ADDITIONAL INQUIRIES

To Seller:

7. *You indicate that $500,000 will fund "new career programmatic opportunities for students from Western Montana who are interested in working in the healthcare field" and healthcare infrastructure at the new Missoula College to be constructed on the East Broadway campus.*

f. What data did the Board consider indicating students who complete these studies will stay within CMC's service area and provide healthcare services?

In response to our question 7f, your client wrote in part: "Using studies provided by the Billings Regional Health care system, we determined that up to 70% of residents who completed their training in rural areas stayed in those areas".

Please provide our offices with copies of the studies provided by the Billings Regional Health care system.

RESPONSE TO 7f: The CMC Board and the University of Montana (UM) relied on several sources of data from the Billings Health Care area in its response, as follows:

a. The Montana Family Medicine Residency ("MFMR") program is a residency training program for physicians that has been located in Billings since 1996. It is based out of RiverStone Health, a Federally Qualified Community Health Center. On its website, RiverStone has provided the following information relative to MFMR graduates:

> "MFMR graduates are scattered throughout the state. **Over 70% of our graduates remain in Montana.** Some are originally from Montana, but many have come from out of state and stayed! Graduates are practicing in many different venues, including small-town rural practice, full-spectrum private practice with obstetrics, county health departments, hospitalists, residency faculty, the Indian Health Service, and more."

A copy of the website page is attached.

b. The Montana Healthcare Workforce Statewide Strategic Plan (2011) ("Healthcare Workforce Plan"), a copy of which has been provided to the AG, in the section covering Physician's (pages 54-60), provides the following comments and/or data:

- The well documented best practice of "growing your own" is a strategy that plays a major role in healthcare workforce development in Montana. Page 5. It is a proven fact that training doctors locally is the strongest predictor of where they will stay and practice medicine. Page 54

- Creating more opportunity for students to train in Montana provides a pipeline for Montana medical students to remain connected to their state. Page 54

- Studies indicate there is a high correlation between growing up in a rural area, training in a rural area, and staying within a rural area to practice medicine. Page 54

- MFMR is well recognized for its commitment to rural and underserved care. It has graduated 71 family medicine physicians, with 51 of the graduates in active medical practice in Montana – **a 72% retention rate** for the state. Page 55

- One strategy proposed by the Healthcare Workforce Plan in 2011 to attract more physicians to Montana was "To develop a family Medicine Residence Program in Western Montana". Page 56 [Note: That has now occurred in Missoula with the development of the Family Medicine Residency of Western Montana ("FMRWM")]

c. The history, mission and process to develop a family medicine residence program in Western Montana, was outlined by the FMRWM in a January 29, 2014, PowerPoint slide show in which it observed:

- **Approximately 70%** of graduates of the Montana Medicine Residency in Billings remain in Montana. Slide 11

- An older map was attached showing 44 of 64 graduates remained in Montana, a **retention rate of 69%.** Slide 12 [Note: The Healthcare Workforce Study indicated a **retention rate of 72%** based on 51 of 71 graduates staying in Montana, using more recent data]

- Medical professionals are likely to remain where most recent training (i.e. residency) was completed. Slide 11

- The ten (10) slots in FMRWM's first residency class were filled by eight (8) physicians who were Montana natives (4), or who had strong Montana connections (4). Slide 19

- FMRWM is committed to developing family physicians who are compassionate, clinically competent, and motivated to serve patients and communities in the rural and underserved areas of Montana. Slide 22

A copy of the full slideshow is attached hereto.

d. Other data

A Graham Center article published in the American Family Physician indicates that based on 2009 data from the American Medical Association Masterfile, 56% of family medicine residency program graduates practice within 100 miles of their residency program, with 19% within 5 miles and 39% within 25 miles.

A copy of the article is attached.

e. Rocky Mountain College PA Data

The CMC Board and UM are aware of the data from the Rocky Mountain College PA program which shows that 25% of the graduates will stay in Montana to practice. See page 52 of the Healthcare Workforce Plan. However, for a number of reasons, some related in general to data of this nature, and some specific to the Rocky Mountain College program, the Board and UM believe the 70% retention rate data to be more applicable to the proposed training programs at UM.

