


Using a Patient Hotel: Perceptions of the Quality of Care by Patients Undergoing Analysis for Gastrointestinal Motility Disorders in the Netherlands

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Abstract

There is growing demand to improve healthcare services for patients. Patient hotel models can be applied to allow shorter inpatient stays, however, whether this improves patient satisfaction and quality of care is unknown. All consecutive patients referred for analysis of gastrointestinal (GI) motility disorders at Maastricht UMC, the Netherlands, who stayed overnight in the patient hotel (June 2017–July 2018), were asked to complete a questionnaire on patient satisfaction and quality of care. On a 4-point Likert scale, most patients reported they were largely to absolutely satisfied with the quality of care, regarding coordination, information, courtesy of nurses and staff, and privacy. Cost savings between 48,433 and 74,613 euros for 1 year were achieved, amounting to 613–944 euros per patient. Positive patient satisfaction and perception of quality of care with the patient hotel model were achieved. We show that moving overnight stays from inpatient to an outpatient hotel provides substantial financial savings for hospitals, healthcare providers, and insurance companies.

Keywords

quality of care, gastrointestinal disorders, motility disorders, patient hotel model, healthcare costs

Introduction

There is global interest in improving the quality of healthcare services. Until now, quality of care of hospitals was focused on medical services and treatments. There is increasing knowledge that patient experiences of healthcare are also heavily affected by the quality of auxiliary support services. These can be seen as hospitality of hospitals and involve logistics, food, cleanliness, and courtesy.¹ One suggested approach to improve hospitality includes a patient hotel model.² This facilitates a growing need in healthcare, by allowing shorter inpatient stays, while still focusing on positive patient experiences regarding hospitality.³ There are limited number of studies available on patient hotel models. Moreover, these primarily involved patients for peri-operative care, ambulatory surgery, or hematological treatments.^{2,4,5} Recently, hotels have been used as healthcare facilities due to an additional demand for care and rehabilitation centers for COVID-19 patients.^{6,7} Studies on patient hotel models, however, did not include assessing patient

experiences regarding the quality of care in diagnostic setting.

Gastrointestinal (GI) symptoms are common and include abdominal pain, diarrhea, constipation, bloating, nausea, vomiting, and fullness and may be present with organic diseases such as cancer, inflammatory bowel disease, celiac disease, or functional and motility disorders such as slow-

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transit obstipation, gastroparesis, or chronic intestinal pseudo-obstruction. Particularly, functional GI disorders are highly prevalent; a recent multinational survey study reported that over 40% of persons worldwide suffer from at least one functional GI disorder,⁸ with significant negative effects on quality of life.⁹ Improving quality of care for these patients can be achieved through open communication with patients,¹⁰ and by logistics such as combining expertise in highly specialized centers.^{11,12} Due to increasing healthcare demands with concomitant centralization of expertise on complex GI motility disorders, patients are referred for analysis and treatment in tertiary referral centers. From patients' perspective regarding satisfaction and experience, it is unknown how to structure testing and analysis in tertiary centers and whether a patient hotel model can improve patients' quality of care. The aim of our study was therefore to investigate patient experience and satisfaction but also healthcare costs in patients referred for analysis of complex GI motility disorders by using a patient hotel model.

Methods

Standard Procedure of Diagnostic Testing

Our department of gastroenterology and hepatology in Maastricht, the Netherlands, functions as a tertiary referral center of expertise with regard to complex GI motility disorders. Patients with problems of severe abdominal pain, weight loss, incapability of eating, early satiation, vomiting, dysphagia, abdominal bloating or distension, intestinal stasis, and disturbed GI transport are referred to our department for analysis of their GI function. Testing is performed in order to investigate any malfunction within the GI tract indicative of a motility disorder ranging from esophagus, stomach, small intestine to large intestine. We receive patient referrals from all regions in the Netherlands, as well as from abroad. First, patients have an outpatient consultation with the gastroenterologist to inventorize complaints and subsequently create a diagnostic plan including tests for motility analysis. Some of the diagnostic tests employed are only available in our center in the Netherlands. Patients undergo several diagnostic tests (e.g., gastric emptying test, pH and impedance monitoring of the esophagus, esophageal manometry, antroduodenal manometry, colonic manometry, endoscopy, and/or radiological exams such as MRI or CT scan) that are planned on consecutive working days preferably in 1 week. Standard procedure during analysis includes consultation with other caregivers such as an experienced dietician, pelvic floor physiotherapist, psychiatrist, and rehabilitation physician if deemed necessary by the gastroenterologist. Consultations with these caregivers are scheduled on testing days and take place at the GI motility unit where patients have function testing performed. Previously, patients traveling long distances for consultations with caregivers and diagnostic testing stayed overnight in the hospital. Due to limitations in the capacity of hospital beds, in 2017, we

