



HIV/AIDS Bureau Performance Measures



Performance Measure: HIV Viral Load Suppression

National Quality Forum #: 2082

Description:	Percentage of patients, regardless of age, with a diagnosis of HIV with a HIV viral load less than 200 copies/ml at last HIV viral load test during the measurement year
Numerator:	Number of patients in the denominator with a HIV viral load less than 200 copies/ml at last HIV viral load test during the measurement year
Denominator:	Number of patients, regardless of age, with a diagnosis of HIV with at least one medical visit in the measurement year
Patient Exclusions:	None
Data Elements:	<ol style="list-style-type: none"> 1. Does the patient, regardless of age, have a diagnosis of HIV? (Y/N) <ol style="list-style-type: none"> a. If yes, did the patient have at least one medical visit during the measurement year? (Y/N) <ol style="list-style-type: none"> i. If yes, did the patient have a HIV viral load test with a result <200 copies/mL at the last test? (Y/N)

Comparison Data:

National HIVQUAL: Percentage of patients on ART for a minimum of 12 weeks with one visit in each six month period of the review period who are considered suppressed as derived from the last recorded viral load of the review period; suppressed defined as the viral load is <200 copies/mm³ (either detectable or undetectable) OR <400 copies/mm³ (and undetectable) ([eHIVQUAL](#) and [National Quality Center](#))

The National HIVQUAL reported median as: 79.5% in 2007, 81.8% in 2008, and 82% in 2011. Top 25% viral load suppression rates were 85.7% in 2007, 89.9% in 2009, and 78% in 2011. [in+care Campaign](#): Percentage of patients, over the age of 24 months, with a diagnosis of HIV/AIDS with a viral load less than 200 copies/ml at last viral load test during the measurement year. The in+care Campaign reported the mean percentage as: 70% in 2011, 72% in 2012, and 72% in 2013. Top 25% viral load suppression rates were 82% in 2011, 64% in 2012, and 85% in 2013.

[HIV Research Network](#): Percentage of patients with a HIV viral load less than or equal to 400 copies/ml at the first test during the measurement year. As reported by the HIV Research Network, the mean percentage of adult patients was: 66% in 2010, 69% in 2011, and 77% in 2012. The HIV Research Network reported the mean percentage of pediatrics as: 62% in 2010, 65% in 2011, and 65% in 2012.



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U.S. Department of Health & Human Services Guidelines:

Adult guidelines: “For the purposes of clinical trials, the AIDS Clinical Trials Group (ACTG) currently defines virologic failure as a confirmed viral load >200 copies/mL, which eliminates most cases of apparent viremia caused by blips or assay variability. This definition also may be useful in clinical practice (see [Virologic and Immunologic Failure](#)).

For most individuals who are adherent to their antiretroviral (ARV) regimens and who do not harbor resistance mutations to the prescribed drugs, viral suppression is generally achieved in 12 to 24 weeks, although it may take longer in some patients.”¹

Pediatric guidelines:² “Based on accumulated experience with currently available assays, viral suppression is currently defined as an HIV RNA level below the detection limit of the assay used (generally <20–75 copies/ml).”

Use in Other Federal Programs:

- Seeking inclusion in the following [Centers for Medicare and Medicaid Services](#) quality, reporting and payment programs: Medicare and Medicaid EHR Incentive Program for Eligible Professionals, Medicare Physician Quality Reporting System, Medicare Shared Savings, Physician Compare, Physician Feedback/Quality and resource Use Reports, Physician Value-Based Payment Modifier (search for each program at online.) Accessed December 2016.
- U.S. Department of Health and Human Services HIV measures: [Secretary Sebelius approves indicators for monitoring HHS-funded HIV services](#)
- [In+care Campaign](#)

References/ Notes:

¹ [Panel on Antiretroviral Guidelines for Adults and Adolescents](#). Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Department of Health and Human Services. Available online. Accessed March 1, 2017. (Page 28)

² [Panel on Antiretroviral Therapy and Medical Management of HIV-Infected Children](#). Guidelines for the Use of Antiretroviral Agents in Pediatric HIV Infection. Available online. Accessed March 1, 2017. (Page 100)