With the possible exception of medical residencies, for which such data appears to be systematically collected, the collection of data regarding geographic retention of graduates from health professions training programs, which include at UM, physical therapy, social work, public health, pharmacy practice and medical residents – and, under the current proposal, physician assistants – is problematic for at least several reasons:

- The vast majority of universities engaged in the education of health professionals do not have a vested interest in the retention of graduates. In fact, universities often encourage relocation beyond their geographic location for a variety of reasons including but not limited to: taking skills sets to new locations to influence change; improving the reputation and visibility of the host university; ability to recruit new students for the university through internships and job shadowing.

- The density of health professionals in the geographic market of the university is frequently sufficient; meeting local or regional need was not in the mission.

- The influx of health professionals from other universities is encouraged by the hospitals and clinics to integrate other approaches to patient management.

- The inclusion of programming to train health professionals is not driven by regional need but in light of market demand – highly desirable occupations and the numbers of students that can be attracted drives the development of new programs. At UM, for example, the physical therapy program is evaluating over 650 applications for 34 slots. These data drive the development of new programs at universities in population-dense areas

where supply and demand are not an issue – but the potential for revenue streams associated with a new program, particularly for higher-tuition private schools, is an issue in higher education.

Unfortunately, the training of health professionals at other institutions often does not translate to meeting the health care needs in rural and underserved areas. In point of fact, UM is proposing new training programs based on need – not as an opportunity to create revenue streams. It is a major intent of the UM proposal to develop best practices to recruit and retain health professionals to remain in the region. Moreover, the proposal by UM parallels the rationale and strategies employed by the FMRWM – to create incentives and focus recruitment on students who have a sincere desire to practice in the region. In the present proposal 23% of UM's request is for an endowment for loan repayment awards to retain graduates in the region, and a substantial portion of the requested gift for new health professions program development is to support rural rotations to enhance retention.

UM does not collect geographic retention data; it is not an accreditation requirement. Anecdotally, a high percentage of graduates from UM do remain in the region; ironically, UM is aware of a number of graduates who relocate to markets with higher compensation (e.g. Seattle, Portland) simply to more rapidly repay student loan debt – then relocate to the region as soon as is feasible. UM hopes to prevent or at least mitigate that migration through the proposed loan forgiveness incentive programs.

It is also the position of UM that the development of an exciting, contemporary interprofessional infrastructure and telehealth support will in fact attract health professionals trained elsewhere who are seeking unique opportunities to practice in the attractive region we live in – very likely offsetting the migration of some graduates elsewhere.

Rocky Mountain College is a private school with much higher tuition than UM, and only 25% of the PA program students are from Montana. See page 52 of the Healthcare Workforce Plan. Retention data from the Rocky Mountain PA program is likely reflective of one or more of the reasons noted above why such data is problematic for purposes of comparing it to UM's proposed program. Accordingly, UM does not believe the Rocky Mountain data is as relevant to its proposed new PA program as the data associated with programs created to fill a geographic need, such as the MFMR in Billings and the FMRWP in Missoula.

Also more relevant is data from a study published in 2006 in the Journal of Physician Assistant Education relating to a PA program through the University of Colorado. The mission was to create a rural track program as an approach to meet a need to place more graduates in rural Colorado areas, very similar to the mission and need in Montana. Based on data using graduates from 1997 through 2003, it was found that 54% of the practicing PAs were in rural communities. This was

achieved using a rural track program, but without a loan forgiveness program like the one proposed by UM which should be even more effective to incentivize graduates to stay in the western Montana area.

A copy of the article/study is attached.

It is the expectation of UM that because of the focus on attracting Montana students, filling a regional need, developing a quality program focusing on interprofessional training, providing for rural rotations in affiliation with the FMRWM residents, and providing financial incentives to practice in western Montana through the loan forgiveness program, that a 70% retention rate in western Montana is achievable.

Identify the specific healthcare professions(s) involved.

RESPONSE: The FMRWM, for which support is proposed, is the only **family medicine** residency program in the western Montana. Its physician residents (MDs and DOs) will focus on a curriculum with a goal of producing primary care family medicine physicians to serve the rural and underserved areas of Montana. The curriculum for PGY1 – PGY3 focused on primary care/family medicine is outlined in FMRWR Slides 30-33.

