stop admission stops'

**Patient series:** -

**Innovation period:** 2001–today

**Results in comparison to care as usual:**

- Safer? *yes*
- Better clinical outcome? *no data available*
- Better quality through the patient's eye? *less admission stops*
- Cost savings? *no data available*
- Faster? *yes*
- Contribution to professional proud? *yes*

**Critical factors for success:**

- Enthusiastic leading professionals? *yes*
- Influence of patient groups? *no*
- External pressure? *yes*
- Development of new profession? *no*
- Professionals working as a team? *yes*
- Scientific evaluation in peer reviewed journal(s), PhD thesis or reports? *Yes, but not with evaluative data*
- Support of one or more national agencies? *no*
- Independent local developing agency? *yes*
- Use of modern ICT during intervention? *no*

**Anticipated availability of critical factors for dissemination of this innovation to other areas:**

- Distribution of professional publications? *yes*
- Professional freedom for initiative? *no*
- Fast managerial and public decision making? *no*
- Adequate ICT? *yes*
- Enough educational programs for professionals about the innovation? *yes*
- Clear distribution of responsibilities within the innovation? *yes*
- Adequate payment system? *no*
- Optimal catchment area for the innovation? *no*
- Embedded in quality management assurance policy? *no*

Illustrative Photograph available? *no*

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**Publications:** Damkot JG, Laar ACBM van der. *Opramestops in algemene ziekenhuizen in de regio Zuidoost Brabant*. Medisch Contact, (2001). In Dutch  
Hautvast JLA, Bakker J, Boekema-Bakker N, Faber JAJ, Grobbee DE, Schrijvers AJP. *Place in the Tavern: A study to determinants of problems with admissions and discharges of Intensive Care units in The Netherlands (Plaats in de herberg. Een studie naar determinanten van opname—en ontslagproblemen op Intensive Care Afdelingen in Nederland)*. Utrecht: Universitair Medisch Centrum, 2001. In Dutch

**20. A new national vaccination program against Meningococci C**

**Type of innovation:** *new infrastructure*

**Target group of patients:** *children – 19 years*

**Intervention:** *vaccination program introduced within a year*

**Patient series:** *all children 1–19 years in The Netherlands*

**Innovation period:** *2002*

**Results in comparison to previous new vaccinations programs**

- Safer? *no data available*
- Better clinical outcome? *not measured*
- Better quality through the patient's eye? *yes*
- Cost savings? *no data available*
- Faster? *yes*
- Contribution to professional pride? *yes*

**Critical factors for success:**

- Enthusiastic leading professionals? *yes*
- Influence of patient groups? *yes*
- External pressure? *yes*
- Development of new profession? *no*
- Professionals working as a team? *no*
- Scientific evaluation in peer reviewed journal(s), PhD thesis or reports? *no, not with evaluative data*
- Support of one or more national agencies? *yes*
- Independent local developing agency? *no*
- Use of modern ICT during intervention? *yes*

**Anticipated availability of critical factors for dissemination of this innovation to other areas:**

- Distribution of professional publications? *yes*
- Professional freedom for initiative? *no*
- Fast managerial and public decision making? *yes*
- Adequate ICT? *yes*
- Enough educational programs for professionals about the innovation? *yes*
- Clear distribution of responsibilities within the innovation? *yes*
- Adequate payment system? *yes*
- Optimal catchment area for the innovation? *yes*
- Embedded in quality management assurance policy? *no*

Illustrative Photograph available? *yes*

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**Publications:** GGD Nederland, *Evaluation report first round of a vaccination campaign against Meningococci C (Evaluatierapport eerste ronde vaccinatiedcampagne meningokokken C, Internal report of the Netherlands Union of Municipal Agency for Health (GGD Nederland), 2002*

See for a preliminary evaluation: Greeff SC de, Vries M de, Ouwelant W van den. *The current vaccination campaign against Meningococcus C (De huidige vaccinatiedcampagne tegen Meningokokken C)* Infectieziekten Bulletin, 13, (2002), nr. 6, 219–223

**21. Collecting routine data to evaluate Health Care Innovations in Leidsche Rijn, town part of Utrecht**

**Type of innovation:** creating an infrastructure for an electronic base for daily routine data.

**Target group of patients:** all inhabitants in Leidsche Rijn

**Intervention:**

**Patient series:** 2000 patients in 2001

**Innovation period:** 1999–today

**Results in comparison to care as usual:**

- Safer? -
- Better clinical outcome? -
- Better quality through the patient's eye? -
- Cost savings? -
- Faster? -
- Contribution to professional proud? -

**Critical factors for success:**

- Enthusiastic leading professionals? *yes*
- Influence of patient groups? *no*
- External pressure? *no*
- Development of new profession? *no*
- Professionals working as a team? *yes*
- Scientific evaluation in peer reviewed journal(s), PhD thesis or reports? *no*
- Support of one or more national agencies? *yes*
- Independent local developing agency? *yes*
- Use of modern ICT during intervention? *yes*

**Anticipated availability of critical factors for dissemination of this innovation to other areas:**

- Distribution of professional publications? *yes*
- Professional freedom for initiative? *yes*
- Fast managerial and public decision making? *no*
- Adequate ICT? *yes*
- Enough educational programs for professionals about the innovation? *yes*
- Clear distribution of responsibilities within the innovation? *yes*
- Adequate payment system? *no*
- Optimal catchment area for the innovation? *yes*
- Embedded in quality management assurance policy? *no*

**Illustrative Photograph available?** *yes*

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