explored the option of outpatients staying overnight in a hotel in close vicinity of our hospital at the hospital's expense.

Study Population

This was a prospective qualitative study involving all patients referred to our institution (Maastricht University Medical Center, Maastricht, the Netherlands) for analysis of GI motility disorders. All participants were scheduled for testing during consecutive days. During testing days, patients stayed overnight in the hotel that is adjacent to our hospital (across the street, i.e., within 3 min walking distance). All included patients that stayed for at least one night in the patient hotel between June 2017 and July 2018 were approached via email for a questionnaire on patient experience, satisfaction, and quality of care. Informed consent was obtained from all patients. As this study concerns service evaluation using questionnaires, a specific ethics board approval waiver applies as this study does not fall under the Dutch "Medical Research Involving Human Subjects Act".

The Patient Hotel

The hotel is located in the immediate vicinity of our hospital. The hotel offers 275 individual rooms, each with a private bathroom. There is no medical equipment on site in the hotel, nor is there a call button that is connected to the hospital. This means that patients staying at the hotel should be able to self-care. Patients receiving intensive medical support such as total parenteral nutrition or mobility assistance were not eligible for the patient's hotel and were admitted to the hospital. Patients were allowed to have one relative or friend to visit or stay the night in the hotel.

Questionnaire

After completion of the diagnostic work-up, patients were asked to complete a questionnaire. The questionnaire used was developed by medical staff and a healthcare worker involved in quality of care (see Supplementary Material 1) at our hospital. As the questionnaire has been customized for our particular patient group, no validation data is available. The questionnaire was written in Dutch, and therefore participants needed to understand written Dutch and be able to write in Dutch. Patients were asked to return the questionnaire by regular mail with an enclosed envelope. Twenty-six closed questions were approached for completing the questionnaire. Patients could rate the different items of the questionnaire on a 4-point Likert scale; (1) no, not at all; (2) partially; (3) largely; and (4) yes, absolutely; or could state whether it was not applicable. In total, there were eleven open-ended questions where patients could report and write their thoughts and feelings. The final question about the rating of the hotel stay included a scale from

1 to 10 (with 10 being the maximum score). Results from open-ended questions are described and results from closed questions are presented as percentages.

Cost Analysis

Costs of patients staying in the hotel during testing days were calculated between March 2018 and March 2019. Although this period is different from the period in which patients were recruited for questionnaire response, we specifically chose this period for cost analysis to have a complete 1-year period (i.e., the fiscal unit for cost calculation) that reflects the potential of cost savings. During this 1-year period, the number of patients analyzed and staying in the patient hotel was similar to the amount we currently take in. Cost savings for overnight stay were calculated based on the difference of average overnight hospital stay minus overnight stay at the patient hotel. Costs of diagnostic tests were not considered in the calculation as these would have been performed regardless of the location of overnight stay.

Results

The patient hotel model was initiated in June 2017. In the first year (June 2017–July 2018), forty-six patients visited our outpatient clinic for analysis of complex GI motility disorders and stayed in the patient hotel. All forty-six patients were asked to participate in the study, twenty-two patients were willing to participate of whom sixteen patients fully completed and returned the questionnaire. During the study period, a total of four patients stayed at the hospital (5% of all patients staying overnight), who were not included in the current study.