Provide specificity as to the training and practice areas. For example, if a healthcare worker was trained in Carbon County, Montana, do the studies indicate that the worker:

(i) will stay in Carbon County

(ii) will stay in a rural area somewhere in Montana, or

(iii) will stay in a rural area anywhere in the United States?

RESPONSE: No specific data of this nature, other than the MFMR map referenced above, was supplied or relied upon.

Provide an exact percentage, instead of "up to 70%".

RESPONSE: See above showing data for a 69% retention rate based on 64 MFMR graduates, and a more recent retention rate of 72% based on 71 MFMR graduates.

Define "resident". For example, does "resident" mean that Montana is the legal residency of the healthcare trainee? Or, does it refer to legal residence in the county where the training occurs or in some other place? Or does "resident" have another meaning?

RESPONSE: For these purposes, "resident" does not refer to legal residency (e.g. a resident of Montana or a particular County), but rather to the physician "residents" who are participating in the MFMR residency training program. They could be (and are) legal residents of Montana and other states.

Graham Center Policy One-Pager

Migration After Family Medicine Residency: 56% of Graduates Practice Within 100 Miles of Training

E. BLAKE FAGAN, MD; SEAN C. FINNEGAN, MS; ANDREW W. BAZEMORE, MD, MPH; CLAIRE B. GIBBONS, PhD, MPH; and STEPHEN M. PETTERSON, PhD

With state planners working to address primary care shortages and federal graduate medical education payment reform looming, regional retention statistics for family medicine residency programs are a subject of high interest. Using the 2009 American Medical Association Physician Masterfile, we found that 56% of family medicine residents stay within 100 miles of where they graduate from residency.

Insurance expansion, paired with evidence of a primary care physician shortage and a known geographic maldistribution of primary care physicians,[1] has policymakers and stakeholders eager to understand the influence of family medicine residency program location on postgraduation practice location. It is often quoted that 50% of family medicine residents stay within 100 miles of where they graduate, whereas in reality, little evidence exists to support this claim.[2,3] A study in 1995 assessed all residency graduates (not exclusively family physicians) and found that 51% of physicians were practicing in the state in which they graduated from residency.[4]

2009 data from the American Medical Association Physician Masterfile show that 56% of family medicine residency program graduates practice within 100 miles of their residency program. Of note, 19% locate within five miles, and 39% locate within 25 miles of their residency program *(see accompanying figure)*.

The distribution of physicians continues to compromise access to primary care, a problem compounded by limited volume of training outside of major metropolitan areas and large academic health centers.[5] More research is needed to explore the influences of practice site other than training location, but these findings seem to support current efforts to decentralize graduate medical education training through models such as teaching health centers and rural training tracks.

The information and opinions contained in research from the Graham Center do not necessarily reflect the views or the policy of the AAFP.

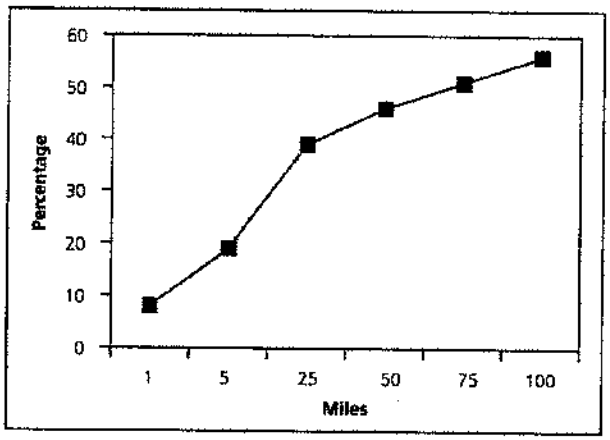

Figure. Percentage of family medicine graduates who practice within 100 miles of their residency training site.

Data from the 2009 American Medical Association Physician Masterfile.

A collection of One-Pagers published in *AFP* is available at http://www.aafp.org/afp/graham. One-Pagers are available from the Graham Center at http://www.graham-center.org.

Author disclosure: No relevant financial affiliations.