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Performance Measure: Prescription of HIV Antiretroviral Therapy

National Quality Forum #: 2083

Description:	Percentage of patients, regardless of age, with a diagnosis of HIV prescribed antiretroviral therapy ¹ for the treatment of HIV infection during the measurement year
Numerator:	Number of patients from the denominator prescribed HIV antiretroviral therapy ¹ during the measurement year
Denominator:	Number of patients, regardless of age, with a diagnosis of HIV with at least one medical visit in the measurement year
Patient Exclusions:	None
Data Elements:	<ol style="list-style-type: none"> 1. Does the patient, regardless of age, have a diagnosis of HIV? (Y/N) <ol style="list-style-type: none"> a. If yes, did the patient have at least one medical visit during the measurement year? (Y/N) <ol style="list-style-type: none"> i. If yes, was the patient prescribed HIV antiretroviral therapy¹ during the measurement year? (Y/N)

Comparison Data:

[HIV Research Network](#): Percentage of patients on highly active HIV antiretroviral therapy regimen for at least one day during calendar year. The HIV Research Network reported the mean percentage of adult patients as: 86% in 2010, 88% in 2011, 91% in 2012. The HIV Research Network reported the mean percentage of pediatrics patients as: 82% in 2010, 85% in 2011, and 87% in 2012.

U.S. Department of Health & Human Services Guidelines:

Adult guidelines: ² “Antiretroviral therapy (ART) is recommended for all HIV-infected individuals to reduce the risk of disease progression.

The strength and evidence for this recommendation vary by pretreatment CD4 cell count: CD4 count <350 cells/mm³ (AI); CD4 count 350–500 cells/mm³ (AII); CD4 count >500 cells/mm³ (BIII).

ART also is recommended for HIV-infected individuals for the prevention of transmission of HIV.

The strength and evidence for this recommendation vary by transmission risks: perinatal transmission (AI); heterosexual transmission (AI); other transmission risk groups (AIII).”

Pediatric guidelines: ³

- “Antiretroviral therapy (ART) should be initiated in all children with AIDS or significant symptoms (Clinical Category C or most Clinical Category B conditions) (AI*).
- ART should be initiated in HIV-infected infants <12 months of age regardless of clinical status, CD4 percentage or viral load (AI for infants <12 weeks of age and AII for infants ≥12 weeks to 12 months).
- ART should be initiated in HIV-infected children ≥1 year who are asymptomatic or have mild symptoms with the following CD4 values:



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- Age 1 to <3 years
 - with CD4 T lymphocyte (CD4 cell) count <1000 cells/mm³ or CD4 percentage <25% (AII)
- Age 3 to <5 years
 - with CD4 cell count <750 cells/mm³ or CD4 percentage <25% (AII)
- Age ≥5 years
 - with CD4 cell count <350 cells/mm³ (AI*)
 - with CD4 cell count 350–500 cells/mm³ (BII*)
- ART should be considered for HIV-infected children ≥1 year who are asymptomatic or have mild symptoms with the following CD4 values:
 - Age 1 to <3 years
 - with CD4 cell count ≥1000 cells/mm³ or CD4 percentage ≥25% (BIII)
 - Age 3 to <5 years
 - with CD4 cell count ≥750 cells/mm³ or CD4 percentage ≥25% (BIII)
 - Age ≥5 years
 - with CD4 cell count >500 cells/mm³ (BIII)

In children with lower-strength (B level) recommendations for treatment, plasma HIV RNA levels >100,000 copies/mL provide stronger evidence for initiation of treatment (BII).”

Use in Other Federal Programs:

- Seeking inclusion in the following [Centers for Medicare and Medicaid Services](#) quality, reporting and payment programs: Medicare and Medicaid EHR Incentive Program for Eligible Professionals, Medicare Physician Quality Reporting System, Medicare Shared Savings, Physician Compare, Physician Feedback/Quality and resource Use Reports, Physician Value-Based Payment Modifier (search for each program online). Accessed December 28, 2016.
- U.S. Department of Health and Human Services HIV measures: [Secretary Sebelius approves indicators for monitoring hhs-funded HIV services](#)

References/ Notes:

¹HIV antiretroviral therapy is described as the prescription of at least one U.S. Food and Drug Administration approve HIV antiretroviral medication.