Closed Questions

Results from the closed questions are shown in Table 1. With regards to the information provided about the diagnostic testing procedures by the physician and about the overnight stay in the hotel, patients reported that they were largely to absolutely satisfied with the given information (both 75%). A total of 94% of patients were largely to absolutely satisfied with the written information given by the physician and/or our administrative office regarding information about the process of hotel stay, scheduling, and diagnostic work-up. Reception and stay at the hotel were absolutely satisfactory for patients (88% and 94%) and all eleven patients responded with full agreement that hotel staff handled adequately and with respect to special personal circumstances (e.g., wheelchair availability with access to the hotel room and bathroom). Diagnostic testing and contact with the nurses were considered absolutely careful, genuine, and professional. Five patients had a consultation with the psychiatrist and four of them (80%) were largely or totally satisfied with the consultation. Six patients consulted a dietician, of whom two patients (33%) and three patients (50%)

respectively documented large to absolute satisfaction with the consultation.

In general, patients were largely satisfied with the guidance by the staff during hotel stay. The final consultation was considered largely satisfactory with regards to the duration, availability to ask all questions, and discussion of personal treatment goals. Slightly over half of patients felt that they could bring up their own ideas and decisions for the final treatment plan. Overall, patients did not miss the contact with other patients during hotel stay (81%: not at all). They also felt there were enough possibilities and was enough time to ask medical questions to medical specialists or nurses during hotel stay. An average score of 8.3 (10 maximum; 1 minimum) was given by patients for hotel stay.

Open-Ended Questions

In response to the question of how patients perceived the approach in our hospital prior to hotel stay, they reported that they appreciated personal contact, clarity and kindness of communication, and the empathic approach. Apart from a single patient who responded that a mistake was made regarding the date of the hotel stay and another patient reported missing an information leaflet about diagnostic testing, participants did not have any suggestions or items to improve the approach prior to hotel stay. Reception and stay in the hotel were perceived as friendly, respectful, hospitable, and with appropriate privacy. Items for improvement regarding reception or stay in the hotel were not raised.

In response to the question whether patients would prefer staying in the hotel or in the hospital for the next time, 88% of participants would choose to stay again in the hotel. Several patients responded and stated that staying in the hotel was pleasant and made them feel less like a patient as the stigma of “hospitalization” was not present. Furthermore, staying alone or with a relative in the hotel felt more comfortable with an informal atmosphere and enabled better night rest (“*Staying at the hotel made me feel more free and allowed exploring or walking outside the hotel, which I would not have done when staying in the hospital*”). Some patients who were not able to walk long distances and used a wheelchair came across practical issues with transport from the hotel to the hospital.

Regarding diagnostic testing, patients appreciated the time, expertise, and attention of the nurses performing the tests, the staff and physicians in the hospital (“*The attention, professional expertise, explanation, patience and time the nurse took to guide me was amazing. She made me feel very comfortable during all these tests*”). Consultation with other caregivers was valued greatly as patients felt that their symptoms and complaints were being taken seriously. Patients mentioned the pleasant and professional approach and communication by the dietician and psychiatrist. One patient preferred to know the exact timing of consultation with the psychiatrist and dietician beforehand, as these were not explicitly mentioned. Caregivers such as psychiatrists and dieticians visited patients

Table 1. Results of Closed Questions.