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Development and Outcomes of a Rural Track Within a Primary Care Physician Assistant Program

Cathy C. Ruff, MS, PA-C; Jane Gray, MD; Mary Arthur, PA; Gerald Merenstein, MD, University of Colorado Health Sciences Center, Denver, Colorado

BRIEF REPORT

A physician assistant (PA) education program rural track was developed to improve non-metropolitan placement. Graduates (1997-2003) of this rural track were interviewed about the community and area of health care in which they practiced and their admission files were reviewed to identify previous rural community exposure. Of the 19 graduates with rural backgrounds, 58% are practicing in rural communities, while 56% of those with little or no rural background are also serving in rural areas. Changes to both the clinical and didactic curriculum increased student exposure to rural settings and courses more appropriate for rural practice. By emphasizing rural placement, this PA program successfully integrated a rural track into its existing curriculum and increased the percentage of graduates practicing in rural areas, independent of previous exposure to rural communities.

Feature Editor's Note:
The shortage of PAs and other providers in rural underserved areas is well documented. In this article, Cathy Ruff and colleagues outline one program's efforts to improve rural placement by developing a rural track within the PA program.
— **Roderick S. Hooker**

Cathy Ruff can be reached at cathy.ruff@uchsc.edu.

INTRODUCTION

Twenty percent of Americans live in rural areas.[1] In Colorado, 73% of the counties in the state are designated rural by the federal government.[2] Geographic maldistribution of health care providers and services in rural and medically underserved areas is a well-documented problem.[3,4] The University of Colorado Child Health Associate (CHA)/Physician Assistant (PA) Program initiated an approach to deploy more PAs into rural areas. As one strategy, applicants who had an interest in primary care were placed in rural track rotations. The program wanted to determine whether this was a successful strategy to improve PA deployment into rural areas.

The model was based on medical school programs that had had success in placing graduates into rural areas of the United States. This study's objective was to establish a rural track and to identify the percentage of graduates who subsequently were employed in rural areas.

Designing a Rural Track

In 1992 a committee identified strategies to develop a rural track for PA trainees of the CHA/PA Program. Although there were PA programs that focused on rural health care at that time, the committee could not identify one with a separate rural track. So using descriptions from physician training programs and input from a committee of faculty, a family physician, and two rural practicing PAs, we developed a rural track.

Issues addressed by the committee included: (1) what changes should be made to the didactic curriculum, (2) what changes should be made to the clinical curriculum in terms of a rural track, (3) how applicants to the rural track should be selected, and (4) who would return to rural communities as practicing PAs.

The goal of developing a rural track was to increase the number of graduates entering family or pediatric practices in rural Colorado. Community PAs recommended tai-

The Abstracts and Brief Reports section publishes short, focused communications on a research endeavor relevant to PA education or behavior. Submissions should be limited to approximately 1,500 words and one or two exhibits (tables or illustrations). The intent of this feature is to promulgate new information and provide a platform for additional research. Authors desiring to contribute to Abstracts and Brief Reports should forward submissions (with a copy to journal staff at jpae@PAEAonline.org) to:

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loring the educational program to the needs of rural practice. Training exposure was increased in adult medicine including obstetrics and gynecology, orthopedics and minor trauma, emergency medicine, radiology, outpatient surgery, and geriatrics. A survey of CHA/PA graduates who were practicing in rural areas indicated that in addition to these topics, ACLS and transport medicine should be added. All these topics were added into existing courses or specific modules were developed to increase student knowledge in these areas.

Prior to the development of the rural track, first- and second-year students were encouraged to take two 2-week elective rotations in rural areas of Colorado. Third-year students were required to select at least one monthlong rotation in a rural area.

Changes to the clinical curriculum included formation of a rural track and lengthening the third-year rural rotation to three months in one family medicine practice, with an added month in a pediatric practice located in the same geographic area. In addition, monthlong rotations in women's health and emergency medicine were added components of the rural track. Second-year students in the rural track were required to complete a 2-week clinical rotation in a rural setting (Table 1).

Clinical rotations in rural areas were increased from 1 to 4 months. Graduates working in rural settings who were surveyed prior to the development of the rural track had suggested rotations for 8 or 9 consecutive months in a rural site, stating that more time in a rural setting would be most beneficial. However, the program was not able to incorporate such lengthy rotations and adopted the 4-month rural rotation instead.