²Panel on Antiretroviral Guidelines for Adults and Adolescents. [Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents](#). U.S. Department of Health and Human Services. Available online. Accessed December 28, 2016. E-1 (Page 47)

³[Panel on Antiretroviral Therapy and Medical Management of HIV-Infected Children](#). Guidelines for the Use of Antiretroviral Agents in Pediatric HIV Infection. Available online.



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Performance Measure: HIV Medical Visit Frequency

National Quality Forum #: 2079

Description:	Percentage of patients, regardless of age, with a diagnosis of HIV who had at least one medical visit in each 6-month period of the 24-month measurement period with a minimum of 60 days between medical visits
Numerator:	Number of patients in the denominator who had at least one medical visit in each 6-month period of the 24-month measurement period with a minimum of 60 days between first medical visit in the prior 6-month period and the last medical visit in the subsequent 6-month period
Denominator:	Number of patients, regardless of age, with a diagnosis of HIV with at least one medical visit in the first 6 months of the 24-month measurement period
Patient Exclusions:	Patients who died at any time during the 24-month measurement period
Data Elements:	<ol style="list-style-type: none"> 1. Does the patient, regardless of age, have a diagnosis of HIV? (Y/N) <ol style="list-style-type: none"> a. If yes, did the patient have at least one medical visit in the <u>first</u> 6 months of the 24-month measurement period? (Y/N) <ol style="list-style-type: none"> i. If yes, did the patient have at least one medical visit in the <u>second</u> 6-month period of the 24-month measurement period? AND was the patient's last visit in the second 6-month period 60 days or more from the 1st visit in the first 6-month period? (Y/N) <ol style="list-style-type: none"> 1. Did the patient have at least one medical visit in the <u>third</u> 6-month period of the 24-month measurement period? AND was the patient's last visit in the third 6-month period 60 days or more from the 1st visit in the second 6-month period? (Y/N) <ol style="list-style-type: none"> a. If yes, did the patient have at least one medical visit in the <u>fourth</u> 6-month period of the 24-month measurement period? AND was the patient's last visit in the fourth 6-month period 60 days or more from the 1st visit in the third 6-month period? (Y/N)



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Comparison Data:

in+care Campaign: Percentage of HIV patients, regardless of age, who had at least one medical visit with a provider with prescribing privileges in each 6-month period of the 24-month measurement period with a minimum of 60 days between medical visits were reported in the following context. [The in+care Campaign](#) reported the mean percentage as: 63% for 2011, 65% for 2012, and 69% for 2013. Top 25% reported as: 85% for 2011, 88% for 2012, and 90% for 2013.

U.S. Department of Health & Human Services Guidelines:

Adult guidelines:¹ “A number of laboratory tests are important for initial evaluation of HIV-infected patients upon entry into care, during follow-up (if antiretroviral therapy (ART) has not been initiated), and before and after the initiation or modification of therapy to assess virologic and immunologic efficacy of ART and to monitor for laboratory abnormalities that may be associated with antiretroviral (ARV) drugs. Table 3 outlines the Panel’s recommendations for the frequency of testing. As noted in the table, some tests may be repeated more frequently if clinically indicated.”

Pediatric guidelines:² “Frequent patient visits and intensive follow-up during the initial months after a new antiretroviral (ARV) regimen is started are necessary to support and educate the family...Thus, it is prudent for clinicians to assess children within 1 to 2 weeks of initiating therapy, either in person or with a phone call, to ensure that medications are being administered properly and evaluate clinical concerns. Many clinicians schedule additional contact (in person or over the telephone) with children and their caregivers during the first few weeks of therapy to support adherence...Thereafter, medication adherence and regimen toxicity and effectiveness should be assessed every 3 to 4 months in children taking ARV drugs. Some experts monitor CD4 cell counts and HIV RNA levels less frequently in children and youth who are adherent to therapy and have sustained viral suppression and stable clinical status for more than 2 to 3 years.”