	(1) No, not at all	(2) Partially	(3) Largely	(4) Yes, absolutely <i>n</i>	Not applicable							
					%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>
<i>Prior to hotel stay:</i>												
1		You had a consultation at our outpatient clinic. Did the physician inform you about the process of diagnostics (initial consultation, admission, final consultation) at the hospital in Maastricht?		0	0	4	25	4	25	8	50	0
2		Did the physician inform you about the process of staying overnight in the hotel?		1	6	3	19	1	6	11	69	0
3		How do you rate the contact with our office regarding the scheduling of consultations and tests?		0	0	1	6	2	13	13	81	0
4		Were you satisfied with the written information received?		1	6	0	0	1	6	14	88	0
<i>Reception and stay in the hotel:</i>												
5		Are you satisfied with the reception at the hotel?		0	0	0	0	2	13	14	88	0
6		Are you satisfied with the stay at the hotel?		0	0	0	0	1	6	15	94	0
7		Did the hotel take personal circumstances into account?		0	0	0	0	0	0	11	100	5
<i>Diagnostic testing in hospital:</i>												
8		Do you feel that the nurse listened and treated you carefully?		0	0	0	0	0	0	16	100	0
9		Do you feel that the nurse listened carefully to you?		0	0	0	0	0	0	16	100	0
10		Did the nurse have enough time for you?		0	0	0	0	0	0	16	100	0
11		Did you find the nurse professional?		0	0	0	0	0	0	16	100	0
<i>Consulting with other caregivers:</i>												
12		Are you satisfied about the consultation with the psychiatrist?		0	0	1	20	3	60	1	20	11
13		Are you satisfied about the consultation with the dietician?		0	0	1	17	3	50	2	33	10
14		Are you satisfied about the consultation with the rehabilitation specialist?		0	0	0	0	0	0	0	0	16
15		Are you satisfied about consultations with other caregivers?		0	0	0	0	0	0	4	100	12
<i>General questions:</i>												
16		Are you satisfied about the guidance by our staff during your stay?		0	0	0	0	1	8	11	92	4
17		Are you satisfied with the final consultation with the gastroenterologist?		0	0	1	7	3	21	10	71	2
18		Are you satisfied with the duration of the final consultation?		0	0	0	0	3	21	11	79	2
19		Were you able to ask all your questions during the final consultation?		0	0	0	0	6	40	9	60	1
20		Were you able to discuss your treatment goals?		0	0	2	13	3	20	10	67	1
21		Were you able to put in your suggestions and decisions regarding the treatment plan?		2	15	1	8	4	31	6	46	3
22		Do you feel that communication between our team and your own medical specialist was sufficient?		0	0	2	15	2	15	9	69	3
23		Did you return home feeling satisfied?		1	7	2	14	2	14	9	64	2
24		Did you miss the contact with other patients during your stay?		13	81	2	13	0	0	1	6	0
25		Did you have enough possibilities to ask medical questions to our staff during your stay?		1	7	2	13	4	27	8	53	1

in the GI motility unit and one patient felt a bit overwhelmed by the “sudden” visit.

In general, patients reported to be happy and satisfied with the care given during hotel stay and the hotel stay itself. However, some patients felt that testing on consecutive days was intense and strenuous, which might be less intense when staying in the hospital during testing days.

They speculated that the hospital setting might give more physical and mental rest.

Costs

In the period from March 2018 to February 2019 a total of seventy-nine patients stayed for a median duration of two