The model for the rural training track was based upon medical school models, including that of the University of Washington, where the curriculum ranges from single elective courses to clerkships in rural towns that last nearly a year.[6] The State University of New York (SUNY), Jefferson Medical College in Philadelphia, and the University of Illinois College of Medicine at Rockford also have rural training programs. Each of these programs is considered successful in creating rural practitioners.[6] Twenty-six percent of SUNY's rural program graduates are practicing in rural settings, compared to only 7% of graduates of SUNY's nonrural program.[7] More than 20% of graduating seniors from the University of Washington medical school decide to practice in rural or underserved areas, and in Illinois, 70% of graduates from their rural medicine program are practicing in rural areas of Illinois.[6]

Table 1. Comparison of Curriculum between Urban and Rural Clinical Tracks

Third Year Clinical Curriculum – "Regular Track" – 11 one-month rotations	Third Year Clinical Curriculum – Rural Track
Family medicine	Rural family medicine
Ambulatory pediatrics	Rural family medicine
Ambulatory pediatrics – rural	Rural family medicine
Ambulatory pediatrics – underserved	Rural ambulatory pediatrics
Inpatient pediatrics	Inpatient pediatrics
Neonatology	Emergency medicine
Adolescent medicine	Neonatology
Emergency medicine	Pediatrics – underserved area
Electives (3)	Adolescent medicine
Vacation (1 month)	Electives (2)
	Vacation (1 month)

Selection of Applicants to the Rural Track

The rural track committee recommended that applicants applying for the rural track include an essay about their experiences living in and growing up in a rural community, if they had had such experiences (not all applicants did), and indicate their plans for returning to such an area upon graduation. Regular and rural track applicants followed the same interview process. All information was presented to the CHA/PA program admissions committee. The committee discussed each applicant individually and made a decision regarding admission to the program. Students accepted into the program who had applied to the rural track were also accepted into the rural track. The first year that students were enrolled into the rural track was 1994 (graduating in 1997).

METHODS

Prior to conducting the telephone survey, the original application files of all rural-based graduates were reviewed to determine whether the applicant had grown up in a rural area, spent significant time during their youths in a rural area, or had no connections to a rural lifestyle. Each person who had graduated, between the years 1997 and 2003 was interviewed by telephone and asked to comment about their experiences while practicing in a rural area. Figure 4 lists selected comments.

Figure 1. Demographics of Rural Track Graduates

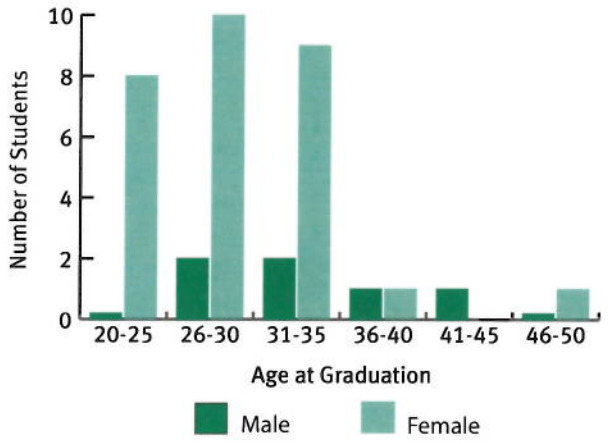
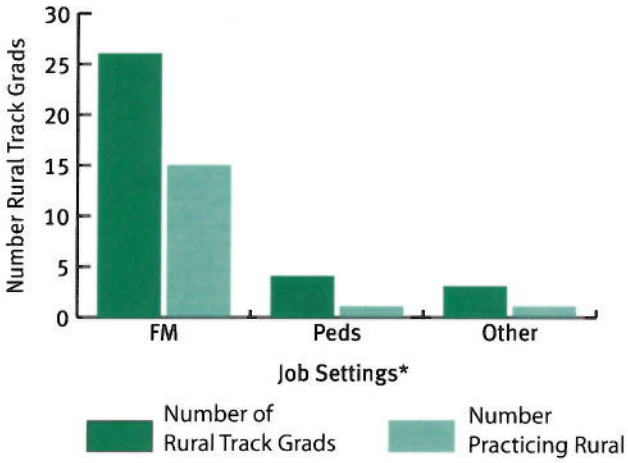
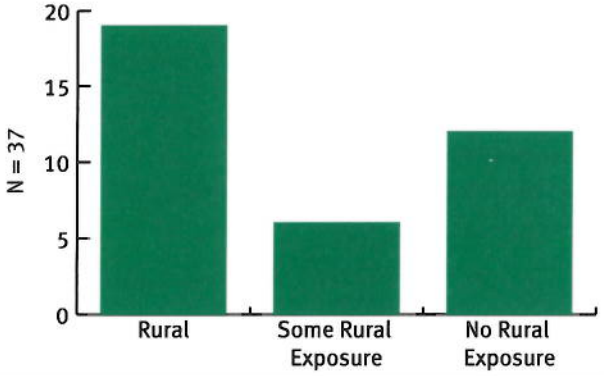