Use in Other Federal Programs:

- Seeking inclusion in the following [Centers for Medicare and Medicaid Services](#) quality, reporting and payment programs: Medicare and Medicaid EHR Incentive Program for Eligible Professionals, Medicare Physician Quality Reporting System, Medicare Shared Savings, Physician Compare, Physician Feedback/Quality and resource Use Reports, Physician Value-Based Payment Modifier (search for each program online).
- U.S. Department of Health and Human Services HIV measures: [Secretary Sebelius approves indicators for monitoring hhs-funded HIV services](#)
- [In+care Campaign](#)



HIV/AIDS Bureau Performance Measures



References/ Notes:

¹ [Panel on Antiretroviral Guidelines for Adults and Adolescents](#). Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Department of Health and Human Services. Available online. Accessed December 2016. C-2 –C-5. (Pages 22- 25)

² [Panel on Antiretroviral Therapy and Medical Management of HIV-Infected Children](#). Guidelines for the Use of Antiretroviral Agents in Pediatric HIV Infection. Available online. Accessed December 2016. H-1; H-2. (Pages 99-100)

Performance Measure: Gap in HIV Medical Visits

National Quality Forum #: 2079

Description:	Percentage of patients, regardless of age, with a diagnosis of HIV who did not have a medical visit in the last 6 months of the measurement year
Numerator:	Number of patients in the denominator who did not have a medical visit in the last 6 months of the measurement year
Denominator:	Number of patients, regardless of age, with a diagnosis of HIV who had at least one medical visit in the first 6 months of the measurement year
Patient Exclusions:	1. Patients who died at any time during the measurement year
Data Elements:	1. Does the patient, regardless of age, have a diagnosis of HIV? (Y/N) <ul style="list-style-type: none"> a. If yes, did the patient have at least one medical visit in the first 6 months of the measurement year? (Y/N) <ul style="list-style-type: none"> i. If yes, did the patient have one or more medical visits in the last 6 months of the measurement year?

Comparison Data:

[in+care Campaign](#): Percentage of HIV patients, regardless of age, who did not have a medical visit with a provider with prescribing privileges in the last 180 days of the measurement year. The in+care Campaign reported the mean as: 16% in 2011, 15% in 2012, 14% in 2013. Top 25% reported as: 6% in 2011, 6% in 2012, and 5% in 2013.

U.S. Department of Health & Human Services Guidelines:

Adult guidelines: ¹ “A number of laboratory tests are important for initial evaluation of HIV-infected patients upon entry into care, during follow-up (if antiretroviral therapy (ART) has not been initiated), and before and after the initiation or modification of therapy to assess virologic and immunologic efficacy of ART and to monitor for laboratory abnormalities that may be associated with antiretroviral (ARV) drugs. [Table 3](#) outlines the Panel’s recommendations for the frequency of testing. As noted in the table, some tests may be repeated more frequently if clinically indicated.”



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Pediatric guidelines:² “Frequent patient visits and intensive follow-up during the initial months after a new antiretroviral (ARV) regimen is started are necessary to support and educate the family...Thus, it is prudent for clinicians to assess children within 1 to 2 weeks of initiating therapy, either in person or with a phone call, to ensure that medications are being administered properly and evaluate clinical concerns. Many clinicians schedule additional contact (in person or over the telephone) with children and their caregivers during the first few weeks of therapy to support adherence...Thereafter, medication adherence and regimen toxicity and effectiveness should be assessed every 3 to 4 months in children taking ARV drugs. Some experts monitor CD4 cell counts and HIV RNA levels less frequently in children and youth who are adherent to therapy and have sustained viral suppression and stable clinical status for more than 2 to 3 years.”