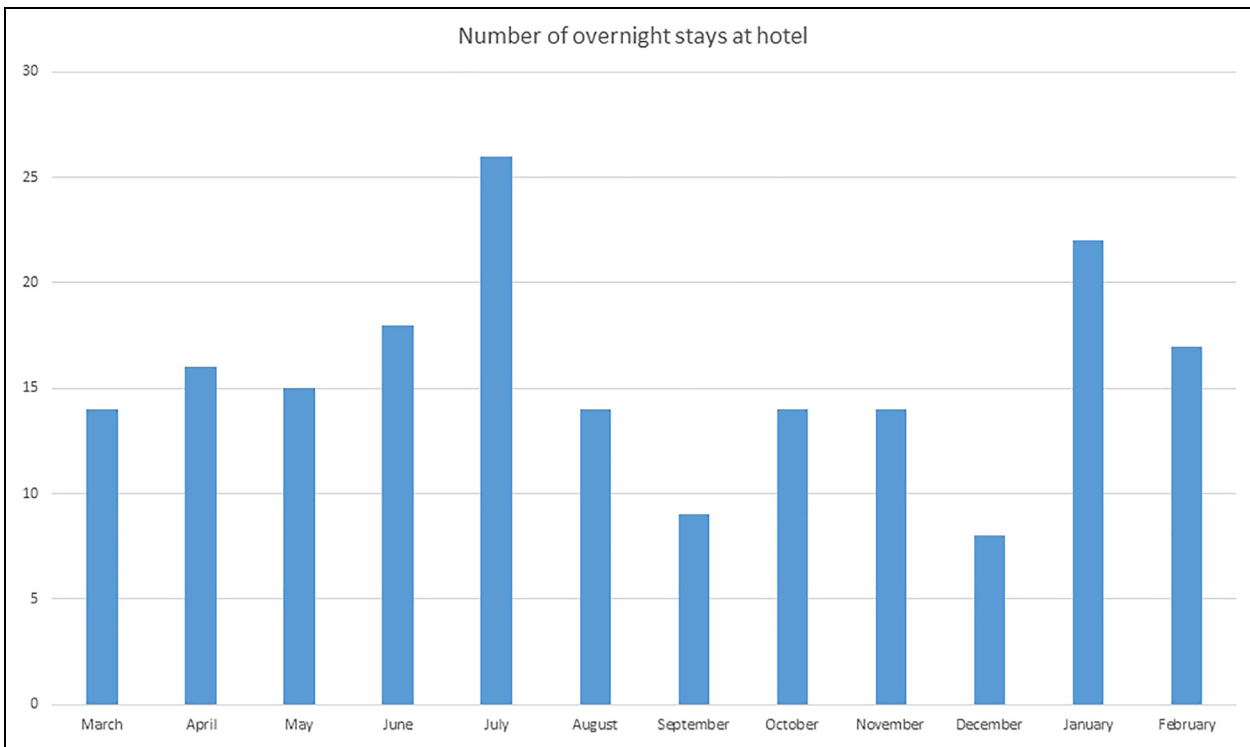


Figure 1. Number of overnight hotel stays during the period of March 2018–February 2019.

nights (IQR: 2–3, minimum 1, maximum 5) in the hotel (Figure 1). For the purpose of comparison, costs of overnight stay in the hotel were assumed to be similar during this period and we applied the highest cost per night of hotel stay for the calculation. When comparing the total costs that would have been made if patients had stayed in the hospital to the costs from the hotel, a minimum of 48,433 to a maximum of 74,613 euros was saved by the inpatient hotel model, amounting to savings between 613 and 944 euros per patient, and between 259 and 399 euros per night.

Discussion

Our study shows that positive patient experiences and satisfaction can be facilitated by using a patient hotel model for the analysis of complex GI motility disorders. Patients perceived their quality of care as high with good experience regarding coordination, information, courtesy of nurses and staff, and privacy. Furthermore, we show that moving stays overnight from inpatient to an outpatient hotel model provides substantial financial cost savings for hospitals, healthcare providers, and medical insurance companies.

Only a few studies have investigated the quality of care through patients' perspectives. Items that are important for patients include emotional support, empathy and respect,¹³ communication with physicians, nurses, and other hospital staff, and cleanliness of the hospital room and bathroom.¹⁴ Currently, for several disorders, patient-reported outcome measures (PROMs) are used to assess treatment efficacy.^{15,16}

However, when looking at quality of care and patients' preferences regarding care and treatment for complex GI motility disorders, only a limited number of studies have been performed. None of these included patient satisfaction, experience and quality of care with respect to different locations of their overnight stay.^{9,17–21} A patient hotel model has been introduced as a solution to the growing need of healthcare delivery. The model allows to include hospitality as well as patient health and improved healthcare outcomes.² Additionally, as inpatient stays are moved out of the hospital, it is considered as a cost-effective alternative for healthcare.

In line with previous studies, we report on patient satisfaction of a patient hotel model as this allows patients to stay in a single room allowing more privacy.^{4,22} Privacy, the silence and rest in the hotel room as compared to the hospital was valued greatest by patients and served as most important factor for the positive experience. Privacy for patients improves social support by family and relatives, improves consultation with physicians and nurses²³ and makes patients feel safe.²⁴ In fact, a homelike setting of hospital care is preferred by hospital staff and patients as it resembles a quiet, calm ambience with encouragement of social interaction.⁵ As reported by our patients, staying in a hotel makes the patient have greater freedom, independence, feel less as a patient, and patient dignity is considered higher. Providing for patient rest and a homelike environment also affects sleep quality. Indeed, it has been shown that patients staying in a single room results in higher patient satisfaction with respect to healthcare, reduced noise, improved quality of

sleep, and better experience of privacy and dignity.²³ Particularly noise in hospitals is considered annoying as noise sources are numerous and often loud (e.g., pagers, telephones, alarms, and noises from roommates), acoustic conditions are poor as floor- and wall surfaces are not sound absorbing.²⁵ Consequently, this may lead to increased stress levels and even result in a negative impact on health outcomes such as increased blood pressure and heart rate.²⁵ Patient satisfaction was reflected by the fact that that nine out of ten patients would chose the patient hotel over the hospital in the future. This presumably leads to greater willingness and compliance of patients to complete diagnostic tests while on the other hand, easier and closer communication of medical staff to patients with regards to explanation of testing and results. Such aspects are, however, difficult to translate in numbers of avoided consultations or cancelled diagnostic tests.