Figure 2. Job Distribution of Rural Track Graduates



* (FM= Family Medicine; Peds = Pediatrics; Other = neurosurgery, orthopedics, emergency medicine)

Figure 3. Background of Rural Track Graduates



Additional information was abstracted from the subjects' autobiographies and essays, written when they were applicants, in which they described why they wanted to practice in a rural site. Area Health Education Centers standards determined whether the subjects practice areas were considered rural Colorado sites.[5]

RESULTS

Demographics

Thirty-seven students completed the rural track between 1997 and 2003, and all graduates responded to a telephone interview (response rate, 100%). Figure 1 shows the demographics of the group. The age range at graduation was 24-48 years with an overall mean age of 29; the mean age was 23 for males (n = 6) and 29 for females (n = 30). Thirty-five of the 37 graduates are practicing PAs (see Figure 2).

Graduates' History of Living in a Rural Area

A review of each graduate's application file revealed that the graduates fell into three categories (see Figure 3):

1) 19 applicants had rural origins and upbringing

2) 6 applicants had spent considerable time in a rural area, but also had some urban or suburban experience

3) 12 had no rural experience

Of the 19 students with rural backgrounds, 11 (58%) are currently practicing as PAs in rural communities. Ten (56%) of the students with little or no rural background are serving in rural areas. Overall, 19 of the 35 (54%) practicing PAs are in rural areas.

DISCUSSION

The CHA/PA rural track has been

Figure 4. Selected Comments from Rural Track Graduates

About rural track candidates/graduates:

- "Rural track candidates must come from a truly rural area."
- "Only those from a rural area understand that it is a different lifestyle than urban or suburban settings."
- "It is hard to find a first job in a truly rural area, unless you know that area, because supervising physicians are leery of hiring a new PA who probably would, at first, need more supervision."
- "Graduates must be confident in making decisions as there is frequently less physician supervision"

About rural practice:

- Rural practices are "more intense," pay "less salary," demand "longer work hours," and require "more call."
- "One must be committed to a rural community in order to stay."
- It is helpful to have "family support" within the community and to "be sure the spouse or significant other is also committed to a rural lifestyle."

About educational training:

- "There is less of a team atmosphere in a rural setting than is emphasized in the PA program."

successful, with 54% of graduates practicing in rural areas—most in primary care settings. However, it is important to note that our success is based upon a small number of graduates.

Prior to designing the rural track, community PAs suggested incorporating ACLS, emergency medicine, and transport medicine into the curriculum to help better prepare students for rural practice; graduates of the rural track indicated that students must be well-trained and confident, expect rural practice to be more demanding, and that one must make connections within the community in order to stay. These findings are consistent with the rural health literature. Several studies suggest that rural situations often demand more of physicians, that students should foster contacts within rural communities, and that the need for emergency medicine, high-risk obstetrics, and transport medicine is higher in rural areas.[8,9,10]

Selection of applicants for a rural track may be an important consideration. One study suggests that the admissions component was the most important factor in retaining rural primary care physicians. The authors noted that students who had grown up in a rural area and who planned to practice family medicine were most likely to return to and stay in a rural area.[11] Several other studies have offered similar observations.[12-17] In comparison, while 51% of our rural track graduates were from rural areas, 32% had no rural background and 16% had limited exposure to rural communities.

CONCLUSION

This urban, primary care PA program integrated a rural track into its existing curriculum. Through focused applicant selection and increased nonmetropolitan clinical rotations, 54% of rural track graduates are now practicing in rural areas. Whether this strategy for increasing the number of PAs deployed in underserved rural communities is transferable to other programs remains to be validated.

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