Use in Other Federal Programs:

- Seeking inclusion in the following [Centers for Medicare and Medicaid Services](#) quality, reporting and payment programs: Medicare and Medicaid EHR Incentive Program for Eligible Professionals, Medicare Physician Quality Reporting System, Medicare Shared Savings, Physician Compare, Physician Feedback/Quality and resource Use Reports, Physician Value-Based Payment Modifier (search for each program online).
- [In+care campaign](#)

References/ Notes:

¹[Panel on Antiretroviral Guidelines for Adults and Adolescents](#). Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Department of Health and Human Services. Accessed December 2016. C-2 –C-5. (pages 22-25)

²[Panel on Antiretroviral Therapy and Medical Management of HIV-Infected Children](#). Guidelines for the Use of Antiretroviral Agents in Pediatric HIV Infection. Available online. Accessed December 2016. H-1; H-2. (pages 99-100)



HIV/AIDS Bureau Performance Measures



Performance Measure: Pneumocystis jiroveci Pneumonia (PCP) Prophylaxis¹

National Quality Forum #: 405

Description:	Percentage of patients aged 6 weeks or older with a diagnosis of HIV/AIDS, who were prescribed Pneumocystis jiroveci pneumonia (PCP) prophylaxis (Use the numerator and denominator that reflect patient population.)
Numerator:	<p><i>Numerator 1:</i> Patients who were prescribed Pneumocystis jiroveci pneumonia (PCP) prophylaxis within 3 months of CD4 count below 200 cells/mm³</p> <p><i>Numerator 2:</i> Patients who were prescribed Pneumocystis jiroveci pneumonia (PCP) prophylaxis within 3 months of CD4 count below 500 cells/mm³ or a CD4 percentage below 15%</p> <p><i>Numerator 3:</i> Patients who were prescribed Pneumocystis jiroveci pneumonia (PCP) prophylaxis at the time of HIV diagnosis</p> <p><i>Aggregate Numerator=</i> The sum of the three numerators</p>
Denominator:	<p><i>Denominator 1:</i> All patients aged 6 years and older with a diagnosis of HIV/AIDS and a CD4 count below 200 cells/mm³, who had at least two visits during the measurement year, with at least 90 days in between each visit;</p> <p style="text-align: center;">and</p> <p><i>Denominator 2:</i> All patients aged 1 through 5 years of age with a diagnosis of HIV/AIDS and a CD4 count below 500 cells/mm³ or a CD4 percentage below 15%, who had at least two visits during the measurement year, with at least 90 days in between each visit;</p> <p style="text-align: center;">and</p> <p><i>Denominator 3:</i> All patients aged 6 weeks through 12 months with a diagnosis of HIV, who had at least two visits during the measurement year, with at least 90 days in between each visit</p> <p><i>Total Denominator =</i> The sum of the three denominators</p>
Patient Exclusions:	<p>Denominator 1 Exclusion: Patient did not receive PCP prophylaxis because there was a CD4 count above 200 cells/mm³ during the three months after a CD4 count below 200 cells/mm³</p> <p>Denominator 2 Exclusion: Patient did not receive PCP prophylaxis because there was a CD4 count above 500 cells/mm³ or CD4 percentage above 15% during the three months after a CD4 count below 500 cells/mm³ or CD4 percentage below 15%</p>



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Data Elements:

Numerator/Denominator 1:

1. Is the patient 6 years or older and have a diagnosis of HIV? (Y/N)
 - a. If yes, did the patient have at least two medical visits in the measurement year with at least 90 days between visits? (Y/N)
 - i. If yes, did the patient have a CD4 count <200 cells/mm³ within the first 9 months of the measurement year? (Y/N)
 1. If yes, was PCP prophylaxis prescribed within 3 months of CD4 <200 cells/mm³? (Y/N)
 - a. If no, was the CD4 count repeated within 3 months? (Y/N)
 - i. If yes, did CD4 count remain < 200 cells/mm³? (Y/N)
 1. If yes, was PCP prophylaxis prescribed within 3 months of CD4 <200 cells/mm³? (Y/N)

Numerator/Denominator 2:

1. Is the patient between 1-5 years old and have a diagnosis of HIV? (Y/N)
 - a. If yes, did the patient have at least two medical visits in the measurement year with at least 90 days between visits? (Y/N)
 - i. If yes, did the patient have a CD4 count <500 cells/mm³ or CD4 percentage $< 15\%$ within the first 9 months of the measurement year? (Y/N)
 1. If yes, was PCP prophylaxis prescribed within 3 months of CD4 <200 cells/mm³? (Y/N)
 - a. If no, was the CD4 count repeated within 3 months? (Y/N)
 - i. If yes, did it remain CD4 count <500 cells/mm³ or CD4 percentage $< 15\%$? (Y/N)
 1. If yes, was PCP prophylaxis prescribed within 3 months of CD4 count <500 cells/mm³ or CD4 percentage $< 15\%$? (Y/N)

Numerator/Denominator 3:

1. Is the patient between 6 weeks and 12 months old and have a diagnosis of HIV? (Y/N)
 - a. If yes, did the patient have at least two medical visits in the measurement year with at least 90 days between visits? (Y/N)
 - i. If yes, was PCP prophylaxis prescribed at HIV diagnosis?

***Greater measure specification detail is available including data elements for each value set at [Centers for Medicare & Medicaid Services: eCQM Library](#) (Measure: CMS 52v5)



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Comparison Data:

National HIVQUAL: Percentage of adult patients with at least one clinical visit in each six month period of the review period with one or more CD4 counts recorded as <200 copies/mm³ during the review period who were prescribed prophylactic therapy ([eHIVQUAL](#) and [National Quality Center](#)). The National HIVQUAL reported the mean as: 86.8% in 2007, 71% in 2009, and 80% in 2011.

HIV Research Network: Patients meeting criteria and prescribed PCP prophylaxis during calendar year. The [HIV Research Network](#) reported the mean percentage of adults as: 92% in 2010, 93% in 2011, 90% in 2012. The HIV Research Network reported the mean percentage of pediatric as: 88% in 2010, 86% in 2011, and 90% in 2012.

U.S. Department of Health & Human Services Guidelines:

Adult guidelines:² “HIV-infected adults and adolescents, including pregnant women and those on ART, should receive chemoprophylaxis against PCP if they have CD4 counts <200 cells/mm³ (AI) or a history of oropharyngeal candidiasis (AII). Persons who have a CD4 cell percentage of $<14\%$ or a history of an AIDS-defining illness, but who do not otherwise qualify, should be considered for prophylaxis (BII).”

Pediatric guidelines:³ “Chemoprophylaxis is highly effective in preventing PCP. Criteria for its use are based on the patient’s age and CD4 count or percentage (AII). Prophylaxis is recommended for all HIV-infected children aged >6 years who have CD4 counts <200 cells/mm³ or CD4 $<15\%$, for children aged 1–5 years with CD4 counts of <500 cells/mm³ or CD4 $<15\%$, and for all HIV-infected infants aged <12 months regardless of CD4 count or percentage.

“Infants born to HIV-infected mothers should be considered for prophylaxis beginning at 4–6 weeks of age. HIV-infected infants should be administered prophylaxis until 1 year of age, at which time they should be reassessed on the basis of the age-specific CD4 count or percentage thresholds mentioned above (AII).”

Use in Other Federal Programs:

Medicare and Medicaid EHR Incentive Program for Eligible Professionals
[Centers for Medicare & Medicaid Services: eQIM Library](#)



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References/ Notes:

¹ The HIV/AIDS Bureau did not develop this measure. The [National Committee on Quality Assurance](#) developed the measure. Measure details available online.

² [Panel on Opportunistic Infections in HIV-Infected Adults and Adolescents](#). Guidelines for the prevention and treatment of opportunistic infections in HIV-infected adults and adolescents: recommendations from the Centers for Disease Control and Prevention, the National Institutes of Health, and the HIV Medicine Association of the Infectious Diseases Society of America. Available online . Accessed December 2016.

³ [Centers for Disease Control and Prevention. Guidelines for the Prevention and Treatment of Opportunistic Infections Among HIV-Exposed and HIV-Infected Children](#). MMWR 2009; 58 (No. RR-11): 47.

Available at: [AIDSinfo. Guidelines for the Prevention and Treatment of Opportunistic Infections Among HIV-Infected Children](#). Accessed December 2016.

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