Another important issue raised by patients is feeling taken seriously by nurses, administrative staff, and physicians. Patients felt heard when caregivers took the time to listen to them and have open communication with empathy and respect. When relatively “healthy” patients are admitted in the hospital in a multiple occupancy room, patients feel more ill between other severely ill patients. Furthermore, the hospital setting can have a negative impact on the communication between healthcare providers and the patient as less extensive information is given and sensitive issues may not even be discussed due to respect of privacy or confidentiality.²⁵

In line with a previous study from the Netherlands in oncology and hematology, it was shown that costs of outpatient care and daycare treatment is lower than inpatient care.²⁶ This approach of moving inpatient stay to outpatient stay may be interesting for other medical specialties or other countries, for instance organ transplant screening patients or ambulatory interventions requiring one night observation (in gastroenterology, ERCP). Implementation depends on hospital regulations, arrangements for reimbursement and the need for shorter inpatient stays. In our case, moving patients out of the hospital during diagnostic work-up resulted in available hospital beds that could be used for care of other acutely ill patients. Arguably, health insurance companies—and by extension, society in general—will benefit from the patient hotel model as shown by the lower costs of overnight stay, and subsequently, expected reimbursement claims. Future medical care includes more complex tertiary care, which becomes more centralized in centers of expertise, resulting in care not being available regionally. Even in a relatively small country as the Netherlands—with relative short travel distances—it appears that an inpatient hotel model is not only successful with respect to patient satisfaction but also with respect to economic purposes. Although patient hotels are still a relatively new concept, future studies are needed to assess which patient groups would benefit the most from outpatient stay, as not all type of care may be eligible for a patient hotel model.

Strengths of the current study include the setting of the patient hotel model and applying both patient experiences and cost aspects of the patient hotel model. To our knowledge, this is the first qualitative study assessing these aspects with regard to quality of care for complex GI motility disorders. Limitations of this study include the potential of selection of patients who responded and completed the questionnaire, as sixteen out of the forty-six patients (35%) completed and returned the questionnaire which may represent a specific selection of patients. The small number of patients who participated in the study may have resulted in skewed results, however, we did not observe any outliers. Second, we did not randomize patients in the same period between hospital stay and hotel stay and thus our data does not allow direct comparison between hotel and hospital stay. Third, we developed a customized questionnaire for our specific patient population which includes similar items to another validated questionnaire on patient experience.⁴ For our custom-made questionnaire applied in this study, no validation data is available. One should realize that results from questionnaires or interviews is subjective but at the moment is our best proxy to assess patient experience and satisfaction. Although cost analysis was not a comprehensive but a hypothetical cost analysis, our study shows the amount of potential cost savings when using a patient hotel model. Medical costs of function tests, other diagnostic modalities and employee hours (nurses, doctors) were not included in the analysis as these costs would have been made regardless of the location where the patient stayed.

Conclusion

In conclusion, an inpatient hotel model for analysis of complex GI motility disorders has shown to be satisfactory and is even preferred by patients above a traditional hospital setting. In addition, by moving overnight stay of outpatients to hotels instead of the hospital, substantial financial savings are achieved. Both of these aspects provide clear benefits not only for patients, but also for healthcare providers, insurance companies, and caregivers. In this regard, we highly recommend using a patient hotel model for analysis and diagnostic purposes.

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Declaration of Conflicting Interests

GM: none to declare.

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JWK: none to declare.

JMC: none to declare.

JV: none to declare.

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Author's Contribution

Conceptualization AAM, DK, JK, JC, JV; interpretation of the data JV, GM; initial drafting of the manuscript GM, DK, AAM; critical review of the manuscript JK, JC, AAM, DK; supervision: DK, AM. All authors approved the final manuscript.

Ethics and Other Permissions

Patients gave informed consent to participate in the study.

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Supplemental material

Supplemental material for this article is available online.

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